University of Montana Catalog (2016-2017)

University of Montana Catalog 2016 - 2017

The University of Montana capitalizes on its unique strengths to create knowledge, provide an active learning environment for students, and offer programs and services responsive to the needs of Montanans. The University delivers education and training on its four campuses and through telecommunications to sites inside and outside of Montana. With public expectations on the rise, the University asks its students, faculty, and staff to do and accomplish even more than they have in the past. The University has a commitment to education defined in the broadest sense as personal development and citizen preparation, workforce development and training, graduate education and research, service learning, and community building on and off the campuses. The University enhances its programs through continuous quality review for improvement and remains fully accountable to the citizenry through annual audits and performance evaluations.

Disclaimer

As of Monday, August 29, 2016, the 2016-2017 catalog is available online. Final changes/preparations are continuing before we have a final catalog in the very near future. The University of Montana is updating much of the technology behind the scenes in order to better present the online catalog.

The University and its colleges and schools reserve the right to change the rules, the calendar regulating admission and registration, the instruction in and the graduation from the University and any other regulations affecting the student. The University also reserves the right to withdraw or adjust courses and programs as they appear in the catalog at any time. Please direct questions about the catalog and the information contained within to the Registrar's Office or the department offering the courses.

The Montana University System - Mission

The following Strategic Plan was adopted by the Board of Regents in July 2006, and updated in January 2010.

More information is available on the Office of the Provost website.

Mission

The Mission of the Montana University System is to serve students through the delivery of high quality, accessible postsecondary educational opportunities, while actively participating in the preservation and advancement of Montana's economy and society.

Vision

We will prepare students for success by creating an environment of ideas and excellence that nurtures intellectual, social, economic, and cultural development. We will hold academic quality to be the prime attribute of our institutions, allocating human, physical, and financial resources appropriate to our educational mission. We will encourage scientific development and technology transfer, interactive information systems, economic development and lifelong learning. We will protect academic freedom, practice collegiality, encourage diversity, foster economic prosperity, and be accountable, responsive, and accessible to the people of Montana.

Introduction

The Montana University System Strategic Plan is the primary planning document of the Board of Regents.The Plan sets forth an agenda for higher education in Montana by delineating the strategic directions, goals, and objectives that guide the Montana University System (MUS).

History

In July 2006, after several years of study, public dialogue, and internal deliberations, the Board of Regents approved the Strategic Plan. Since then, updates have occurred annually, including revisions to strategic initiatives as well as a refreshing of the data within each goal. The development of the Strategic Plan began with two primary initiatives.

The first was to work more closely with the interim legislature to develop a set of mutually agreed upon accountability measures that would guide the MUS and evaluate progress. Working with the Postsecondary Education Policy and Budget (PEPB) subcommittee of the 57th Legislature, the Board of Regents did develop this set of accountability measures in July 2002. Subsequently, the PEPB subcommittee has updated the accountability measures. This latest set of agreed-upon measures evolved into "shared policy goals" and work to form one base for this strategic plan.

The second initiative was to work with the PEPB Subcommittee to explore new ways for the MUS take a more direct leadership role in the state's economic development. This overall effort, called "Shared Leadership for a Stronger Montana Economy", engaged a broad range of Montanans to prioritize specific initiatives that would help establish a new role for the MUS in strengthening the state's economy. The Governor's Office and several legislative interim committees were included in the effort.

In July 2004, the Board of Regents and the PEPB subcommittee met jointly and agreed on three priority initiatives for immediate implementation:

- Develop stronger business-university system partnerships for workforce training;
- Remove barriers to access for postsecondary education; and
- Expand distance learning programs and training.

Goals

The Strategic Plan is comprised of three primary goals that contain a series of sub-goal statements and objectives within each area.

Goal 1: Access & Affordability

Increase the overall educational attainment of Montanans through increased participation, retention and completion rates in the Montana University System.

Goal 2: Workforce & Economic Development

Assist in the expansion and improvement of the state's economy through the development of high value jobs and the diversification of the economic base.

Goal 3: Efficiency & Effectiveness

Improve institutional and system efficiency and effectiveness Maintaining the high quality of our institutions and the education provided to our students is not listed as an explicit goal. This is because it is THE MOST IMPORTANT consideration for every goal and initiative of the Montana University System and is considered to be an integral part of every component of this strategic plan.

University of Montana - Mission

Mission

The University of Montana capitalizes on its unique strengths to create knowledge, provide an active learning environment for students, and offer programs and services responsive to the needs of Montanans. The University delivers education and training on its four campuses and through telecommunications to sites inside and outside of Montana. With public expectations on the rise, the University asks its students, faculty, and staff to do and accomplish even more than they have in the past. The University has a commitment to education defined in the broadest sense as personal development and citizen preparation, workforce development and training, graduate education and research, service learning, and community building on and off the campuses. The University enhances its programs through continuous quality review for improvement and remains fully accountable to the citizenry through annual audits and performance evaluations.

University of Montana Missoula - Mission

Mission

University of Montana-Missoula pursues academic excellence as demonstrated by the quality of curriculum and instruction, student performance, and faculty professional accomplishments. The University accomplishes this mission, in part, by providing unique educational experiences through the integration of the liberal arts, graduate study, and professional training with international and interdisciplinary emphases. The University also educates competent and humane professionals and informed, ethical, and engaged citizens of local and global communities; and provides basic and applied research, technology transfer, cultural outreach, and service benefiting the local community, region, State, nation and the world.

Vision Statements

In pursuit of its mission, University of Montana-Missoula will:

1. Educate students to become ethical persons of character and values, engaged citizens, competent professionals, and informed members of a global and technological society.
2. Increase the diversity of the students, faculty, and staff for an enriched campus culture.

3. Attain the Carnegie Commission status of Doctoral Research–Extensive University (50 or more doctorates in at least 15 fields annually) and increase funded research to $100,000,000 annually by 2011.
4. Pursue more partnerships–especially with local communities, businesses and industries, public schools, community and tribal colleges, state and local governments and universities abroad–and expand the training and technology transfer programs to promote community and economic development.
5. Develop the capability and infrastructure for use of information technology to increase the efficiency and productivity of the campus and the state; and
6. Involve and engage the faculty, staff, students, alumni, partners, and friends of the University in institutional governance.

Equal Opportunity

University of Montana is committed to a program of equal opportunity for education, employment and participation in University activities without regard to race, color, gender, age, religion, creed, political ideas, marital or family status, physical or mental disability, national origin or ancestry, gender identity, or sexual orientation.

Accreditation

The University of Montana-Missoula is accredited by the Northwest Commission on Colleges and Universities (NWCCU).

Accreditation of an institution of higher education by the Northwest Commission on Colleges and Universities indicates that it meets or exceeds criteria for the assessment of institutional quality evaluated through a peer review process. An accredited college or university is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future.

Institutional integrity is also addressed through accreditation. Accreditation by the Northwest Commission on Colleges and Universities is not partial but applies to the institution as a whole. As such, it is not a guarantee of every course or program offered, or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Inquiries regarding an institution's accredited status by the Northwest Commission on Colleges and Universities should be directed to the administrative staff of the institution.

Individuals may also contact:

Northwest Commission on Colleges and Universities

8060 165th Avenue N.E., Suite 100

Redmond, WA 98052

(425) 558-4224

www.nwccu.org

Accreditation documents may be reviewed in the Provost's Office, located in University Hall Room 126.

Many of the professional schools and departments have special accreditation as well.

The following table provides detailed information on these special accreditations:

College or School	Department	Degrees	Accrediting Institution
College of Humanities and Sciences	Chemistry	BS, MS, PhD	American Chemical Society (ACS)
College of Humanities and Sciences	Computer Science	BS	Computing Accreditation Commission of ABET
College of Humanities and Sciences	Psychology, Clinical	PhD	American Psychological Association

College or School	Department	Degrees	Accrediting Institution
College of Humanities and Sciences	School Psychology	EdS, PhD	National Association of School Psychologists and American Psychological Association
School of Business Administration	Accounting	BS, MAcct	Association to Advance Collegiate Schools of Business (AACSB-International)
School of Business Administration	Business	BS, MBA	Association to Advance Collegiate Schools of Business (AACSB-International)
Missoula College	Food Service Management	AAS	American Culinary Federation Educational Institute (ACFEI)
Missoula College	Nursing	AS	Accreditation Commission for Education in Nursing (ACEN)
Missoula College	Paralegal Studies	AAS	American Bar Association (ABA)
Missoula College	Pharmacy Technology	Certificate	American Society of Health System Pharmacists (ASHSP)
Missoula College	Respiratory Care	AAS	Committee for Accreditation of Respiratory Care (CoARC w/CAAHEP)
Missoula College	Surgical Technology	AAS	Commission on Accreditation of Allied Health Education Programs (CAAHEP)
Phyllis J. Washington College of Education and Human Sciences	Athletic Training	BS	Commission on Accreditation of Allied Health Education (CAATE)
Phyllis J. Washington College of Education and Human Sciences	Counselor Education	MA, Mental Health Counseling; and School Counseling	Council for Accreditation of Counseling and Related Educational Programs (CACREP)
Phyllis J. Washington College of Education and Human Sciences	Communication Science and Disorders	MS in Speech-Language Pathology	American Speech Language Association-Council on Academic Accreditation (ASHA)
Phyllis J. Washington College of Education and Human Sciences	Education	BA, MEd, EdS,	National Council for Accreditation of Teacher Education (NCATE); Montana Board of Public Education
Phyllis J. Washington College of Education and Human Sciences	Co-Teach Preschool, Institute for Educational Research and Service	n/a	National Association for the Education of Young Children (NAEYC)
College of Visual and Performing Arts	Art & Media Arts	BA, BFA, MA, MFA	National Association of Schools of Art and Design (NASAD)

College or School	Department	Degrees	Accrediting Institution
College of Visual and Performing Arts	Theater & Dance	BA, BFA, MA, MFA	National Association of Schools of Theater (NAST)
College of Visual and Performing Arts	Music	BA, BM, BME, MM	National Association of Schools of Music (NASM)
College of Forestry and Conservation	Forest Resources Management	BS	Society of American Foresters (SAF)
College of Forestry and Conservation	Recreation Management	BS	National Recreation and Park Association/American Association for Leisure and Recreation (NRPA/AALR)
School of Journalism	Journalism	BA	Accrediting Council on Education in Journalism and Mass Communications (ACEJMC)
School of Law	Law	JD	American Bar Association (ABA) American Association of Law Schools (AALS)
College of Health Professions and Biomedical Sciences	Pharmacy	PharmD	Accreditation Council for Pharmacy Education (ACPE)
College of Health Professions and Biomedical Sciences	Public Health	MPH	Council on Education for Public Health (CEPH)
College of Health Professions and Biomedical Sciences	Physical Therapy	DPT	Commission on Accreditation in Physical Therapy Education (CAPTE)
College of Health Professions and Biomedical Sciences	Social Work	BA	Council on Social Work Education (CSWE)
College of Health Professions and Biomedical Sciences	Social Work	MSW	Council on Social Work Education (CSWE)
The University of Montana	Department of Laboratory Animal Resources	n/a	Association for the Assessment and Accreditation of Laboratory Animal Care International (AAALAC)

University Officers

2016-2017 Academic Year

Montana Board of Regents of Higher Education

- Fran Albrecht (Vice Chair) - Missoula
- Levi Birkey (Student Regent) - Bozeman
- William Johnstone - Great Falls
- Casey Lozar - Helena

- Robert A. Nystuen - Lakeside
- Martha Sheehy - Billings
- Paul Tuss (Chair) - Havre

Ex Officio Members

- Clayton Christian, Commissioner of Higher Education (ex-officio)
- Denise Juneau, Superintendent of Public Instruction (ex-officio)
- Steve Bullock, Governor (ex-officio)

President's Cabinet

- Royce C. Engstrom, Ph.D. – President
- Tom Crady, Ph.D. – Vice President for Enrollment Management and Student Affairs
- Beverly Edmond, Ph.D. – Interim Provost and Vice President for Academic Affairs
- Lucy France, J.D. – Legal Counsel
- Shane Giese, M.B.A. – President/CEO, University of Montana Foundation
- Kent Haslam, M.Ed. – Athletic Director
- Vacant – President/CEO, University of Montana Alumni Association
- Michael Reid, M.B.A. – Vice President for Administration and Finance
- Matt Riley, M.B.A. – Chief Information Officer
- Mario Schulzke, B.A. - Associate Vice President for Integrated Communications and Chief Marketing Officer
- Paula Short, M.A. - Director of Communications
- Jessica Weltman, J.D. – Director, Equal Opportunity and Affirmative Action Office
- Scott Wittenburg, Ph.D. – Vice President for Research and Creative Scholarship and Dean of the Graduate School

Academic Officers

- Larry Abramson, M.A. - Dean, School of Journalism
- Christopher Comer, Ph.D. - Dean, College of Humanities and Sciences
- Tom DeLuca, Ph.D. - Dean, College of Forestry and Conservation
- Roberta Evans, Ph.D. - Dean, Phyllis J. Washington College of Education and Human Sciences
- Reed Humphrey, Ph.D. - Dean, College of Health Professions and Biomedical Sciences
- Joseph Hickman, M.A. - Registrar
- Paul Kirgis, J.D. - Dean, School of Law
- Stephen Kalm, D.M.A. - Dean, College of Visual and Performing Arts
- Nathan Lindsay, Ph.D. - Associate Provost for Dynamic Learning
- Roger Maclean, Ed.D. - Dean, School of Extended and Lifelong Learning
- Shannon O'Brien, Ph.D. - Dean, Missoula College
- Christopher Shook, Ph.D. - Dean, School of Business Administration
- Brock Tessman, Ph.D. - Dean, Davidson Honors College
- Paulo Zagalo-Melo, Ph.D. - Associate Provost for Global Century Education and Director of International Programs
- Shali Zhang, Ph.D. - Dean, Mansfield Library

Contacts, Calendar and Reserved Rights - University of Montana - Missoula

Contacts

University of Montana website (http://www.umt.edu/)

Department	Phone Number
Enrollment Services/Orientation	(406) 243 6266
Business Services	(406) 243 2223
Missoula College	(406) 243 7882 (In Montana, 1 800 542 6882)
Disability Services TDD	(406) 243 2243

University Villages	(406) 243 6030
Financial Aid	(406) 243 5373
Graduate School	(406) 243 2572
Registrar	(406) 243 2995
Residence Halls	(406) 243 2611
University Switchboard	(406) 243 0211

Reserved Rights

The right is reserved to change any of the rules and regulations of the University at any time including those relating to admission, instruction and graduation. The right to withdraw curricula and specific courses, alter course content, change the calendar, and to impose or increase fees similarly is reserved. All such changes are effective at such times as the proper authorities determine and may apply not only to prospective students but also to those who already are enrolled in the University.

The 2016-2017 Calendar

The 2016-2017 Academic Calendar (as well as previous and future calendars) may be viewed on the Provost Office web page.

A Listing of Important Dates and Deadlines may be viewed on the Registrar's Office Calendar web page.

University of Montana - Missoula Strategic Goals

The planning context for the University of Montana is framed by the Montana Board of Regents Strategic Plan. The UM Strategic Plan is also known as Core Themes. It is updated annually and its progress is continuously monitored through the compilation and analysis of key outcomes data.

The following five strategic issues form the foundation of the new UM Strategic Plan. The degree to which the University of Montana attends and adheres to these goals will ultimately determine its continued success and value.

PARTNERING FOR STUDENT SUCCESS

The University will help its students succeed academically and personally so they graduate well-prepared for their careers or further education. The Partnering for Student Success plan identifies six key objectives critical to student success and sets forth actions to promote a successful first year for entering freshmen and to address the needs of returning students. UM seeks to improve students' success by addressing their preparedness for college-level work, improving their transition to college, providing an integrated early curriculum, increasing student engagement and support, and emphasizing faculty and staff development. As part of the plan, UM created the Office for Student Success, which is charged with developing, implementing, and coordinating initiatives to increase students' persistence toward graduation.

EDUCATION FOR THE GLOBAL CENTURY

UM will offer an educational experience at all degree levels that provides graduates the foundation to make positive impacts on a world that is increasingly interconnected. The University's Academic Strategic Plan, endorsed by the Faculty Senate in 2009, identified the need to create a gateway-to-discovery experience focused on the challenges of the global century for all incoming students at each level of postsecondary education. At the same time, the University recognizes the need to support and strengthen foundational academic programs. For all students, curricula will focus on producing workers and leaders who make a difference in the cultural and economic fabric of Montana and the world.

DISCOVERY AND CREATIVITY TO SERVE MONTANA AND THE WORLD

The University will transform discovery and creativity into knowledge, applications and experiences in ways that benefit the state, region, nation and world. Scholarship, research, and creative work are central to the lives of faculty, students, and staff, and to academic programming at the University of Montana. Therefore, UM supports research, scholarship, and creative work across the natural and physical sciences, social and behavioral sciences, arts, and humanities, and works to enhance opportunities for interdisciplinary connections. By fostering an entrepreneurial spirit in the community of research and technology, UM transforms discovery into application.

DYNAMIC LEARNING ENVIRONMENT

UM will enhance its character as a place where people are passionate about learning, discovery and growth. The University of Montana is consistently recognized as one of the most attractive and enticing campuses in the nation. Community and campus engagement literally means that the lives of the students, faculty, staff, alumni, and friends of the University are centered on the campus. Examples range from sold-out athletic events that feature perennial championship teams, to galleries, campus theaters, and arenas filled to capacity for performances featuring local and world famous artists. UM builds a vibrant and dynamic learning environment, where the natural surroundings are integrated into the curriculum.

PLANNING-ASSESSMENT CONTINUUM

The University will model transparency, systematic communication and sound decision-making to ensure that resources are marshaled to achieve UM's mission. The Planning-Assessment Continuum characterizes a cultural orientation of the University of Montana designed to facilitate desired outcomes, clarify the University's vision and mission, and communicate and demonstrate to internal and external stakeholders that the University is making the best use of its resources. Executive leadership provides communication of mission and vision, clear and consistent processes, overarching mission-driven goals, equitably applied parameters, and rules enforcement, while faculty, staff, and students provide ideas, process improvements, work, action, and other vital contributions to the direction of the University.

Areas of Study

Name	Minor	Certificate	Associate	Bachelor
Accounting				Requirements
Accounting Information Systems		Requirements		
Accounting Technology			Requirements	
Administrative Management			Requirements	
Administrative System Mgmt	Requirements			
African-American Studies	Requirements			Requirements
Anthropology	Requirements			Requirements
Applied Science				Requirements
Arabic Studies	Requirements			
Art				Requirements
Art History/Criticism	Requirements			
Art Studio	Requirements			
Astronomy	Requirements			
Big Data Analytics		Requirements		
Biochemistry	Requirements			Requirements
Bioinformatics		Requirements		
Biology	Requirements			Requirements
Business Administration	Requirements			

Name	Minor	Certificate	Associate	Bachelor
Business Media Design		Requirements		
Central & Southwest Asian Stds	Requirements			Requirements
Chemistry	Requirements			Requirements
Chinese	Requirements			
Classical Civilization	Requirements			
Classics				Requirements
Climate Change Studies	Requirements			
Commun Sci & Disorders	Requirements			Requirements
Communication Studies	Requirements			Requirements
Computed Tomography		Requirements		
Computer Aided Design		Requirements		
Computer Applications	Requirements			
Computer Programming		Requirements		
Computer Sci-Mathematical Sci				Requirements
Computer Science	Requirements			Requirements
Computer Support		Requirements		
Construction Helper		Requirements		
Culinary Arts		Requirements		
Customer Relations		Requirements		
Cybersecurity		Requirements		
Dance	Requirements			Requirements
Dance Specialization Education	Requirements			
Diesel Technology			Requirements	
Digital Marketing		Requirements		
Early Childhood Education	Requirements			
East Asian Studies				Requirements
Ecological Restoration	Requirements			

Name	Minor	Certificate	Associate	Bachelor
Ecological Sciences & Restorat				Requirements
Economics	Requirements			Requirements
Education				
Electronics Technology		Requirements	Requirements	
Elementary Education				Requirements
Energy Auditor		Requirements		
Energy Technology		Requirements	Requirements	
Engl as a Sec Lang		Requirements		
English	Requirements			Requirements
Entertainment Management		Requirements		
Entrepreneurship		Requirements		
Entrepreneurship/Start-up		Requirements		
Environmental Studies	Requirements			Requirements
Facility Management		Requirements		
Film Studies	Requirements			
Finance				Requirements
Fire Sciences & Management	Requirements			
Food Service Management			Requirements	
Forensic Studies		Requirements		
Forestry				Requirements
French	Requirements			Requirements
General AA			Requirements	
Geographic Information Systems		Requirements		
Geography	Requirements			Requirements
Geosciences	Requirements			Requirements
German	Requirements			Requirements
Gerontology	Requirements			

Name	Minor	Certificate	Associate	Bachelor
Global Leadership		Requirements		
Global Public Health	Requirements			
Greek	Requirements			
HVAC Technician		Requirements		
Health & Human Performance				Requirements
Health Behavior Coaching		Requirements		
Health Information Technology		Requirements		
Heavy Equipment Operation		Requirements		
Historic Preservation		Requirements		
History	Requirements			Requirements
History-Political Science				Requirements
Hospitality Management		Requirements	Requirements	
Human and Family Development	Requirements			
Information Technology			Requirements	
International Business				Requirements
International Development Stds	Requirements			
International Field Geos Dual				Requirements
International Field Geos Joint				Requirements
Irish Studies	Requirements			
Japanese	Requirements			Requirements
Journalism	Requirements			Requirements
Language Rejuvenation & Maint		Requirements		
Latin	Requirements			
Latin American Studies	Requirements			
Liberal Studies	Requirements			Requirements
Linguistics	Requirements			
Management			Requirements	Requirements

Name	Minor	Certificate	Associate	Bachelor
Management Information Systems				Requirements
Marketing				Requirements
Mathematical Sci-Computer Sci				Requirements
Mathematics	Requirements			Requirements
Media Arts	Requirements			Requirements
Medical Assisting			Requirements	
Medical Information Technology			Requirements	
Medical Laboratory Science				Requirements
Medical Reception		Requirements		
Microbiology	Requirements			Requirements
Military Studies	Requirements			
Mountain Studies	Requirements			
Music	Requirements			Requirements
Music Education				Requirements
Native American Studies	Requirements			Requirements
Neuroscience				Requirements
Nonprofit Administration	Requirements			
Paralegal Studies			Requirements	
Parks, Tourism &Rec Management				Requirements
Pharmacy Technology		Requirements		
Philosophy	Requirements			Requirements
Physics	Requirements			Requirements
Political Science	Requirements			Requirements
Practical Nursing			Requirements	
Precision Machine Technology		Requirements		
Psychology	Requirements			Requirements

Name	Minor	Certificate	Associate	Bachelor
Radiologic Technology			Requirements	
Recreational Power Equipment		Requirements		
Recycling Technology		Requirements		
Registered Nursing			Requirements	
Resource Conservation				Requirements
Respiratory Care			Requirements	
Russian	Requirements			Requirements
Russian Studies	Requirements			
Sales and Marketing		Requirements		
Secondary Certification				
Social Work				Requirements
Sociology	Requirements			Requirements
South & Southeast Asian Stds	Requirements			
Spanish	Requirements			Requirements
Surgical Technology			Requirements	
Sustainable Business Strategy		Requirements		
Sustainable Construction		Requirements		
Sustainable Construction Tech		Requirements	Requirements	
Theatre	Requirements			Requirements
Theatre Education	Requirements			
Welding Technology		Requirements	Requirements	
Wilderness Studies	Requirements			
Wildlife Biology	Requirements			Requirements
Women's, Gender & Sexuality St	Requirements			Requirements

Bachelor Degree Admission – Entering Freshmen

Academic Eligibility

The University continues to raise the academic standards required for full admission to Baccalaureate programs, and the process will continue in future years. For the current academic year both in-state and out-of-state high school graduates will be offered full admission if they meet the requirements below.

Some departments reserve the right to set higher admission standards for their undergraduate programs. Applicants to these programs will be admitted to the appropriate pre-major program by Enrollment Services-Admissions. Application to the undergraduate degree program is an additional, separate process administered by the department and arranged for by the student seeking acceptance.

1. Graduation from a state accredited high school.
2. Successful completion of the following College Preparatory program:

- Four years of English.
- Three years of math, including Algebra I, Geometry and Algebra II (or the sequential content equivalent of these courses). Students are encouraged to take a math course in their senior year.
- Three years of social studies, including one year global studies (i.e., world history or world geography), one year American history and one year of additional course work (i.e., government, psychology, economics).
- Two years of laboratory science. One year must be earth science, biology, chemistry, or physics; the other year can be one of those sciences or another approved college prep laboratory science.
- Two years chosen from the following: foreign language (preferably two years), computer science, visual and performing arts, or vocational education units.

3. Students must meet one of the following admissions requirements:

- ACT composite of 22, or
- SAT combined score of 1540, or
- a 2.50 cumulative grade point average, or
- class rank in the upper half of the graduating class.
- Students whose tests or GPA are significantly below this level may be admitted on a conditional basis.

4. Students must meet a minimum Math Proficiency score of:

- 22 on the ACT Math section or
- 520 on the SAT Math section or
- A score of 3 or above on the AP Calculus AB or BC Subject Exams. In lieu of the above requirement, students can complete a Rigorous High School Core that includes four years of math with grades of C or higher and three years of lab science or
- 4 on the International Baccalaureate Calculus Exam.

5. Students must meet a minimum Writing Proficiency score of:

- 18 on the Combined English/Writing section of the Optional Writing Test or a 7 on the Writing Subscore of the ACT; or
- 440 on the Writing Section of the SAT or a 7 on the Essay the SAT; or
- 3.5 on the Montana University System Writing Assessment; or
- 3 on the AP English Language or English Literature Examination; or
- 4 on the International Baccalaureate Language A1 Exam or
- 50 on the CLEP Subject Exam in Composition.

Home-Schooled Students

Information on admission requirements for home-schooled students or students who graduate from a non-accredited high school can be found at the UM admissons home school web page.

Traditional-Age Freshmen with GED

GED freshmen are those students who have passed the GED and enter college within three years of the date they would have graduated from high school. Admission will be determined by current University of Montana criteria for GED freshmen. All GED freshmen applicants are required to take the ACT or SAT.

Non-Traditional Freshmen

Non-traditional freshmen are those students who are over 21 years old and who did not enter college for a period of at least three years from the date of high school graduation. Admission will be determined by current University of Montana criteria for non-traditional students. Non-traditional freshmen will be admitted conditionally if test scores are not posted on the high school transcript or if a student has never taken the ACT or SAT.

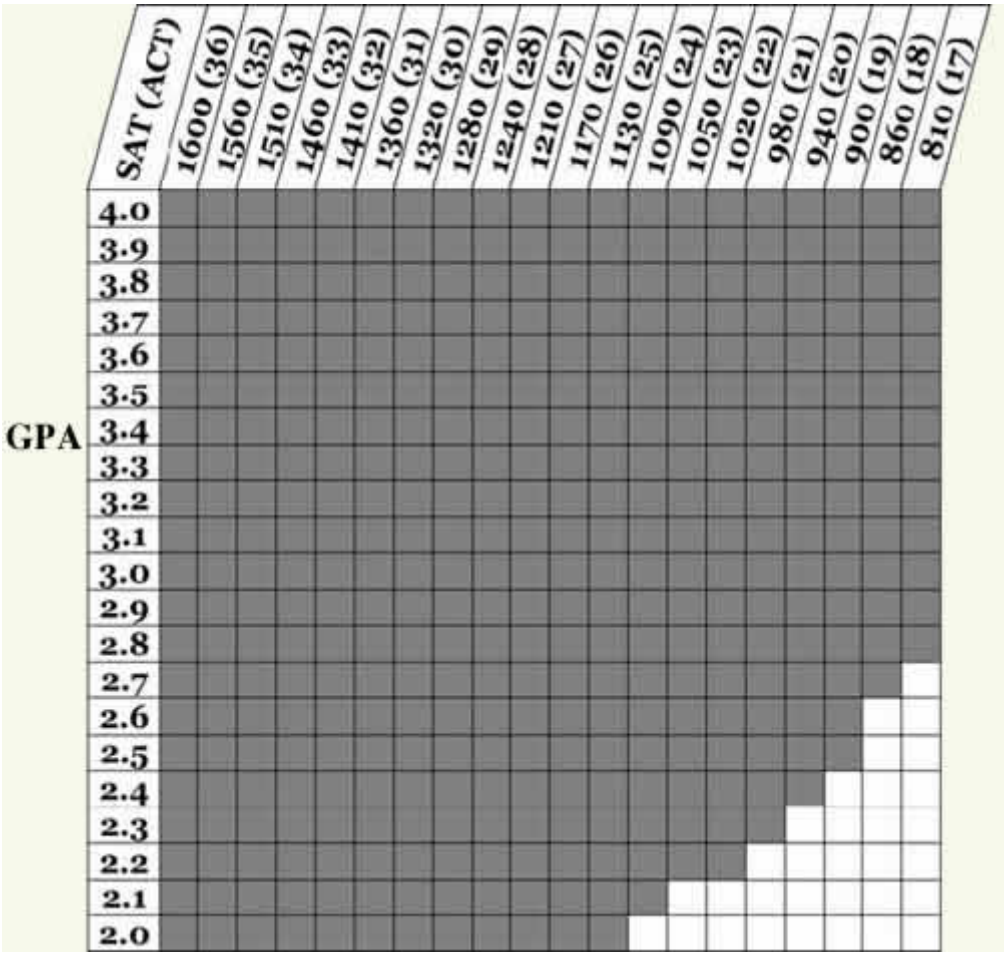
The following students are exempt from Standards 1, 2, 3, 4 and 5 above:

- Summer Only Students
- Part-time students taking seven or fewer college-level semester credits.

Conditional Acceptance

Students who have a high school diploma or its recognized equivalent, but do not otherwise meet the admission requirements, may be admitted on a conditional basis. To be admitted conditionally, the Admissions Committee must determine that a student could be successful by taking advantage of the academic support services that are available. Students will be granted full admission after completing 24 credits with a grade point average of at least 2.0. Students are expected to complete the 24 credits within two semesters but must complete them within three semesters. In cases where academic preparation falls well below the admission standards listed above, applicants will be directed to the Missoula College where courses can be taken to strengthen their preparation for success at the University of Montana.

Future trends in Admission Eligibility at UM



In future years, the academic criteria for full admission to Baccalaureate programs at The University will continue to rise. Students who fail to meet these stricter admission standards may be admitted on a conditional basis (see above).

How to Apply

Applications for admission are available from Enrollment Services-Admissions by request or are available on the University Admissions website. An application for admission is complete when Enrollment Services-Admissions receives the credentials described below.

1. Application form. Applications must be complete and signed.
2. Application Fee. The fee is $30. This non-refundable fee is payable once at the undergraduate level provided payment is followed by enrollment. Record of payment will remain on file for one year for students who do not enroll. Applications are not processed prior to payment of this fee. The University of Montana-Missoula waives the application fee for students who have attended

an affiliate campus: Montana Tech or Highlands College (former College of Technology) in Butte, Helena College (formerly Helena College of Technology), and University of Montana-Western in Dillon.
3. Test scores. Official ACT or SAT results should be sent directly from the testing company or may be posted on the high school transcript.
4. Final high school transcripts. Transcripts should be submitted after graduation and must include a graduation date and final GPA. Eligibility for admission and scholarships will be verified from this transcript.
5. Immunization Form. All students are required to submit a completed Medical Requirement Form to the Curry Health Center prior to registration. It is important that the immunization record be complete, accurate and validated by a health official.

When to Apply

Applications and all required documents submitted by the following dates will receive priority consideration:

- March 1 - Fall semester
- November 15 - Spring semester

Applications received after the priority dates are considered on a space-available basis.

Transfer Students

Academic Eligibility

Undergraduate degree applicants who have graduated from high school or have earned a HiSET or GED and have attempted twelve or more college level credits must meet the academic eligibility requirements described here. Any undergraduate degree transfer applicant who has attempted fewer than twelve college level credits must meet the academic eligibility requirements for freshman mentioned in the freshman admission section.

Applicants must present a 2.00 (C) cumulative grade average (on a 0-4 scale) for all college level work attempted to be eligible for admission.

How to Apply

Applications for admission are available from Enrollment Services-Admissions by request or are available on the University Admissions Transfer web page.

Receipt of the following credentials in Enrollment Services-Admissions constitutes a complete application for admission:

1. Application Form. Applications must be complete and signed.
2. Application Fee. The fee is $30.00. This non-refundable fee is payable once at the undergraduate level provided payment is followed by enrollment. Record of payment will remain on file for one year for students who do not enroll. An application cannot be considered prior to payment of this fee. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech, Montana Tech College of Technology, Helena College of Technology, and University of Montana Western.
3. Official College/University Transcripts. The student must supply a complete official transcript from each regionally accredited college or university attended, and from each college or university attended holding candidate status for regional accreditation. Applications from students who are enrolled at the transfer school while applying to UM will be considered for admission based on current official transcripts showing all academic work completed and posted to date. The final official transcript must be on file before the second registration at UM. Academic eligibility will be reviewed upon receipt of the complete transcript.
4. Immunization Form. All students are required to submit a completed Medical Requirement Form to the Curry Health Center two weeks prior to registration. It is important that the immunization record be complete and accurate and validated by a health official. Students born after December 31, 1956 must submit proof of immunization or titer against Rubella and measles (Rubeola). Students will not be allowed to register until the Curry Health Center has received proof of immunization.

When to Apply

Applications and all required documents submitted by the following dates will receive priority consideration:

- March 1 - Autumn semester
- November 15 - Spring semester

Applications received after the priority dates are considered on a space-available basis.

General Education for Transfer Students

Students transferring credits from other institutions must meet all requirements by transfer, by examination, or by completing courses at the University of Montana-Missoula.

According to Board of Regents policy, students who can demonstrate that they have completed an approved lower-division general education requirement at an approved Montana institution of higher education will be deemed to have completed general education requirements except for the advanced writing requirements in their majors.

Montana University System transfer students who have completed the lower-division course work in an approved general education program prior to admission should request that the Registrar of the other school certify completion of these requirements to the Admissions Office.

Students who have earned 20 or more credits equivalent to the approved Montana University System Transfer Core (see MUS Transfer core website) as a degree-seeking student at another institution prior to their initial registration at UM-Missoula may choose to complete the MUS Transferable General Education Curriculum to satisfy all UM lower division General Education requirements. Students will still have to complete UM's advanced writing requirement.

In order to determine if transfer course work satisfies General Education requirements, the credits for each course are rounded. For example, if a student transfers in two N-courses each worth 2.66 credits, each course counts as 3 N-credits towards the Group XI requirement. On the other hand, an L-course worth 2.49 credits does not satisfy the Group V requirement of 3 L-credits.

Students who have completed a bachelor degree at the University or elsewhere will be presumed to have completed the General Education Requirement.

Admissions & New Student Services will evaluate all transfer credits for General Education credit. Students who wish to appeal that evaluation may petition the Graduation Appeals Subcommittee of the Academic Standards and Curriculum Review Committee, but such petitions must be initiated during the first semester of the student's attendance following that evaluation.

Writing Course Requirement Regarding Transfer Students

The Admissions Office (406-243-6266) evaluates transcripts for course equivalencies with the exception of UM's approved writing courses. If transfer students believe a transfer course meets the approved writing course requirement defined in the Faculty Senate Writing Committee guidelines they may petition for an exemption through the Writing Committee. These students must provide the following information to the Writing Committee. Appeal information should be submitted to the Faculty Senate Office, UH 221, camie.foos@mso.umt.edu, 243-5553.

1. A cover letter outlining the basis for the request. Include pertinent information such as contact information, student ID number, and how you fulfilled this requirement in a course at your previous institution.
2. A syllabus and course description. The course must include at least 16 pages of writing for assessment and at least 50% of the course grade should be based on your performance on writing assignments.
3. Three papers from any college class with original instructor comments. Original instructor comments are those grading and feedback markings on papers that are returned to the student for revision or at the end of the term. Papers without these comments will not be considered. At least one of these papers must be at least six pages long and include a bibliography or works cited. Your papers should demonstrate your ability to:

- Use writing to learn and synthesize new concepts
- formulate and express written ideas that are developed, logical, and organized
- Compose written texts that are appropriate for a given audience, purpose, and context
- Revise written work based on comments from the instructor
- Find, evaluate, and use information effectively and ethically
- Begin to use discipline-specific writing conventions
- Demonstrate appropriate English language usage.

Incomplete packets will not be evaluated.

This information pertains only to the intermediate writing course, not the advanced writing requirement. Students should speak to their major department regarding any issues relating to the advanced writing requirement.

Bachelor of Applied Science Admission

Academic Eligibility

Applicants must hold an Associate of Applied Science degree from an accredited institution with a minimum cumulative grade average of 2.5.

How to Apply

UM baccalaureate applications are available from Enrollment Services-Admissions or the Missoula College by request or are available on the Missoula College website. Applicants should contact the Bachelor of Applied Science advisor at Missoula College, 406-243-7801. The applicant and advisor meet to discuss application procedures as well as degree plan identification and required approval.

Receipt of the following constitutes a complete application toward completing a B.A.S. degree:

1. Application Form. Applications must be complete and signed.
2. Official college/university transcripts. The student must supply a complete official transcript from each regionally accredited college or university attended.
3. Application Fee. The fee is $30 (if the applicant is new to The University of Montana system).
4. Immunization Form. All students are required to submit a completed Medical Requirement Form to the Curry Health Center two weeks prior to registration if the applicant is new or has been absent for more then 24 months from the University of Montana system.

When to Apply

Applications from students who hold an A.A.S. degree with a GPA of 2.5 are accepted on a continuing basis. Applicants in the process of completing the A.A.S. degree are encouraged to begin the application process during their final semester. Students are not, however, admitted until after the A.A.S. degree has been awarded.

General Admission Information

Advanced Placement (AP) Program/College Level Examination Program (CLEP)

College credit may be granted based on achievement in college level high school courses, provided the University has received satisfactory scores from the College Level Entrance Examination Program (CLEP) or the Advanced Placement Program (AP) examinations.

It should not be assumed that credit granted by other colleges/universities would be allowed by UM. Specific questions regarding the Advanced Placement Program should be directed to Enrollment Services-Admissions.

The University policy for awarding credit on the basis of AP/CLEP is available on the Admissions Advanced-Credit web page.

International Baccalaureate

The University of Montana recognizes IB achievement and grants college credit provided the University has received satisfactory scores from the International Baccalaureate Program. University policy on awarding IB credit is available on the Admissions Advanced-Credit web page.

Foreign Language Placement

Transfer credit is not granted for high school foreign languages. Placement testing is done by the Department of Modern and Classical Languages and Literatures to determine appropriate class placement for entering students.

Immunization Requirements

Montana state law requires postsecondary students to provide proof of immunization. Students must complete the Medical Requirement Form and return the form to the Curry Health Center prior to orientation and registration.

Registration cannot be completed without this documentation. A Medical Requirement Form is sent with the admission acceptance letter. For additional information visit the Curry Health Center website.

High School Pilot Program

Area high school juniors and seniors of outstanding ability can enroll in University classes under the High School Pilot Program. Students must have approval from their high school counselor/principal and parent/guardian if under age 18.High school students earn college credit, receive an early introduction to University opportunities and are able to develop skills and knowledge beyond the high school level. For more information, contact the

Coordinator of the High School Pilot Program, Enrollment Services-Admissions, Lommasson Center 101, The University of Montana-Missoula, Missoula, MT 59812 or phone (406) 243-6266. For opportunities in the Missoula College, phone (406) 243-7828.

Dual Credit Program

The Dual Credit Program enables high school juniors and seniors of outstanding ability to earn college credit in certain high school courses. Students must have approval from their high school counselor/principal and parent/guardian if under age 18. For information, contact the Missoula College at (406) 243-7828.

International Student Exchange Program (ISEP)

The University of Montana is a member of the International Student Exchange Program (ISEP), which allows University of Montana students to spend a semester, a year, or a summer abroad at one of ISEP's 141 member institutions in 42 foreign countries. ISEP offers reciprocal exchanges (students pay their home tuition, room and board, and create a space for an incoming international student) and ISEP-Direct programs (students pay a program fee covering tuition, room and board through the University of Montana to ISEP). Other expenses for which the student is responsible include: books and supplies, local transportation, round-trip airfare, or personal expenses.

For information on ISEP, please contact International Programs, International Center, The University of Montana-Missoula, Missoula, MT 59812 or phone (406) 243 2288.

National Student Exchange (NSE)

The University of Montana-Missoula participates in the National Student Exchange (NSE) program with 190 other state colleges and universities. This program offers students the opportunity to become better acquainted with different social and educational patterns in other areas of the United States. NSE encourages students to experience new life and learning styles, appreciate differing cultural perspectives, learn more about themselves and others and broaden their educational backgrounds through specialized courses or unique programs which may not be available on the home campus. Qualified students may participate in the exchange program for up to one academic year. For more information, contact the Coordinator of the National Student Exchange Program, Enrollment Services-Admissions, Lommasson Center 101, The University of Montana-Missoula, Missoula, MT 59812 or phone (406) 243-6266. Find more information on the National Student Exchange website.

Special Admission Committee

A special admission committee reviews applications from students who do not meet the regular admission standards.

Enrollment Limitation

The University of Montana-Missoula may deny or condition admission, readmission, or continuing enrollment of any individual who, in the judgment of the University, presents an unreasonable risk to the safety and welfare of the campus and persons thereon. In making such judgment, the University may, among other things, take into account the individual's history and experience relative to (a) violence and destructive tendencies, (b) behavior on other college campuses, and (c) any rehabilitative therapy the individual may have undergone.

The University of Montana-Missoula adopts the following Admission Review Procedures:

The Assistant Vice President for Enrollment, the Dean of the Graduate School or the Chair of the Admissions Committees of the various professional schools at The University of Montana-Missoula shall be responsible for the administration of the Admissions Review procedures established to implement Board of Regents policy. When the responsible admissions officer has reason to believe an applicant may present an unreasonable risk to the safety and welfare of the campus and persons thereon, additional information regarding the applicant's background and experiences shall be requested. No applicant's admission may be barred automatically, solely by reason of a criminal conviction, if state supervision has terminated, or solely by reason of a youth court adjudication. The responsible admissions officer may request additional information in the following instances: (1) When an applicant has been convicted of a felony; (2) When an applicant has been adjudicated as a danger to others or to self; (3) When an applicant has been suspended or expelled for disciplinary reasons from other educational institutions, either before or after the applicant has been accepted at The University of Montana-Missoula; (4) When, on the basis of other facts, the Assistant Vice President for Enrollment or other responsible officer has reason to believe an applicant may present an unreasonable risk to the safety and welfare of the campus and persons thereon.

After obtaining additional information, the responsible admissions officer may admit the applicant or refer the application to the Admissions Review Committee for review and recommendation.

Evaluation of Transfer Credits

Evaluation of transfer credits is determined by Enrollment Services-Admissions at the time of admission. The evaluation is included in the acceptance packet and in the advising materials distributed during orientation. All college-level credits from regionally accredited colleges and universities will be accepted for transfer. Credits from colleges or universities that are candidates for regional accreditation will be accepted only after the student has successfully completed twenty semester credits at UM. Course work from unaccredited schools is not accepted or evaluated unless an individual exception is requested by the student and approved by a committee composed of the Academic Vice President, Assistant Vice President for Enrollment and the Registrar.

Enrollment Services-Admissions determines whether or not courses are college-level, the appropriate grading and credit conversion and the applicability of the transfer courses to UM's general education requirements. Transfer courses graded C- or above will count toward general education and major, minor, option or certificate requirements. Transfer courses with grades of D or D- transfer as elective credit. The student's major department may further evaluate the applicability of transfer courses to the student's selected program of study. College-level courses which do not have an equivalent at UM will be accepted as elective credits.

Up to 15 credits of vocational-technical course work from regionally accredited schools are accepted as free electives in transfer toward an AA, AS, or baccalaureate program. Up to 20 credits may transfer for students completing an AAS degree. Missoula College technical courses are designated by a course number suffix of "T."

Elective credit may be given for military courses according to the recommendations in the American Council (ACE) Service Guide. Elective credit may also be given for training programs recommended by the ACE Guide.

The University of Montana database of courses transferable from colleges and universities is available on the Admissions transfer credit web page.

Students who wish to appeal a decision regarding acceptance of transfer credit should contact Enrollment Services-Admissions to receive information on the appeal process.

Evaluation of Transfer Credit-Missoula College

Missoula College students must submit official transcripts for evaluation. If a student feels that a course taken at another institution may substitute for a specific Missoula College course, the evaluation will be done by the associate dean and the chair of the department of the equivalent course. Transfer courses graded C- or above will count toward general education requirements. Transfer courses with grades of D or D- transfer as elective credit. The student's major department may require a grade above C- to meet specific major requirements.

Western Interstate Commission for Higher Education

The Western Interstate Commission for Higher Education's Professional Student Exchange Program enables students in thirteen western states to enroll in out of state professional programs when those programs are not available in their home states. Exchange students receive preference in admission. They pay reduced levels of tuition: for most students, resident tuition in public institutions or reduced standard tuition at private schools. The home state pays a support fee to the admitting schools to help cover the cost of students' education.

The following professional programs are not available in Montana but are supported by the Montana WICHE program. They are dentistry, medicine, occupational therapy, optometry, osteopathic medicine, podiatry, public health and veterinary medicine.

The Certifying Officer for the State of Montana can be contacted for specific details about the program. WICHE Student Exchange Program, Montana University System, 2500 Broadway, Helena, MT 59620. (406)444-6570 or Fax: (406) 444-1469.

Western Undergraduate Exchange Program (WUE)

The Western Undergraduate Exchange (WUE) Scholarship program at The University of Montana-Missoula is a highly competitive academic merit based scholarship which strictly monitored. Awards are decided upon a comprehensive review of a student's cumulative G.P.A. and test scores. When undergraduate students apply and are admitted from a WUE state they are automatically considered for the WUE, if not eligible for the WUE they are reviewed for other awards. The WUE states are limited to students who are legal residents of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming. Please note: Only first time incoming freshman and new transfer students are eligible for the WUE scholarship. *Currently enrolled students not originally awarded WUE, post-baccalaureate students and returning students are not eligible for WUE.*

The amount of the WUE scholarship will always represent the 150% of the cost of Montana resident tuition and fees. The WUE scholarship will automatically be renewed each semester providing students follow all conditions of the WUE Scholarship.

The conditions of the WUE Scholarship are:

- The award is in effect for four years or until completion of a bachelor's degree (120 credits) whichever comes first.

- You must maintain a 3.0 grade point average and register for at least 15 credits each consecutive term of enrollment. Please note that completion of 15 credits per semester leads to graduation within four years.
- Tuition and fees at UM between 12 – 21 credits costs the same. The best way to maximize your tuition dollars is by taking advantage of this cost savings during your scholarship eligibility.
- You may not earn Montana residency for fee purposes at any unit of the Montana University System.
- If you change your status to Distance Only or if you transfer your enrollment to the Missoula College your Western Undergraduate Exchange Scholarship will no longer apply.

To be eligible for the WUE scholarship first time incoming freshman and transfer students must apply for admission and be admitted to The University of Montana. Awarding of the WUE will occur on a space available rolling basis with priority given to those who apply before December 31st. Further details are available from the Enrollment Services-Admissions Office website.

Student Conduct Code

The Student Conduct Code, embodying the ideals of academic honesty, integrity, human rights and responsible citizenship, governs all student conduct at The University of Montana-Missoula. Student enrollment presupposes a commitment to the principles and policies embodied in this Code. The Student Conduct Code sets forth University jurisdiction, student rights, standards of academic and general student conduct, disciplinary sanctions for breach of the standards of student conduct and procedures to be followed in adjudicating charges of both academic and general misconduct. The Vice President for Student Affairs is responsible for procedural administration of the Student Conduct Code for all general conduct. The Provost and Vice President for Academic Affairs is responsible for all academic conduct. Copies of the Student Conduct Code can be obtained from the offices of the Vice President for Student Affairs, the Provost and Vice President for Academic Affairs, Residence Life, and Associated Students of The University of Montana-Missoula (ASUM). The Student Conduct Code also can be accessed from the Vice President for Student Affairs Student Conduct Code web page.

Service Members Opportunity College

The University is a member of Service members Opportunity Colleges, a consortium of over 1300 institutions pledged to be reasonable in working with service members and veterans trying to earn degrees.

VETS Office
1000 E. Beckwith
Missoula, MT 59801
Phone: (406) 243-2744
Fax: (406) 243-5444
vetsoffice@umontana.edu

Associate of Applied Science, Associate of Arts and Certificate Admission

The Associate of Applied Science and Certificate of Applied Science programs in the Missoula College are designed to lead an individual directly to employment in a specific career path. In some instances, particularly in allied health, the degree is a prerequisite for taking a licensing examination. Students may pursue a baccalaureate degree at the University of Montana after completing an AAS degree through a Bachelor of Applied Science degree plan. The Associate of Arts degree is a University of Montana transfer degree which offers students the opportunity to complete a 60 credit transfer degree toward completing a baccalaureate degree at the University of Montana or other accredited institutions of higher education.

Academic Eligibility

To be eligible for admission, students must have graduated from an accredited high school or passed the HiSET or GED. Students interested in becoming University of Montana (Mountain Campus) students must meet the admission requirements of the University of Montana.

How to Apply

Applications are available from Enrollment Services-Admissions or the Missoula College by request or are available on the Missoula College website.

An application for admission is complete when the Missoula College receives the credentials described below.

1. Application form. Applications must be completed and signed.
2. Application fee. The fee is $30. This non-refundable application fee is payable once at the undergraduate level provided payment is followed by enrollment. Record of payment will remain on file for one year for students who do not enroll. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Missoula College, UM Helena College of Technology, and University of Montana-Western.

3. Proof of high school graduation/HiSET/GED. An official high school transcript with graduation date or GED score report must be sent to the Missoula College.
4. All students are required to submit a completed Medical Requirement Form to the Curry Health Center two weeks prior to registration. It is important that the immunization record be complete and accurate and validated by a health official. Students born after December 31, 1956 must submit proof of immunization or titer against Rubella and measles (Rubeola). Students will not be allowed to register until the Curry Health Center has received proof of immunization.

Critical Information Required Prior to Advising and Completion of Registration:

All students are required to take either the ACT, SAT or Compass-E-Write test and submit scores (associated with writing) to the Admissions Office.Montana students may submit the Montana University System Writing Assessment Score (MUSWA) in lieu of these tests.

In addition to providing the required placement scores for writing courses, the academic departments of the Missoula College require course placement information for math courses. Students must provide ALEKS placement score information or transfer course approval. This information is critical to the advising process and the student registration process; neither of which will be completed without the information being supplied prior to the process.

When to Apply

Applications are considered on a first come, first-served basis. The Missoula College will notify applicants of their status once their application has been processed.

International Student Admission

The University of Montana-Missoula International Programs-International Admissions Office will issue the Immigration Form I-20 (necessary for obtaining an F 1 student visa) to international applicants who are academically eligible for the undergraduate degree status (see above) and who supply complete credentials as described below. In certain situations an international applicant may not need an I- 20; in these cases, International Programs-International Admissions should be contacted for individual advice regarding admission status, academic eligibility, and admission requirements. International students are encouraged to submit ACT or SAT scores if available, but ACT or SAT scores are not required for admission.

How to Apply

Receipt of the following credentials constitutes a complete international application for admission:

1. International application form. This form can be obtained by contacting International Programs-International Admissions. The form must be complete and signed. Applications are also available on the UM Admissions International web page .
2. $30.00 paper application fee. This non refundable fee is payable once at the undergraduate level when payment is followed by enrollment. In all other cases record of payment will remain on file for one year. Payment of this fee is expected prior to consideration of the application. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Division of Technology, Helena College of Technology, and Western Montana College.
3. Academic Credentials:
    1. Official or certified copies of non-U.S. academic credentials beginning with secondary school and continuing through the highest level of achievement. The transcripts must be in the original language accompanied by an English translation. The applicant may make the translation themselves. Photocopied, scanned, or emailed copies will not be accepted.
    2. U.S. transcripts. Complete official transcripts showing all U.S. high school and college/university attendance.
4. Statement of Financial Support. The applicant must submit a certified statement from a bank or sponsor verifying that adequate financial resources are available to pay for the student's estimated expenses for the first year (tuition, fees, room, board, miscellaneous expenses, student health insurance, expenses of dependents, etc.). This estimated amount is adjusted annually and is available by contacting International Programs-International Admissions.
5. English Language Proficiency.
   Montana University System campuses require international-student applicants to present evidence of proficient English use. Campuses may impose additional requirements on applicants from other countries in order to assure student success.

   The University of Montana considers applicants to be international students if they are neither U.S. citizens, immigrants (permanent residents) nor refugees. These applicants may include holders of F (student) visas, J (exchange visitor) visas, and M (vocational training) visas.

   All international students must be academically prepared and demonstrate sufficient proficiency in English to qualify for admission. In order to demonstrate sufficient proficiency, students must meet one of the following admissions standards at the undergraduate level:

Proficiency Examination	Full Admission	Conditional Admission
TOEFL iBT	70 and above	69 and below
TOEFL PBT	525 and above	524 and below
TOEFL CBT	193 and above	192 and below
IELTS	6.0 (no band below 5.5)	5.5 (no band below 5.0)
MELAB	74 and above	73 and below
SAT - Writing Score	440 and above	
ACT - English Writing	18 and above	
STEP EIKEN	Grade Pre-1	
UM English Language Institute	525 TOEFL ITP or recommendation from ELI	
ELS Language Center	Successful completion of Program Level 112	
Kaplan Aspect	Successful completion of Higher Intermediate Level 112	
Vancouver English Centre	Successful completion of Level 11	
All inquiries about evidence of English proficiency and English language proficiency test scores should be directed to Enrollment Services-Admissions.		

EXEMPTIONS

Exemptions to the English proficiency policy may be considered for any one of the following:

- applicants whose native language is English;
- applicants with two or more years of attendance at an institution of higher education where English is the primary language of instruction; or
- applicants who transfer an equivalent for WRIT 101.

Students who are citizens of the following countries need not submit proof of English language proficiency unless English is not the student's native language. These countries include: Australia, Canada, Ireland, New Zealand, the United Kingdom, and South Africa.

Students who have test scores below the minimum requirement may be eligible for conditional admission.

Any questions concerning the evidence of proficiency in English should be directed to International Programs-International Admissions. When the student arranges to take one of the proficiency tests, he or she should request that examination results be sent directly to INternational Programs-International Admissions, The University of Montana-Missoula, Missoula, Montana 59812. (Code N. 4489 00)

FULL ADMISSION

The University of Montana will consider for full admission only those undergraduate students

providing evidence of English language proficiency in the form of one of the scores listed above:

Full Admission with Academic Support: International-student applicants qualify for admission with academic support if they have (i) completed one of the English proficiency examinations (either TOEFL, IELTS, or MELAB) and (ii) earned scores within the ranges presented below:

	Full Admission	**Full Admission with Academic Support**	
Proficiency Exam	Superior Proficiency	**Advanced Proficiency**	**Intermediate Proficiency**

iBT TOEFL	92 or higher	81to 91	70 to 80
PBT TOEFL	575 or higher	550 to 574	525 to 549
CBT TOEFL.	234 or higher	213 to 233	192 to 212
IELTS	6.5 (no band <6.0)	6.5 (no band <5.5)	6.0 (no band < 5.0)
MELAB	83 or higher	78 to 82	74 to 77
All inquiries about evidence of English proficiency and English language proficiency test scores should be directed to Enrollment Services-Admissions.			

Any student scoring in the advanced or intermediate proficiency ranges are strongly recommended to enroll in academic support service courses.

• During their first semester of attendance, advanced-proficiency students may take 3 but no more than 6 credits coursework in English as an Academic Second Language (EASL).

• During their first two semesters in attendance, intermediate-proficiency students may take 6 but no more than 12 credits of coursework in EASL.

Academic Support coursework entails EASL courses, credited toward a degree. The University offers EASL 250 and 251 (intermediate) as well as 450 and 451 (advanced) in order to assist international students in becoming ready for and effective in mainstream college coursework.

See http://www.umt.edu/catalog/cat/cas/linguist.html.

CONDITIONAL ADMISSION

Students who do not meet the required English language proficiency for full admission but are otherwise academically qualified may seek eligibility for conditional admission. Students submit International applications and all required supporting documents to the Admissions Office, and upon a review of their academic eligibility, students may then be admitted conditionally. Enrollment Services issues the conditional-acceptance letter and an I-20 form and then forwards this information to the English Language Institute.

Summary: An iBT score of 70 is required for full admission; an iBT score between 70-93 places an academic-support recommendation on full admission. These international students are encouraged to complete one or more Academic Support courses which count for degree credit.

Justification: A score below 70 iBT indicates a pre-emergent proficiency for academic purposes, failing a full-admission standard; a score between 70-93 iBT indicates emerging proficiency for academic purposes, thus meeting a full-admission standard with a recommendation for academic support with a projected increase of 12 iBT points per semester; emerging proficiency is intermediate (70-81) and advanced (82-93). These students enroll in a program of study delivering academic support that respects timely passage toward a program of study leading to degree. This range reflects most universities' admissions standards and sets a ceiling with those of prestigious ones.

*It is **recommended**, (i) this policy be revisited for review and revision to respond to developments, (ii) an admission deadline for international-student applications be May 15, 2015 for Academic Year 2015-2016, and (iii) ASCRC coordinate its recommendations for this undergraduate international-student standard with Graduate Council, setting the graduate international-student standard.*

When to Apply

Applications and all required documents must be received by the following dates:

- Autumn Semester Deadline – May 15
- Spring Semester Deadline – October 15

Applications received after the deadline will be considered for admission for the next term.

Undergraduate Nondegree Status

An applicant who wishes to pursue studies for his or her personal growth and who does not wish to work toward a formal degree at the University of Montana-Missoula may apply as an undergraduate nondegree student. This option is not available to freshmen unless they are applying to the Missoula College. Each applicant should understand that acceptance to this category does not constitute acceptance into a degree granting program. Applicants admitted as undergraduate nondegree students are not eligible for financial aid.

Academic Eligibility

Each applicant must certify on the application form that he or she has graduated from a high school that is fully accredited by its state department of education, or has passed the HiSET or General Educational Development (GED) test. To be considered for nondegree status, a student must have attempted 12 or more college level

credits. This category is not open to students currently on academic suspension from The University of Montana.

If a person is admitted as an undergraduate non-degree student and later wishes to change to a degree program, he or she will be required to file an application for readmission, furnish the required supporting credentials and meet the regular admissions standards for the intended program. Readmission applications are available from Enrollment Services-Admissions, the Missoula College, or the Registrar's Office.

How to Apply

Applications for admission are available from Enrollment Services-Admissions by request or are available on the UM Admissions website.

Receipt of the following credentials in Enrollment Services-Admissions or the Missoula College constitutes a complete application for admission to the undergraduate nondegree status:

1. Application form. Applications must complete and signed.
2. Application fee. The fee is $30.00. This non-refundable fee is payable once at the undergraduate level provided payment is followed by enrollment. Record of payment will remain on file for one year for students who do not enroll. An application cannot be considered prior to payment of this fee. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Division of Technology, Helena College of Technology, and University of Montana-Western.
3. Immunization Form. All applicants are required to submit a completed Medical Requirement Form to the Curry Health Center two weeks prior to registration. The form must be complete, accurate and validated by a health official.

When to Apply

Applications and all required documents submitted by the following dates will receive priority consideration:

- March 1 - Autumn semester
- November 15 - Spring semester

Applications received after the priority dates are considered on a space-available basis.

Graduate Nondegree Status

Graduate nondegree status allows students who have not been formally admitted to a graduate degree program to receive graduate credit for courses.

Up to nine semester nondegree graduate credits (or the credits earned during a single semester, whichever is greater) may be applied toward a subsequent graduate degree program, with the approval of the student's program chair and the graduate dean. Acceptance as a graduate nondegree student does not imply future admission to a degree program.

Graduate nondegree students may take U/G courses for either graduate or undergraduate credit, as defined by the university catalog. Graduate credits will be assigned automatically unless a request for undergraduate credit is submitted to the Graduate School by the fifth week of the semester. Undergraduate credits taken as a graduate nondegree student cannot be applied to a subsequent graduate degree.

Applicants admitted as graduate nondegree students are NOT ELIGIBLE for federal financial aid. Graduate nondegree students are assessed the graduate level tuition and fees at the master's level rate for all credits taken.

Applicants must have earned a baccalaureate degree (or higher degree) from a regionally accredited college or university prior to enrollment in the graduate nondegree status.

Applicants seeking graduate nondegree status must apply online at the UM Graduate School website and pay a $60 non-refundable application fee. Deadline for submitting a graduate nondegree application is prior to the fifteenth day of classes each semester.

Graduate Nondegree Readmission

Students who previously attended The University of Montana in a graduate nondegree status and have not been enrolled for 24 months or more may use the graduate nondegree readmission form to reapply for the same status.

Graduate nondegree readmission forms can be downloaded from the Forms section of the Graduate School homepage: www.umt.edu/gradFromer graduate nondegree students applying for readmission pay a $20 non-refundable application fee.

Graduate Degree

Graduate degree admission is for candidates seeking to complete a Master's,Specialist, or Doctoral program at UM. Program information and deadlines are listed at: www.umt.edu/grad/Programs. Each academic department conducts the initial evaluation of completed application packets and submits the packets, with recommendations for admission or denial, to the Graduate School for final decisions.

Applicants seeking graduate status must apply online atthe UM Graduate School website and pay a $60 non-refundable fee.

Distance Education

The University of Montana provides the opportunity to apply as a Distance Education only student. Students who are interested in applying for this status must meet the University's general admission requirements for freshman and transfer students. This admission status is designed for students who are registering for online courses only and do not plan to take any courses on campus. When applying for this status, students are not required to provide proof of immunization or complete a Medical Requirement Form. Since Distance Education only students have some of the mandatory fees waived, they are not eligible for health insurance, services provided by the Curry Health Center, athletic event discounts or the Campus Recreation facilities.

Currently enrolled students or former University of Montana students must change their status by completing a Distance Learning Change of Status Form.

HiSET or GED (General Education Development)

A person who is not a graduate from an accredited high school may be eligible for admission by earning passing scores on the HiSET or GED test. HiSET or GED students who have been out of high school for less than three years or are under the age of 21 must also submit ACT or SAT scores. For additional information and test center locations in Montana, contact the Office of Public Instruction, Helena, MT 59601.

Former University of Montana-Missoula Students - Readmission

Readmission to the University After 24 Months of Non-attendance

If former students are planning to attend a summer session or an academic year semester but were not in attendance during the immediately preceding 24 months, then they must apply for readmission before being eligible to register for courses. Students should reapply by July 1 for autumn semester attendance, and by November 1 for spring semester attendance. See the Admissions section of this catalog.

Missoula College (formerly College of Technology) students must reapply for readmission at the Missoula College Registrar's Office (909 South Avenue) or online at the UM Admissions Missoula College web page.

Mountain Campus students (seeking baccalaureate or higher degrees) must apply for readmission via the Enrollment Services Office in the Emma Lommasson Center or online at the UM Admissions web page.

Some specific programs at the Missoula College require students who do not enroll for a semester or more (excluding summer) to apply for readmission into that program.

All students who are both in good standing and (i) currently enrolled or (ii) readmitted to the University may pre-register for the subsequent semester, unless a registration hold exists on the student's record.

Students previously enrolled at The University of Montana-Missoula who have interrupted their enrollment for more than 24 months or more must submit an application for readmission. Applications for readmission may be obtained from the Registrar's Office, the Griz Central Registration Counter, Enrollment Services-Admissions, all located in the Emma B. Lommasson Center (EL), or the Missoula College Registrar's Office.

Former undergraduate degree students who do not plan to change their status and who have attended another college/university since attending The University of Montana-Missoula, even if their absence from UM has been less than two years in duration, must submit college transcripts.

Former students who are applying for readmission must comply with Immunization Requirements as listed in this catalog.

Former undergraduate students are not required to pay the undergraduate application fee unless they are changing from an undergraduate status to a graduate status or vice versa. The application fee is paid only once at the undergraduate level. For additional information, contact the Registrar's Office at 406-243-2939 or visit us on the Registrar's readmissions web page.

Advising

Academic advising is critical to student success at University of Montana. All undergraduate students are required to meet with their advisor at least once each semester to review educational progress, discuss future plans and secure schedule approval prior to registration. Additional meetings are recommended for information and guidance on dropping and/or adding courses, changing/declaring majors, exploring available resources and ensuring that graduation requirements are met.

Faculty and professional advisors, as well as peer advising assistants facilitate positive academic advising experiences by:

- helping students to develop mentoring relationships with faculty and professional staff

- encouraging students to fulfill their obligation to plan in advance for advising sessions
- educating students to understand and accept their responsibilities in the advising process and for advising decisions, and
- promoting frank and productive dialogue about the student's academic goals.

Students improve their academic planning and success by fully using the advising services and by learning about the academic requirements of their major fields, and the University policies for registration and graduation. The UM catalog is the official source of information on these matters. Although advisors are available to assist students, it is important for students to realize that the ultimate responsibility for meeting all graduation requirements is their own.

Mountain Campus Students

When students indicate a major on their application form, it becomes their initial declared major.

Advisor information and assignment is done through the student's major department. If the student is undeclared, pre-Communication Studies, pre-Psychology or Freshman Business, he/she is assigned to a professional advisor at the Undergraduate Advising Center (www.umt.edu/uac).

To change a major, a student must submit an official Change of Major form to the Registration Desk at Griz Central. Once the new major is formally declared, the student should seek advising from the department.

Students with academic advising questions or concerns may contact the Undergraduate Advising Center, Lommasson Suite 269, The University of Montana, Missoula, MT 59812, www.umt.edu/uac, or by phone at (406)243-2835.

Missoula CollegeStudents

Students are assigned an academic advisor in their major (program) upon acceptance to the Missoula College.

Academic programs are identified by the major the student declared on his/her Admissions application, or by an official change of major form filed by the student.

For questions regarding assigned advisors, or to change advisors, students can contact Student Services at 243-7882 or in the Missoula College Administration building.

For other questions or concerns about advising, students may contact their Department offices, Student Services (243-7882) or the Retention Coordinator (243-7878).

Academic Support Services

Many programs at The University of Montana-Missoula offer services to help students who are experiencing academic difficulty. Faculty academic advisors assist in academic planning and make appropriate referrals to other services as necessary. Students with declared majors are assigned a faculty advisor by the relevant Department Chair. Students who are Undeclared, pre-Nursing, or a pre-major in Psychology, Communication Studies, or Business are assigned a professional advisor in the Undergraduate Advising Center located in the Lommasson Center.

Coursework is available to help students in specific areas. Developmental math and writing courses are delivered by the College of Technology, and include M 65 prealgebra, M 90 Introductory Algebra, M 95 Intermediate Algebra, and WRIT 95 Developmental Writing. Curriculum and Instruction 160 and AASC 101 focus on study skills, and Freshman Seminar UNC 101 and AASC 100 (Introduction to University Experience) provide an overview of university systems and processes. The Financial Aid Office, the Counseling Center, the Curry Health Center, the Career Services, and the Clinical Psychology Center provide one-to-one counseling to help with financial issues, personal concerns, and career and major choices.

Several tutoring programs are available to all students through the Office for Student Success. STUDY JAM provides early evening group study tables in the UC Commons for selected courses (e.g., Chemistry, Biology, Physics, Spanish, Economics, and Statistics). The Writing Center supports students in becoming more effective writers and provides tutoring at several locations across campus; 406-243-2266). The Math Learning Centers provide tutoring at all levels of math coursework in two drop-in math tutoring centers. Math PiLOT oversees the ALEKS online placement testing for math and advises students who may be struggling in a math course. Missoula College students may receive tutoring in math, writing and a variety of other subjects through the Academic Support Center. The Counseling Center offers workshops on a variety of topics designed to enhance student academic performance.

TRiO Student Support Services

For students who qualify, TRiO Student Support Services is a federally funded program offering academic support services, including one-on-one academic advising, career search and counseling (using a national career database), mentoring for Native American students, a two-credit study skills class, and tutoring at no cost. To qualify, a student must meet one of the following criteria: first-generation (neither parent has completed a four-year college degree), financial need based on family income (usually met if receiving a Pell grant), or a documented disability. For more information, visit TRiO at Lommasson Center 154, call 406-243-5032, or the TRiO website.

The Academic Support Center (ASC) on the Missoula College campus offers a variety of services to support and enhance students' academic success. Students can receive tutoring in math, writing and numerous other areas. Skills assessments, accommodated test services and make-up testing are also offered at the ASC. Working with the Retention Coordinator students can develop study skills, participate in academic coaching and other student support activities, as well as complete the reinstatement process activities if necessary. For information related to these services, contact the ASC at 243-7826 or the Retention Coordinator at 243-7878.

Degree/Certificate Requirements for Graduation

»Catalog Governing Graduation

Students may graduate fulfilling University and departmental major requirements in any single University of Montana-Missoula catalog under which the student has been enrolled during the six years prior to graduation. (For example, the 2013-2014 catalog can be used through summer 2020). The student MUST meet major requirements under the same catalog under which the student is meeting University requirements (general education requirements); minor requirements may be satisfied under a different catalog within the six year period. University or departmental requirements may change to comply with accreditation requirements, professional certification and licensing requirements, etc.

Students transferring to the University of Montana-Missoula may choose to graduate fulfilling requirements under the UM catalog in effect when they were enrolled at their original institution, provided the chosen catalog is not more than six years old at the time of graduation. Eligible students who choose an earlier catalog must notify the Admissions Office at the time of admission so their transfer work can be evaluated accordingly

»Applying for Certificate and Degree Candidacy

To become a candidate for a degree, the student must file formal application at the Registration Counter in Griz Central the beginning of the semester preceding the semester in which he or she expects to graduate. Deadline dates are specified in the Class Schedule. In the Missoula College, candidates for certificates and degrees must file a formal application with the Registrar's Office in the College at the beginning of the semester in which they expect to graduate

»Credits Required for a Certificate of Completion

See individual College or School catalog sections for certificate course and credit requirements. Course and credit requirements vary by program.

»Credits Required for a Degree

»Associate of Applied Science

To receive an Associate of Applied Science (A.A.S.) Degree from the Missoula College, a student must fulfill the following criteria:

1. Complete a minimum of 60 credits, of which 51% must be from UM. Possess a minimum grade average of 2.00 in all work attempted at the University of Montana-Missoula and a minimum grade of C- in all classes that count toward program requirements.
2. Courses numbered below 100 do not count toward the 60 credit requirement, but do fulfill financial aid credit load requirements.
   Complete the specialized program degree requirements including the following related subject ara of core collegiate-level courses:
    1. **Communication:** the ability to formulate and adapt messages to a variety of audiences through written, verbal, and nonverbal processes.
    2. **Computation:** the ability to complete basic algebraic manipulations and achieve mathematical literacy.
    3. **Human Relations:** the ability to analyze social problems and structure, ethical norms of professions and society, human behavior, or human values systems.
    4. **Computer Literacy:** the ability to utilize a modern computing system including web applications and an office productivity suite to research, develop and produce information in a 21st century society.
    5. **Professional Competency:** To ensure all graduates the opportunity to apply specialized skills in a professional environment, it is recommended student complete a program-related internship, field experience, clinical experience, capstone project, or professional certification activity.

»Associate of Arts

A total of 60 credits is required for graduation with an Associate of Arts (A.A.) degree. The minimum grade average for graduation is 2.00 in courses taken on the traditional letter grade (A F) basis. To receive an Associate of Arts degree all students must complete successfully all the general education requirements for a baccalaureate degree.

»Bachelor Degrees

A total of 120 credits is required for graduation with a bachelor degree; except a greater number is required in teacher education programs, pharmacy, physical therapy and the Bachelor of Applied Science. See the College of Health Professions and Biomedical Sciences section of this catalog.

Students may elect to earn two or more bachelor degrees. Those deciding to earn two or more degrees must complete all the requirements of the majors for each degree. In addition, students must earn for each degree a minimum of 30 credits beyond the number required for the first degree. The degrees may be earned concurrently or at different times.

»Upper-Division Requirement

All students must complete a minimum of 39 credits in courses numbered 300 and above to meet graduation requirements for the first baccalaureate degree. Upper division credits transferred from other four year institutions will count toward the 39 credit requirement.

»Residency Requirements for Degrees/Certificates

University of Montana credit is the credit earned in any course which has been approved to be listed in the University of Montana-Missoula catalog and which has been approved for offering by the department chair and dean of the school or college in which the course is taught. University of Montana-Missoula credit may be offered at any location.

Requirements for Missoula College **Certificate of Completion and Associate of Applied Science Degree**

A minimum of 51% of the required number of credits must be earned from the University of Montana-Missoula

Requirements for the Associate of Arts Degree

A minimum of 30 credits of the required number must be earned from the University of Montana-Missoula.

Requirements for the First Bachelor Degree

A first bachelor degree is defined as any bachelor degree earned by a student who has not previously earned a bachelor degree from the University of Montana-Missoula. Thus, the requirements below also apply to any student who previously earned a bachelor degree at another institution and now is seeking a bachelor degree from the University of Montana-Missoula.

a) A minimum of 30 credits of the required number must be earned from the University of Montana-Missoula. b) A minimum of 30 credits of the required number must be earned in study on the University of Montana-Missoula campus.

c) Of the last 45 credits required for the degree, at least 30 of these must be earned from the University of Montana- Missoula. Students attending elsewhere on a University approved exchange may be exempt from this requirement with the prior written approval of their major department chair or dean.

Requirements for the Second Bachelor Degree

In regard to residency requirements, a second bachelor degree is defined as any bachelor degree earned by a student who previously had earned a bachelor degree from the University of Montana-Missoula.

A minimum of 20 credits of the required 30 credits must be earned in study on the University of Montana-Missoula campus.

»Credit Maximums

The amount of credit which may be counted toward the minimum credit requirements for the bachelor (B.A./B.S.), associate of science (A.S.), and associate of arts (A.A.) degrees is limited in certain areas follows:

Category	For Bachelor Degree	For AA or AS Degree
Technical courses (course number suffix of 'T') - up to 15 technical course credits can be applied toward the minimum credit requirement for all students, except up to 20 technical course credits can be applied to the minimum course credits for students with an earned A.A.S. degree.	15-20	15-20

Career skills	0	0
Study skills courses (e.g. AASC 101, C&I 160)	2	2
Physical education activity/skills courses (e.g. DANC 325, ACT 101-287, ACTV, MSL 106 and 203)	4	4
Military Science Leadership Courses (contracted students may present 24 credits)	12	12
Music performance (MUSI 102A, 123, 135A, 136A, 235, 236, 218)	6	6
Ensemble music (MUSI 112A, 114A, 110A, 131A and 122A)	8	8
Credit/No Credit credits	18	18
Internship credits in 198/298/398/498	6	6

Credits attempted in these areas which are beyond the maximum applicable will remain on the students' permanent record but cannot be used toward graduation.

»Grade Average Requirement

A minimum grade average of 2.00 in all work attempted at the University of Montana-Missoula is required for graduation.

»Graduation with Honors or High Honors

Students will be awarded their certificates, associate of applied science, and bachelor degrees with honors if they receive the recommendation of their major department or school and the faculty of the University of Montana-Missoula. At the time of graduation they must have a 3.40 or higher grade average in the following four areas:

1. All work attempted at the University of Montana- Missoula.
2. The combination of all work attempted at the University of Montana-Missoula and all other work, including failing grades, transferred to this University.
3. All work attempted in the major field at the University of Montana-Missoula.
4. The combination of all work attempted in the major field at the University of Montana-Missoula and all other work in the major field, including failing grades, transferred to this University.

Students will be awarded their certificates, associate of applied science, and bachelor degrees with high honors if they have the recommendations mentioned above and, at the time of graduation, have a 3.70 or higher grade average in the four areas listed.

In the School of Law, the grade average for honors is computed on law credits only.

General Education

Preamble

The University of Montana-Missoula's General Education Program provides a broad academic base that supports both undergraduate learning at the University of Montana-Missoula and continued learning following graduation. While the General Education Program offers students considerable flexibility in selecting courses, it has a set of common educational objectives for all students.

In accordance with the mission of the University of Montana- Missoula, these objectives are to develop competent and humane individuals who are informed, ethical, literate, and engaged citizens of local and global communities. Students should become acquainted with issues facing contemporary society, participate in the creative arts, develop an understanding of science and technology, cultivate an appreciation of the humanities, and examine the history of different American and global cultures. Upon completion of the general education requirements students should be able to articulate ideas orally and in writing, understand and critically evaluate tangible and abstract concepts, and employ mathematical and other related skills appropriate to a technologically focused society.

In summary, the General Education Program is designed to provide a high quality intellectual foundation that accommodates all UM students whether in liberal arts or professional programs. This foundation will be reinforced, expanded, and refined as students continue through their course of study. Students are encouraged to prepare for productive roles in their chosen fields by cultivating civic awareness vital to the greater community and a democratic society. The acquired skills will allow students to examine critically the human experience and achieve genuine confidence in their knowledge and abilities. For the General Education Program to accomplish its goals, students must assume primary responsibility for their growth and education.

General Education Requirements

Overview

General Education Requirements

To earn a baccalaureate degree, all students must complete successfully, in addition to any other requirements, the following General Education Requirements. Students who have completed an approved lower-division general education program at an approved Montana institution of higher education should refer to the catalog section on General Education for Transfer Students.

All General Education courses must be at least 3 credits, must be introductory and foundational, and have no more than one pre-requisite. The General Education Committee may allow exceptions for upper-division courses, courses fewer than three credits, and for courses with more than one pre-requisite, if the proposing unit can justify such an exception.

Some courses may satisfy both the "Writing Course" requirement (1.2) and one of the Groups IV through XI.

Some courses may satisfy both Group II and Group III Symbolic Systems.

Some courses may satisfy both Group IX and one of the Groups IV through VIII.

Some courses may satisfy both Group X and one of the Groups IV through VIII. No course may satisfy both Group IX and Group X.

Many of the general education courses listed below require prerequisites be met before registration. The prerequisites are listed in the individual course descriptions.

NOTE! ***All courses taken to satisfy General Education Requirements must be taken for a traditional letter grade and must be passed with a grade of C- or better*.**

Students are cautioned that approved courses may change from year to year. To be used for General Education credit, a course must be listed as approved in the Class Schedule for the semester a student registers for it.

Group Letter and Description	**Credits**
Group I: English Writing Skills 1. Composition course WRIT 101 or 201(ENEX 101, WTS 101, ENEX 200) or an equivalent 2. One designated Writing Course 3. Upper-Division Writing Requirement (as specified by major department)	3 1-3 3
Group II: Mathematics	3
Group III: Modern and Classical Languages or Symbolic Systems Successful completion of a second semester language is the default option (test out provisions apply). Students may substitute a symbolic system sequence required by their major and approved by the General Education Committee. The list of programs granted exceptions and their alternative options are found in the listing of those majors.	0-9
Group IV: Expressive Arts	3
Group V: Literary and Artistic Studies	3
Group VI: Historical and Cultural Studies	3

Group VII: Social Sciences	3
Group VIII: Ethics and Human Values	3
Group IX: American and European Perspectives	3
Group X: Indigenous and Global Perspectives	3
Group XI: Natural Sciences One Natural Science course must include a laboratory experience.	6
Total	*28-49

*Some courses satisfy more than one group (see list at the end of this section).

Courses that satisfy more than one Group

Course # and Title	General Education Groups
AAST 141H/HIST 141H Black: Africa to Hip-Hop and Beyond, An introduction	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
ANTY 101H Anthropology and the Human Experience	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
ANTY 102H Introduction to South and Southeast Asia	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
ANTY 122S Race and Minorities	VII. Social Sciences (S) and IX. Democracy and Citizenship (Y)
ANTY 141H The Silk Road	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
ANTY 220S Culture and Society	VII. Social Sciences (S) and X. Cultural & International Diversity (X)
ANTY 241H Central Asian Cultures and Civilizations: Peoples and Environments	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
ANTY 251H Foundation of Civilization	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
ANTY 254H Archaeological Wonders of the World	I. English Writing Skills and VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
ANTY 326E Indigenous Peoples and Global Development	I. English Writing Skills and VIII. Ethics and Human Values (E) and X. Cultural & International Diversity (X)
ANTY 351H Archaeology of North America	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
ARTH 200H Art of World Civilization: Ancient to Medieval Art	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
ARTH 201H Art of World Civilizations II: Renaissance to Modern	VI. Historical and Cultural Studies (H) and IX. Democracy and Citizenship (Y)

ARTH 250L Introduction to Art Criticism	I. English Writing Skills and V. Literary and Artistic Studies (L)
CHMY 305E Ethics and Writing in Science	I. English Writing Skills and VIII. Ethics and Human Values (E)
CLAS 180H Environment and Nature in the Classical World	I. English Writing Skills and VI. Historical and Cultural Studies (H)
CLAS 251L The Epic	I. English Writing Skills and V. Literary and Artistic Studies (L)
CLAS 252L Greek Drama:Politics on Stage	I. English Writing Skills and V. Literary and Artistic Studies (L)
CSCI 215E Ethics and Information Technology	I. English Writing Skills and VIII. Ethics and Human Values (E)
CSCI 216E Technology, Ethics and Society	I. English Writing Skills and VIII. Ethics and Human Values (E)
CSCI 315E Computer, Ethics, and Society	I. English Writing Skills and VIII. Ethics and Human Values (E)
DANC 360L World Dance	V. Literary and Artistic Studies (L) and X. Cultural & International Diversity (X)
ENST 231H Nature and Society - Missoula College	I. English Writing Skills and VI. Historical and Cultural Studies (H)
ENST 335L The Environmental Vision	I. English Writing Skills and V. Literary and Artistic Studies (L)
GPHY 121S Introduction to Human Geography	VII. Social Sciences (S) and X. Cultural & International Diversity (X)
GPHY 141S Geography and World Regions	VII. Social Sciences (S) and X. Cultural & International Diversity (X)
GRMN 340L Nature and the Environment in German Literature and Film	V. Literary and Artistic Studies (L) and IX. Democracy and Citizenship (Y)
GRMN 351H German Culture to 1900	I. English Writing Skills and VI. Historical and Cultural Studies (H) and IX. Democracy and Citizenship (Y)
GRMN 352H German Culture from 1900 to the Present	I. English Writing Skills and VI. Historical and Cultural Studies (H) and IX. Democracy and Citizenship (Y)
HONR 121L Ways of Knowing	I. English Writing Skills and V. Literary and Artistic Studies (L)
HONR 122E Ways of Knowing II	VIII. Ethics and Human Values (E) and IX. Democracy and Citizenship (Y)
HSTA 102H/104H American History II	VI. Historical and Cultural Studies (H) and IX. Democracy and Citizenship (Y)
HSTR 101H/103H Western Civilization I	VI. Historical and Cultural Studies (H) and IX. Democracy and Citizenship (Y)
HSTR 102H/104H Western Civilization II	VI. Historical and Cultural Studies (H) and IX. Democracy and Citizenship (Y)
HSTR 230H Colonial Latin America	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)

HSTR 231H Modern Latin America	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
HSTR 240H East Asian Civilizations	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
HSTR 241H Central Asian Cult & Civ	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
HSTR 301X Ancient Greek Social History	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
HSTR 384E History of International Human Rights	VIII. Ethics and Human Values (E) and IX. Democracy and Citizenship (Y)
JRNL 100H Media History and Literacy	VI. Historical and Cultural Studies (H) and IX. Democracy and Citizenship (Y)
JPNS 150H Japanese Culture and Civilization	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
LIT 110L Introduction to Literature	I. English Writing Skills and V. Literary and Artistic Studies (L)
LIT 120L Poetry	I. English Writing Skills and V. Literary and Artistic Studies (L)
LIT 202L The Environmental Imagination	I. English Writing Skills and V. Literary and Artistic Studies (L)
LIT 210L American Literature I	I. English Writing Skills and V. Literary and Artistic Studies (L)
LIT 211L American Literature II	I. English Writing Skills and V. Literary and Artistic Studies (L)
LIT 220L British Literature: Medieval through Early Modern	I. English Writing Skills and V. Literary and Artistic Studies (L)
LIT 221L Enlightenment to Romantics	I. English Writing Skills and V. Literary and Artistic Studies (L)
LIT 222L British Literature: Victorian to Contemporary	I. English Writing Skills and V. Literary and Artistic Studies (L) and IX. Democracy and Citizenship (Y)
LIT 353L Milton	I. English Writing Skills and V. Literary and Artistic Studies (L)
LSH 151L Introduction to the Humanities Bible, Greeks, Romans	I. English Writing Skills and V. Literary and Artistic Studies (L)
LSH 152L	I. English Writing Skills and V. Literary and Artistic Studies (L)
M 162 Applied Calculus	II. Mathematics and III. Modern and Classical Languages or Symbolic Systems
M 171 Calculus I	II. Mathematics and III. Modern and Classical Languages or Symbolic Systems
MCLG 100H/ANTY 103H Introduction to Latin American Studies	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
MUSI 207H World Music	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)

MUSI 301H Music History I	VI. Historical and Cultural Studies (H) and IX. Democracy and Citizenship (Y)
MUSI 302H Music History II	I. English Writing Skills and VI. Historical and Cultural Studies (H) and IX. Democracy and Citizenship (Y)
NASX 105H Introduction to Native American Studies	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
NASX 235X Oral and Written Traditions of Native America	I. English Writing Skills and V. Literary and Artistic Studies (L) and X. Cultural & International Diversity (X)
NASX 239X Native North American History and Art	V. Literary and Artistic Studies (L) and X. Cultural & International Diversity (X)
NASX 303E Ecological Perspectives of Native Americans	VIII. Ethics and Human Values (E) and X. Cultural & International Diversity (X)
NASX 304E American Indian Religion and Philosophy	VIII. Ethics and Human Values (E) and X. Cultural & International Diversity (X)
PHL 210E Moral Philosophy	I. English Writing Skills and VIII. Ethics and Human Values (E)
PHL 241N History and Philosophy of Science	XI Natural Science without a lab (N) and VI. Historical and Cultural Studies (H)
PSCI 210S Introduction to American Government	VII. Social Sciences (S) and IX. Democracy and Citizenship (Y)
RLST/SSEA 232H Buddhism	VI. Historical and Cultural Studies (H) and X. Cultural & International Diversity (X)
RUSS 105H Introduction to Russian Culture	VI. Historical and Cultural Studies (H) and IX. Democracy and Citizenship (Y)
STAT 216 Intro to Statistics	II. Mathematics and III. Modern and Classical Languages or Symbolic Systems
STAT 451 Statistical Methods I	II. Mathematics and III. Modern and Classical Languages or Symbolic Systems
THTR 101L Introduction to Theatre	V. Literary and Artistic Studies (L) and IX. Democracy and Citizenship (Y)
THTR 330H Theatre History I	I. English Writing Skills and VI. Historical and Cultural Studies (H)
THTR 331Y Theatre History II	I. English Writing Skills and IX. Democracy and Citizenship (Y)

Group I: Writing

Requirements:

Students must satisfy the following three requirements in order:

1. Introductory College Writing;
2. Intermediate College Writing;
3. Advanced College Writing

Introductory College Writing

Students must complete WRIT 101, WRIT 201, or an equivalent composition course with a grade of C-minus or better. Students with Language and Composition AP scores of 4 or better are exempted from this requirement.

Entering students who are placed into WRIT 095, based on their standardized test scores, must successfully complete WRIT 095 prior to enrolling in WRIT 101 or WRIT 201. Such students may challenge their placement with specific scores from the University Writing Assessment. Entering student who place into WRIT 201 may choose to take WRIT 101 instead.

Intermediate College Writing

Students must pass one Intermediate College Writing course with a grade of C-minus or better. The courses satisfying this requirement are listed in the catalog. Students are exempted from this requirement by transferring more than 27 semester credits at the time of their initial registration at the University. Transfer students transferring fewer than 27 credits need to petition the Writing Committee to have writing courses from other institutions accepted for this requirement. View details regarding this process on the transfer student admission page of the catalog.

Advanced College Writing

All students must complete one Advanced College Writing course with a grade of C-minus or better. The courses satisfying this requirement differ according to the student's major. Students should consult the University catalog and their major advisor for the specific courses that fulfill this requirement.

Students may not use the same writing course to meet both the Intermediate College Writing and the Advanced College Writing requirement.

Intermediate Writing Courses

The following courses are designated as Intermediate Writing Courses for 2016-2017. Students are cautioned that courses may change from year to year. To be used for General Education, a course must be listed as Intermediate Writing in the catalog and in the Class Schedule for the semester a student registers for it.

Course #	**Title**
AAS 347/HSTA 347	African American Religious Experience
AAS 372	African American Identity
ANTY 310	Human Variation
ANTY 254H	Archaeological Wonders of the World
ARTH 250L	Introduction to Art Criticism
BMGT 205	Professional Business Communications
BUS 210	Critical Analysis for Business
C&I 287	Business Communication
CLAS 251L	The Epic
CLAS 252L	Greek Drama: Politics on Stage
CSCI 215E	Social & Ethical Issues
CSCI 216E	Robots, Genetic Engineering and Ethics
ECNS 433	Economics of the Environment
ENST 201	Environmental Information Resources

ENST 231H	Nature and Society - Missoula College
FILM 320	English Literature Shakespeare
HONR 121L	Ways of Knowing
HSTA 315	Early American Republic
HSTA 347/AAS 347	African American Religious Experience
HSTA 385	Families & Children in America
HSTR 300	Writing For History
HSTR 334	Latin American: Reform and Revolution
HSTR 358	Russia since 1881
HSTR 401	The Great Historians
IRSH 380	Topics in Irish Studies
JRNL 270	Reporting
LIT 110L	Introduction to Literature
LIT 120L	Poetry
LIT 202L	The Environmental Imagination
LIT 210L	American Literature I
LIT 211L	American Literature II
LIT 220L	British Literature: Medieval Renaissance
LIT 221L	British Literature: Enlightenment to Romantics
LIT 222L	British Literature: Victorian to Contemporary
LSCI 391	Who Owns Culture (one time only Autumn 2016)
LSH 151L	Introduction to the Humanities Bible, Greeks, Romans
LSH 152L	
MART 300	Visions of Film
NASX 280	Native American Studies Research Theories Methods
NASX 235X	Oral and Written Traditions of Native America
NRSM 200	Natural Resources Professional Writing
PHL 210E	Moral Philosophy

THTR 330H	Theatre History I
WRIT 121	Introduction to Technical Writing
WRIT 201	Advanced Composition
WRIT 221	Intermediate Technical Writing
WRIT 325	Writing in the Sciences

Advanced Writing Courses

The following courses are designated as Advanced Writing Courses for 2015-2016. Students should consult with their advisor regarding the requirement specified by their major.

Course #	**Title**
AHAT 342	Rehab of Athletic Injuries
ANTY 314	Principles of Forensic Anthropology
ANTY 400	History of Anthropology
ANTY 402	Quantitative Ethnographic Methods
ANTY 408	Advanced Anthropological Statistics
ANTY 430	Social Anthropology
ANTY 450	Archaeological Theory
ANTY 451	Cultural Resource Management
ANTY 455	Artifact Analysis
ARTH 350	Contemporary Art and Art Criticism
ARTH 434	Latin American Art
BGEN 499	Strategic Management
BIOH 462	Principles of Medical Physiology
BMGT 486	Strategic Venture Management
CHMY 305E	Ethics and Writing in Science
COMX 347	Rhetoric, Nature, Environmentalism
COMX 413	Communication and Conflict-Writing
COMX 414	Communication in Personal Relationships
COMX 421	Communication in Nonprofit Organization

COMX 422	Communication and Technology
COMX 424	Risk, Crisis and Communication
COMX 445	Rhetorical Criticism and Theory
COMX 447	The Rhetorical Construction of Woman
COMX 449	The Rhetoric of U.S. Women's Activism, 1960 - present
CSCI 315E	Computer Ethics and Society
CSCI 499	Senior Thesis/Project
CSD 430	Senior Capstone I
DANC 494	Seminar/Workshop (Junior/Senior Dance Seminar)
ECNS 488	Research Method & Thesis Design
ECNS 499	Senior Thesis/Capstone
EDU 397	Methods: PK-8 Language Arts
EDEC 454	PK-3 Language Arts and Reading Methods
ENST 382	Environmental Law
ENST 335L	The Environmental Vision
ENST 367	Environmental Politics and Policy
ENST 487	Globalization, Justice and the Environment
GEO 320	Global Water Cycle
GEO 499	Senior Thesis/Capstone
GPHY 335	Water Policy
GPHY 433	Cultural Ecology
GPHY 499	Senior Thesis/Capstone
GRMN 351H	German Culture to 1900
GRMN 352H	German Culture from 1900 to the Present
HEE 301	Methods of Secondary HE
HSTA 415/AAS 415	The Black Radical Tradition
HSTA 417/AAS 417	Prayer and Civil Rights
HSTA 418	Women and Slavery

HSTA 419	Southern Women in Black and White
HSTA 422	Research: U.S. After WWII
HSTA 461	Research in Montana History
HSTA 471	Writing Women's Lives
HSTR 400	Historical Research Seminar
HSTR 418	Research Seminar: Britain in the Long Eighteenth Century
HSTR 437	U.S. Latin American Relations
JPNS 311	Classical Japanese Literature in English Translation
JPNS 312	Japanese Literature from Medieval to Modern Times
JRNL 340	Intermediate Audio
JRNL 352	Int. Video Reporting and Producing
JRNL 362	Feature Writing
JRNL 370	Public Affairs Reporting
KIN 447	Analytical and Communication Techniques
LING 473	Language and Culture
LING 484	North American Indigenous Languages and Linguistics
LIT 300	Literary Criticism
LIT 304	U.S. Writers of Color
LIT 314	The American Novel
LIT 316	Topics in Postcolonial Studies
LIT 327	Shakespeare
LIT 342	Montana Writers
LIT 343	African American Literature
LIT 353L	Milton
LIT 376	Literature and Other Disciplines
LIT 494	Seminar: Literature Capstone
LSH 484	Novel Ancient and Modern
M 499	Senior Thesis

M 429	History of Mathematics
MART 450	Topics in Film and Media
MCLG 315	Major Hispanic Authors
MCLG 494/RUSS 494	Seminar in Russian Studies
MUSI 302H	Music History II
MUSI 415	Music of the 20th Century to the Present
MUSI 416	Topics in Music History
MUSI 417	Cultural Studies in Music
NASX 494	Reading Seminar in Native American Studies
PHAR 550	Drug Literature Evaluation
PHL 499	Senior Seminar
PHSX 330	Methods of Communicating Physics
PSCI 400	Advanced Writing in Political Sciences
PSYX 320	Research Methods III
PSYX 400	History and Systems of Psychology
PTRM 451	Tourism and Sustainability
PTRM 482	Wilderness and Protected Area Management
RUSS 494	Seminar in Russian Studies
SOCI 438	Seminar in Crime and Deviance
SOCI 441	Capstone: Inequality and Social Justice
SOCI 460	Capstone in Rural & Environmental Change
SOCI 488	Writing for Sociology
SW 300	Human Behavior in the Social Environment
SW 310	Social Welfare Policies and Services
THTR 331Y	Theatre History II
WGSS 363	Feminist Theory and Methods
WILD 408	Advanced Fisheries Science
WILD 470	Conservation of Wildlife Populations

Group II Mathematics

Mathematical literacy implies an appreciation of the beauty of mathematics, an ability to apply mathematical reasoning, and an understanding of how mathematics and statistics are used in many arenas. Mathematical literacy may be attained through the study of the properties of numbers, mathematical modeling, geometry, data analysis and probability, with the overarching goal of learning mathematical reasoning and problem solving.

Mathematical literacy cannot be achieved in a single course. However, for the purposes of general education, the mathematical literacy requirement can be met by any one of the following:

1. achieving a grade of C-or better in one of the following courses which address different aspects of mathematical literacy: M 104, 105, 115, 118, 121, 122, 132, 135, 151, 162 and STAT 216; or a mathematics course of 3 or more credits for which one of these is a prerequisite.
2. achieving a score of 50 or better on the CLEP College Algebra Test, the CLEP College Precalculus Test, or the CLEP College Mathematics Test.
3. passing the Mathematical Literacy Examination administered by the Department of Mathematical Sciences. To qualify to take the Mathematical Literacy Examination, a student must have achieved a score of 630 or better on the SAT Math exam or a score of 28 or better on the ACT Math exam. A student may take the Mathematical Literacy Examination only once. Further details are available from the Department of Mathematical Sciences.

Students must complete the mathematical literacy requirement by the time they have earned 30 credits; if not, they must register for a mathematical sciences course every semester until they have completed the requirement. Because many other courses at the university assume some mathematical literacy, it is strongly recommended that all students complete their mathematical literacy requirement as soon as possible.

Upon completion of the mathematical literacy requirement, a student will be able to effectively apply mathematical or statistical reasoning to a variety of applied or theoretical problems.

Group III: Modern and Classical Language

The language requirement can be met in any of the following ways:

1. by achieving a C- or better in a second-semester language course offered at the University of Montana (see list of courses below);*
2. by achieving a grade of C- or above in a language course numbered 201 or above at the University of Montana (see list of courses below);
3. by presenting a transcript record of completion with a grade of C- or better of a second-semester (or more advanced) language course at an accredited college or university;
4. by achieving an appropriate score on a placement exam administered by the offering department;
5. by receiving verification of an appropriate level of proficiency in any other natural language in collaboration with the department of Modern and Classical Languages and Literatures. Note that the student's native language, if it is not English, can be used to fulfill this requirement.

* Three 3-credit courses of Irish are required to fulfill the general education requirement.

Upon completion of the Modern and Classical Languages requirement, the student will have a basic functional knowledge of a second natural language sufficient to:

read and write if the language is classical, such as Latin or classical Greek;

speak and aurally comprehend, if the language does not have a written tradition, such as Salish;

perform all four skills (speaking, aural comprehension, reading, and writing) if the language is modern and has a written tradition, such as Japanese or French;

demonstrate both receptive (visual comprehension) and expressive (manual production) proficiency if the language is American Sign Language.

The courses listed below require prerequisites be met before registration. The prerequisites for the following courses are listed in the individual course descriptions.

Course Subject Code	**Course Number**
ARAB	102 or 201 or 202 or 301 or 302
CHIN	102 or 201 or 202 or 301 or 302
CSD	132
FRCH	102 or 201 or 202 or 301

GRMN	102 or 201 or 202 or 301 or 302
GRK	102 or 201 or 202
ITLN	102
JPNS	102 or 201 or 202 or 301 or 302
LATN	102 or 201 or 202
LSH or MCLG	191 - Elementary Hindi 2 sections only
NASX	142
RUSS	102 or 201 or 202 or 301 or 302
SPNS	102 or 201 or 202 or 301
*IRSH	101 and 102 and 103

- * Three 3 credit courses of Irish are required to fulfill the general education requirement
- Students may satisfy the requirement by demonstrating equivalent skill in any of these or other languages in testing administered by the Department of Modern and Classical Languages and Literatures.

- International students from non English speaking countries may satisfy this requirement by presenting a TOEFL score of 580 or greater, or by successful completion of ESL/LING 250 or 450, or by presenting a department approved application for degree.

Group III: Exceptions to the Modern and Classical Language requirement - Symbolic Systems

The majors listed below have been granted exceptions to the Modern and Classical Language requirement. Students graduating in any one of these majors may substitute the symbolic system course or courses designated by the major.

Each of these courses presents the foundations of a symbolic system, defined as a relationship that maps real-world objects, principles and doctrines with abstractions of the real-world.

Symbolic systems facilitate communication in specialized ways but do not comprise a spoken or written language by which members of a culture typically communicate with each other.

Upon completion of a symbolic systems course or courses, students will be able to:

1. demonstrate an understanding of the symbols and the transformations of the system;
2. relay and interpret information in terms of the given symbolic system;
3. apply creative thinking using the symbolic system in order to solve problems and communicate ideas;

Major	Symbolic Systems Course(S)
Accounting & Finance	STAT 216
Biology	M 162 or M 171 or M 181
Chemistry	M 162 or M 171 or M 181 (or any course for which one of them is a prerequisite)
Computer Science	CSCI 131 and CSCI 136
Curriculum & Instruction	M 133 and 234
Ecological Restoration	FORS 201 or STAT 216

Forestry	FORS 201 or STAT 216
Geoscience	M 162 or M 171 or M 181
Health and Human Performance: Exercise Science, Pre-Professional Exercise Science, Pre-Athletic Training	M 121 or M 151 and STAT 216, PSYX 222. SOCI 202 or EDU 421
Health and Human Performance: Health Enhacement, Community Health and Prevention Sciences	M 115 and STAT 216, PSYX 222. SOCI 202 or EDU 421
Management Information Systems	STAT 216, SOCI 202, FORS 201, or PSYX 222
Management & Marketing	STAT 216, SOCI 202, FORS 201, or PSYX 222
Mathematics or combined Mathematics /Computer Science or Computer Science/Mathematics	M 171 or M 181 (or any course for which one of them is a prerequisite)
Media Arts - Bachelor of Fine Arts Only (BA students take Foreign Language)	MART 340 and 341
Medical Laboratory Science	M 162 or M 171 or M 181
Microbiology	M 162 or M 171 or M 181
Music and Music Education	MUSI 105, 106, 140 & 141
Neuroscience	M 162 and STAT 216 or PSYX 222
Pharmacy	M 162 and STAT 216 or PSYX 222 or SOCI 202
Parks, Tourism and Recreation Management	FORS 201, STAT 216, WILD 240 or SOCI 202
Resource Conservation	FORS 201, STAT 216, WILD 240 or SOCI 202
Theatre - Bachelor of Fine Arts (Acting Emphasis)	THTR 210, 211 & 310
Theatre - Bachelor of Fine Arts (Design/Technology Emphasis)	THTR 255 & THTR 345 or 355
Wildlife Biology	M 162 or higher and WILD 240

Students are advised that most courses meeting the symbolic systems exception have prerequisites, as indicated in the chart below:

Course	Title	Pre-requisite(s)
CSCI 135	Fundamentals of Computer Science I	Computer programming experience in a language such as BASIC, Pascal, C, etc.; coreq., M 095 D or consent of instr. CSCI 104 highly recommended as prereq. or coreq
CSCI 136	Fundamentals of Computer Science II	CSCI 135 ; coreq., M 151 or consent of instr
EDU 421	Statistical Procedures in Education	M 115 or equiv. or consent of instr
FORS 201	Forest Biometrics	M 115 or M 151 or equivalent

M 133	Geometry and Measurement for Elementary Teachers	M 132
M 162	Applied Calculus	Appropriate placement score or one of M 121, 122, or 151
M 171	Calculus I	M 122 or 151 or appropriate placement score
M 181	Honors Calculus I	Consent of Instructor
M 234	Higher Mathematics for Elementary School Teachers	M 132
MUSI 105	Music Theory I	Coreq., MUSI 140
MUSI 106	Music Theory II	MUSI 105 and Coreq., MUSI 141
MUSI 139	Language of Music II	MUSI 138
MUSI 140	Aural Perception I	Coreq., MUSI 105
MUSI 141	Aural Perception II	MUSI 140 and Coreq., MUSI 106
PSYX 222	Psychological Statistics	PSYX 100S, 120: M 115, 162, or 171
SOCI 202	Social Statistics	M 115 or consent of instructor
STAT 216	Statistics	M 115 (preferred), or one of M 121, 135, 151, 162 or 171, or ALEKS placement >= 4
STAT 451	Statistical Methods	One year of college mathematics including M 115 or equiv. course in probability or consent of instr.
THTR 211	Voice and Speech II	THTR 210
THTR 310	Voice and Speech III	THTR 211
THTR 345	Flat Pattern Design and Drafting	THTR 255
THTR 355	Computer-Aided Drafting and Computer Applications for the Theatre	THTR 255
WILD 240	Introduction to Biostatistics	M 162

Group IV: Expressive Arts (A)

Expressive Arts courses are activity-based and emphasize the value of learning by doing in an artistic context. Upon completion of an Expressive Arts course, students will be able to express themselves in the making of an original work or creative performance; understand the genres and/or forms that have shaped the medium; and critique the quality of their own work and that of others.

Course #	Title

ARTZ 103A	Art for Non-Majors
ARTZ 105A	Visual Language: Drawing
ARTZ 106A	Visual Language: 2-D Design
ARTZ 108A	Three Dimensional Fundamentals
ARTZ 131A	Ceramics for Non-Majors
ARTZ 211A	Drawing I
ARTZ 221A	Painting I
ARTZ 231A	Ceramics I
ARTZ 251A	Sculpture I
ARTZ 271A	Printmaking I
ARTZ 284A	Photo I - Techs and Processes
ARTZ 302A	Elementary School Art
ARTZ 394A	Environmental Draw Seminar
COMX 111A	Introduction to Public Speaking
COMX 217A	Oral Interpretation of Literature
CRWR 210A	Introduction Fiction Workshop
CRWR 211A	Introduction Poetry Workshop
CRWR 212A	Introduction Nonfiction Workshop
CRWR 312A	Interm Nonfiction Workshop
DANC 100A	Introduction to Modern Dance
DANC 108A	Dance Forms
DANC 110A	Introduction to Ballet
DANC 115A	Introduction to Jazz Dance
DANC 118A	Dance Forms: Tap
DANC 129A	Dance Performance Lab I
DANC 130A	Introduction to Dance
DANC 160A	Dance Forms: Irish
DANC 165A	Dance Forms: African
DANC 170A	Dance Forms: Tribal Style Belly

DANC 200A	Contemporary Modern II
DANC 210A	Ballet II
DANC 215A	Jazz Dance II
DANC 220A	Creative Practice I
DANC 229A	Dance Performance Lab II
ENST 373A	Nature Works
JRNL 140A	Beginning Radio/Audio Storytelling
MART 112A	Intro to Non-Lin Editing
MART 111A	Intro to Photoshop
MUSI 102A	Performance Study
MUSI 108A	Orchestras: USMO (Orchestras)
MUSI 110A	Opera Theatre
MUSI 111A	Singing for Non-Majors
MUSI 112A	Choir: Chamber Choral
MUSI 114A	Band: UM Concert Band
MUSI 122A	Percussion Ensemble: UM
MUSI 123A	World Percussion Ensemble
MUSI 131A	Jazz Ensemble: UM Jazz Bands
MUSI 135A	Keyboard Skills I
MUSI 136A	Keyboard Skills II
MUSI 155A	Marching: Grizzly Marching Band
MUSI 160A	Beginning Guitar
MUSI 162A	Chamber Ensembles
MUSI 267A	Composers' Workshop I
MUSI 304A	Sound in the Natural World
MUST 227A	Mountain Electroacoustic Laptop Ensemble I
THTR 102A	Introduction to Theatre Design
THTR 106A	Theatre Production I: Run Crew
THTR 107A	Theatre Production I: Construction Crew

THTR 113A	Introduction to Voice Acting
THTR 120A	Introduction to Acting I
THTR 220A	Acting I
THTR 239A	Creative Drama/Dance: K-8

Group V: Literary and Artistic Studies (L)

In these courses, students develop familiarity with significant works of artistic representation, including literature, music, visual art, and/or performing arts. Through this experience, students enhance their analytical skills and explore the historical, aesthetic, philosophical, and cultural features of these works.

Upon completion of a Literary and Artistic Studies course, students will be able to:

1. analyze works of art with respect to structure and significance within literary and artistic traditions, including emergent movements and forms; and
2. develop coherent arguments that critique these works from a variety of approaches, such as historical, aesthetic, cultural, psychological, political, and philosophical.

Course #	Title
ARTH 160L	Global Visual Culture
ARTH 250L	Introduction to Art Criticism
CHIN 313L	Classical Chinese Literature
CHIN 314L	Traditional Chinese Literature (Traditional Chinese Literature in English Translation)
CLAS 155L	Survey of Greek and Roman Literature
CLAS 160L	Classical Mythology
CLAS 251L	The Epic
CLAS 252L	Greek Drama: Politics on Stage
COMX 140L	Introduction to Visual Rhetoric
CRWR 115L	Montana Writers Live!
DANC 234L	Dance in Popular Movies
DANC 360L	World Dance
ENST 335L	Environmental Vision
FILM 103L	Introduction to Film
GRMN 322L	Survey of German Cinema
GRMN 340L	Nature and the Environment in German Literature and Film
HONR 121L	Ways of Knowing
IRSH 345L	Literature in the Irish Language
LIT 110L	Introduction to Literature

LIT 120L	Poetry
LIT 202L	The Environmental Imagination
LIT 210L	American Literature I
LIT 211L	American Literature II
LIT 220L	British Literature: Medieval to Renaissance
LIT 221L	British Literature: Enlightenment to Romanticism
LIT 222L	British Literature: Victorian to Contemporary
LIT 270L	Film and Literature
LIT 280L	Introduction to the Ecology of Literature
LIT 349L	Medieval Literature
LIT 350L	Chaucer
LIT 353L	Milton
LIT 378L	Gay and Lesbian Studies
LSH 151L	Introduction to the Humanities Bible, Greeks, Romans
LSH 152L	
LSH 327L	Gender and Sexuality in English Fiction
MART 101L	Intro to Media Arts
MUSI 101L	Enjoyment of Music
MUSI 130L	History of Jazz
MUSI 132L	History of Rock and Roll
MUSI 133L	Country Music: Cowboys, Opry and Nashville
MUSI 202L	Introduction to Music Literature
NASX 235X	Oral and Written Traditions Native Americans
NASX 239X	Native North American History and Art
RUSS 306L	Evil and the Supernatural in Russian Literature
RUSS 307L	Beauty, Power and Pride in Russian Literature
THTR 101L	Introduction to Theatre
THTR 235L	Dramatic Literature
WGSS 163L	Historical and Literary Perspectives on Women

Group VI: Historical and Cultural Studies (H)

These courses present the historical or cultural contexts of ideas and institutions, and examine cultural development or differentiation in the human past. They are foundational in that they are wide-ranging in chronological, geographical, or topical focus, or in that they introduce students to methods of inquiry specific to a particular discipline.

Upon completion of a Historical and Cultural Studies course, students will be able to:

1. synthesize ideas and information with a view to understanding the causes and consequences of historical developments and events;
2. evaluate texts or artifacts within their historical and/or cultural contexts;
3. analyze human behavior, ideas, and institutions within their respective historical and/or cultural contexts.

Course #	Title
AAST 141H/HIST 141H	Black: Africa to Hip-Hop and Beyond, An introduction
AAST 208H/HIST 208H	Discovering Africa
ANTY 101H	Anthropology and the Human Experience
ANTY102H	Introduction to South & Southeast Asia
ANTY 103H	Introduction to Latin American Studies
ANTY 141H	The Silk Road
ANTY 241H	Central Asian Cultures and Civilizations: Peoples and Environments
ANTY 251H	Foundation of Civilization
ANTY 254H	Archaeological Wonders of the World
ANTY 351H	Archaeology of North America
ANTY 354H	Mesoamerican Prehistory
ARTH 200H	Art of World Civilization: Ancient to Medieval Art
ARTH 201H	Art of World Civilization: Early Modern to Contemporary Art
ARTH 333H	Architectural History I
ARTH 334H	Architectural History II
ARTH 402H	Greek Art and Architecture
ARTH 433H	Ancient American Art
CHIN 211H	Chinese Culture and Civilization
CLAS 180H	Environment and Nature in the Classical World
CLAS 360H	Ancient Greek Civilization and Culture
COMX 240H	Introduction to Rhetorical Theory
CSWA 262H	Islamic Civil: Classical Age

ENST 230H	Nature & Society
ENST 231H	Nature & Society - Missoula College
GRMN 106H	Introduction to German Culture and Civilization
GRMN 351H	German Culture, Beginnings to 1900
GRMN 352H	German Culture, 1900 to the Present
HSTA 101H/103H	American History I/Honors American History I
HSTA 102H/104H	American History II/ Honors American History II
HSTA 342H/AAS 342H	African American History to 1865
HSTA 343H	African American History since 1865
HSTA 370H	Women in America from the Colonial Era through the Civil War
HSTA 371H	Women in America from the Civil War to the Present
HSTR 101H/103H	Western Civilization I /Honors Western Civilization I
HSTR 102H/104H	Western Civilization II /Honors Western Civilization II
HSTR 230H	Colonial Latin America
HSTR 231H	Modern Latin America
HSTR 241H	Central Asian Cult & Civ
HSTR 262H	Islamic Civilization: Classical Age
HSTR 264H	Islamic Civilization: Modern Era
HSTR 301X	Ancient Greek Social History
HSTR 302H	Ancient Greece
HSTR 304H	Ancient Rome
JPNS 150H	Japanese Culture and Civil
JRNL 100H	Media History and Literacy
LSH 102H	Introduction to South & Southeast Asia
LSH 161H	Introduction to Asian Humanities
MCLG 100H	Introduction to Latin American Studies
MUSI 207H	World Music
MUSI 301H	Music History I
MUSI 302H	Music History II

NASX 105H	Introduction to Native American Studies
NASX 405H	Gender Issues in Native American Studies
PHL 241N	History and Philosophy of Science
PHL 363H	Ancient Greek and Roman Philosophy
RLST 204H	Introduction to the Hebrew Bible
RLST 232H/SSEA 232H	Buddhism
RUSS 105H	Introduction to Russian Culture
THTR 330H	Theatre History I

Group VII: Social Sciences (S)

Social science courses describe and analyze human social organization and interaction, employing social data at a broad scale with statistical relevance, experimental data on individuals or groups, or qualitative data based on observation and discourse.

Upon completion of a Social Sciences course, students will be able to:

1. Describe the nature, structure, and historical development of human behavior, organizations, social phenomena, and/or relationships;
2. use theory in explaining these individual, group, or social phenomena; and/or
3. understand, assess, and evaluate how conclusions and generalizations are justified based on data

Course #	Title
ANTY 122S	Race and Minorities
ANTY 220S	Culture & Society
ANTY 250S	Introduction to Archaeology
BFIN 205S	Personal Finance
BGEN 105S	Introduction to Business
BGEN 160S/CCS 160S	Issues in Sustainability
BMGT 101S	Introduction to Entertainment Management
COMX 115S	Interpersonal Communication
COMX 202S	Nonverbal Communication
COMX 219S	Survey of Children's Communication
COMX 220S	Organizational Communication
COUN 242S	Intimate and Family Relationships
ECNS 101S	Economic Way of Thinking
ECNS 201S	Principles of Microeconomics

ECNS 202S	Principles of Macroeconomics
ENST 489S	Environmental Justice Issues and Solutions
GPHY 121S	Human Geography
GPHY 141S	Geography of World Regions
GPHY 323S	Economic Geography of Rural Areas
LING 270S	Introduction to Linguistics
NRSM 121S	Nature of Montana
NRSM 370S	Wildland Conservation Policy and Governance
PSCI 210S	Introduction to American Government
PSCI 220S	Introduction to Comparative Government
PSYX 100S	Introductory Psychology
PSYX 161S	Fundamentals of Organizational Psychology
PTRM 210S	Nature Tourism and Commercial Recreation
PTRM 217S	Wildland Recreation Management
SOCI 101S	Introduction to Sociology
SOCI 130S	Sociology of Alternative Religions
SOCI 211S	Introduction to Criminology
SOCI 212S	Social Issues in Southeast Asia
SOCI 220S	Race, Gender, and Class
SOCI 275S	Gender and Society
WGSS 263S	Women, Men, and Sexuality

Group VIII: Ethics and Human Values (E)

Ethics and Human Values courses familiarize students with one or more traditions of ethical thought. These courses rigorously present the basic concepts and forms of reasoning that define and distinguish each tradition. The focus of these courses may be on one or more of these traditions, or on a concept such as justice or the good life as conceptualized within one or more of these traditions, or on a professional practice within a particular tradition.

Upon completion of an Ethics and Human Values course, students will be able to:

1. correctly apply the basic concepts and forms of reasoning from the tradition or professional practice they studied to ethical issues that arise within those traditions or practices;
2. analyze and critically evaluate the basic concepts and forms of reasoning from the tradition or professional practice they studied.

Course #	Title
AHMS 270E	Medical Law and Ethics

ANTY 326E	Indigenous Peoples and Global Development
ANTY 403E	Ethics and Anthropology
BGEN 220E	Business Ethics and Social Responsibility
CHMY 305E	Ethics and Writing in Science
CLAS 365E	Roots of Western Ethics
CSCI 215E	Ethics and Information
CSCI 216E	Technology, Ethics, and Society
CSCI 315E	Computer, Ethics, and Society
EDU 407E	Ethics and Policy Issues
GEO 304E	Science and Society
HONR 122E	Ways of Knowing II
HONR 320E	Research Portfolio Seminar
HSTR 272E	Terrorism: Violence in the Modern World
HSTR 374E	War, Peace, and Society
HTH 475E	Legal & Ethical Issues in the Health & Exercise Professions
LSH 389E	Placebos: The Power of Words
NASX 303E	Ecological Perspectives of Native American Traditions
NASX 304E	Native American Beliefs and Philosophy
NRSM 449E	Climate Change Policy and Ethics
NRSM 489E	Ethics, Forestry and Conservation
PHAR 514E	CASE Studies in Pharmacy Ethics
PHL 110E	Introduction to Ethics
PHL 112E	Introduction to Ethics and the Environment
PHL 114E	Introduction to Political Ethics
PHL 210E	Moral Philosophy
PHL 321E	Philosophy and Biomedical Ethics
PSCI 250E	Introduction to Political Theory
RLST 281E	Comparative Ethics
SW 410E	Social Work Ethics

Group IX: Democracy and Citizenship (Y)

These courses ground students in the ideas, institutions, and practices of democratic societies and their historical antecedents. Knowledge gained through courses in the Y perspective prepares students to understand the rights and responsibilities of engaged citizenship and to assess the characteristics, contributions, and contradictions of democratic systems.

Upon completion of a Democracy and Citizenship course, students will be able to:

1. Demonstrate informed and reasoned understanding of democratic ideas, institutions and practices, from historical and/or contemporary perspectives;
2. Analyze and evaluate the significance and complexities of engaged citizenship; and
3. Articulate the causes and consequences of key historical and/or contemporary struggles within democratic systems or their antecedents, including but not limited to those pertaining to issues of diversity, equity, and justice.

Course #	Title
ANTY 122S	Race and Minorities
ARTH 201H	Art of World Civilizations II: Renaissance to Modern
GRMN 340L	Nature and the Environment in German Literature and Film
GRMN 351H	German Culture to 1900
GRMN 352H	German Culture, 1900 to Present
HONR 122E	Ways of Knowing II
HSTA 101H/103H	American History I/ Honors American History I
HSTA 102H/104H	American History II/ Honors American History II
HSTR 101H/103H	Western Civilization I /Honors Western Civilization I
HSTR 102H/104H	Western Civilization II / Honors Western Civilization II
JRNL 100H	Media History and Literacy
JRNL 102Y	News Literacy
LIT 222L	British Literature: Victorian to Contemporary
MCLG 105Y, RUSS 105Y	Introduction to Russian Culture
MUSI 301H	Music History I
MUSI 302H	Music History II
PHL 101Y	Introduction to Philosophy
PHL 102Y	Topical Introduction to Philosophy
PHL 261Y	History of Ancient Philosophy
PHL 262Y	History of Modern Philosophy
PSCI 210S	Introduction to American Government
RUSS 105H	Introduction to Russian Culture

THTR 101L	Introduction to Theatre
THTR 331Y	Theatre History II

Group X: Cultural & International Diversity (X)

These courses foster an appreciation for diverse cultures, their histories and contemporary forms, and their positions in world spheres of power and change. This includes knowledge of diverse cultures in comparative and thematic frameworks. Knowledge gained through courses in the X perspective prepares students to cultivate ways of thinking that foster an understanding of the complexities of indigenous or international cultures and global issues, past and present.

Upon completion of a course in this group, students will be able to:

1. Demonstrate an understanding of the diverse ways humans structure their social, political, and cultural lives;
2. Interpret human activities, ideas, and institutions with reference to diverse cultural, historical and geo-political perspectives and physical environments; and
3. Recognize the complexities of inter-cultural and international communications and collaborative endeavors, and relate this to the complex challenges of the 21 st century.

Course #	Title
AAST 141H/HIST 141H	Black: Africa to Hip-Hop and Beyond, An introduction
ANTY 101H	Anthropology and the Human Experience
ANTY 102H	Introduction to South & Southeast Asia
ANTY 103H	Introduction to Latin American Studies
ANTY 133X	Food and Culture
ANTY 141H	The Silk Road
ANTY 220S	Culture & Society
ANTY 241H	Central Asian Cultures and Civilizations: Peoples and Environments
ANTY 251H	Foundation of Civilization
ANTY 254H	Archaeological Wonders of the World
ANTY 306X	Contemporary Issues of American Indians
ANTY 323X	Native Peoples of Montana
ANTY 326E	Indigenous Peoples and Global Development
ANTY 330X	Peoples and Cultures of World
ANTY 351H	Archaeology of North America
ANTY 352X	Archaeology of Montana
ARTH 200H	Art of World Civilization: Ancient to Medieval Art
CAS 140X	Diversity and Addictions
CCS 103X	Introduction to Climate Change: Science and Society

COMX 204X	International and Development Communication
COMX 212X	Introduction to Intercultural Communication
DANC 360L	World Dance
ECNS 317X	Economic Development
GPHY 121S	Human Geography
GPHY 141S	Geography and World Regions
GPHY 245X	The Middle East
HSTR 230H	Colonial Latin America
HSTR 231H	Modern Latin America
HSTR 241H	Central Asian Cult & Civ
HSTR 301X	Ancient Greek Social History
HSTR 384E	History of International Human Rights
JPNS 150H	Japanese Culture and Civilization
LING 375X	Endangered Languages
LSH 102H	Introduction to South & Southeast Asia
MCLG 100H	Introduction to Latin American Studies
MUSI 207H	World Music
NASX 105H	Introduction to Native American Studies
NASX 260X	Indig Community Developmnt
NASX 201X	Indian Culture as Expressed through Language
NASX 210X	Native American Sports and Games
NASX 231X	Indigenous World View Perspectives
NASX 235X	Oral and Written Traditions of Native America
NASX 239X	Native North American History and Art
NASX 260	Indians of North America
NASX 303E	Ecological Perspectives of Native American Traditions
NASX 304E	American Indian Religion and Philosophy
NASX 354X	Indians of Montana
PSCI 230X	Introduction to International Relations

PTRM 345X	Sustaining Human Society and the Natural Environment
RLST 232H/SSEA 232H	Buddhism
RLST 234X	Hinduism
RLST 238X	Japanese Religion
SSEA 202X	Introduction to India
WGSS 150X	Women's Rights and Women's Roles around the World

Group XI: Natural Science (N)

These courses present scientific conclusions about the structure and function of the natural world, and demonstrate or exemplify scientific questioning and validation of findings.

Upon completion of a Natural Science course, a student will be able to:

1. understand the general principles associated with the discipline(s) studied;
2. understand the methodology and activities scientists use to gather, validate and interpret data related to natural processes;
3. detect patterns, draw conclusions, develop conjectures and hypotheses, and test them by appropriate means and experiments;
4. understand how scientific laws and theories are verified by quantitative measurement, scientific observation, and logical/critical reasoning;
5. and understand the means by which analytic uncertainty is quantified and expressed in the natural sciences

Natural Science courses without a laboratory experience

Course #	Title
ANTY 210N	Introduction to Physical Anthropology
ANTY 211N	Human Genetics
ASTR 131N	Elementary Astronomy I
ASTR 132N	Elementary Astronomy II
BIOB 130N	Evolution and Society
BIOB 160N	Principles of Living Systems
BIOB 170N	Principles of Biological Diversity
BIOE 172N	Introductory Ecology
BIOM 135N	Biology of Yellowstone Hot Springs
BIOM 250N	Microbiology for Health Sciences
BIOO 101N	Survey of Montana Wildlife & Habitats
CHMY 121N	Intro to General Chemistry
CJUS 125N	Fund of Forensic Science
CSD 221N	Fundamentals of Acoustics: Applications in Speech, Hearing & Language

ENSC 105N	Environmental Science
ERTH 303N/CCS 303N	Weather and Climate
GEO 101N	Intro to Physical Geology
GEO 105N	Oceanography
GEO 107N	Natural Disasters
GEO 108N/CCS 108N	Climate Change, Past and Future
GPHY 111N	Introduction to Physical Geography
GPHY 311N	Biogeography
NRGY 101N	Introduction to Sustainable Energy
NRSM 246N	Natural History, Ecology & Environmental Management South Queensland
NRSM 271N	Conservation Ecology
NUTR 221N	Basic Human Nutrition
PHAR 110N	Use and abuse of Drugs
PHAR 145N	Introduction to Cancer Biology
PHL 241N	History and Philosophy of Science
PHSX 141N	Relativity: From Galileo to Einstein and Beyond
PHSX 205N	Fundamentals of Physics I
PHSX 207N	Fundamentals of Physics II
PHSX 215N	Fundamentals of Physics with Calculus I
PHSX 217N	Fundamentals of Physics with Calculus II
PSYX 250N	Fundamentals of Biological Psychology
SCN 100N	Issues in Biology
SCN 175N	Integrated Physical Science
WILD 105N	Wildlife and People

Natural Science courses with a laboratory experience:

Course #	Title
ANTY 213N	Introduction to Physical Anthropology Lab
ASTR 134N	Elementary Astronomy Laboratory I
ASTR 135N	Elementary Astronomy Laboratory II

ASTR 142N	The Evolving Universe: Theories and Observation
BIOB 101N	Discover Biology
BIOB 161N	Principles of Living Systems Lab
BIOB 171N	Principles of Biological Diversity Lab
BIOB 226N	Gen Science: Earth & Life Science
BIOH 201N	Human Anatomy Phys I
BIOH 202N	Human Anatomy Phys I Lab
BIOH 211N	Human Anatomy Phys II
BIOH 212N	Human Anatomy Phys II Lab
BIOO 105N	Introduction to Botany
CHMY 141N	College Chemistry I
CHMY 143N	College Chemistry II
FORS 241N	Dendrology
GEO 102N	Intro to Physical Geology Lab
GEO 106N	The History of Life
GPHY 112N	Intro to Phys Geography Lab
NRSM 210N	Soils, Water and Climate
PHSX 206N	Physics Laboratory I
PHSX 208N	Physics Laboratory II
PHSX 216N	Physics Laboratory I with Calculus
PHSX 218N	Physics Laboratory II with Calculus
PHSX 225N	General Science: Physical and Chemical Science
SCN 105N	Montana Ecosystems
SCN 260N	The Biology of Behavior

Policies and Procedures

Academic Calendar

The Academic Calendar for the current academic year, as well as past and future years, may be found on the Academic Calendar web page.

Registration and Course Information

Registration for Courses

Students who have no prior attendance at the University must apply for admission and be admitted before being eligible to register for courses. See the Admissions section of this catalog or the admissions website.

Detailed instructions regarding registration and course offerings are available on the Registrar web pages for registration information and course schedule information.

Students must complete course registration during the scheduled registration period or be subject to payment of a late registration fee, if allowed to register. Registration is not complete nor is any academic credit awarded until all course tuition and fees for the semester have been paid.

Adding, Dropping and Other Course Changes

Adding, Dropping and Other Course Changes – Summary Tables

Students who request to add, drop or change the grading option must have all registration holds cleared in order for the request to be honored. The following information does NOT apply to the School of Law. Law school students should see the School of Law website for information.

Autumn & Spring Semesters

Instructional Days	Day 1-7	Day 8-15	Day 16-45	Day 46 – Last Regular Class Day/ Friday Before Finals Week	After Last Regular Class Day
Add a Course	CyberBear	Course Add/Change Form with instructor signature	Course Add/Change Form with advisor* and instructor signature	Course Add/Change Form with advisor* and instructor signature	Only registration errors can be corrected; use the Course Add/ Change Form with advisor* and instructor signature
Change a Section	CyberBear	Course Add/Change Form with both instructors' signatures	Course Add/Change Form with both instructors' signatures	Course Add/Change Form with both instructors' signatures	Only registration errors can be corrected; use the Course Add/ Change Form with both instructors' signatures

Drop a Course	CyberBear	CyberBear	Course Drop Form with advisor* and instructor signature (W on transcript)	Course Drop Form with advisor*, instructor and Dean's signature (WP or WF on transcript)	Not permitted
Change to/from Audit	CyberBear	CyberBear	Not permitted	Not permitted	Not permitted
Change to/from CR/NCR grading, or change credits (for variable credit courses)	CyberBear	CyberBear	Course Add/Change Form with advisor* and instructor signature	Course Add/Change Form with advisor* and instructor signature	Not permitted

* Not required for Graduate & Post-Baccalaureate students

Winter Session

Instructional Days	**Day 1**	**Day 2-3**	**Day 4-8**	**Day 9-13**	**Day 14 & Beyond**
Add a Course	CyberBear	Course Add/Change Form with instructor signature	Course Add/Change Form with instructor signature	Course Add/Change Form with instructor signature	Only registration errors can be corrected; use the Course Add/Change Form with instructor signature
Change a Section	CyberBear	Course Add/Change Form with both instructors' signatures	Course Add/Change Form with both instructors' signatures	Course Add/Change Form with both instructors' signatures	Only registration errors can be corrected; use the Course Add/Change Form with both instructors' signatures

Drop a Course	CyberBear	Cyberbear	Course Drop Form with instructor signature (W on transcript)	Course Drop Form with instructor and Dean's signature (WP or WF on transcript)	Not permitted
Change to/from Audit	CyberBear	Cyberbear	Not permitted	Not permitted	Not permitted
Change to/from CR/NCR grading, or change credits (for variable credit courses)	CyberBear	Cyberbear	Course Add/Change Form with instructor signature	Course Add/Change Form with instructor signature	Not permitted

Summer Semester: 5-week Sessions

Instructional Days	**Day 1-2**	**Day 3-5**	**Day 6- 14**	**Day 15-23**	**Day 24 & Beyond**
Add a Course	CyberBear	Summer Override & Add/Drop Form with instructor signature	Summer Override & Add/Drop Form with instructor signature	Summer Override & Add/Drop Form with instructor signature	Only registration errors can be corrected; use the Summer Override & Add/Drop Form with instructor signature
Change a Section	CyberBear	Summer Override & Add/Drop Form with both instructors' signatures	Summer Override & Add/Drop Form with both instructors' signatures	Summer Override & Add/Drop Form with both instructors' signatures	Only registration errors can be corrected; use the Summer Override & Add/Drop Form with both instructors' signatures

Drop a Course	CyberBear	CyberBear	Summer Override & Add/Drop Form with instructor signature (W on transcript)	Summer Override & Add/Drop Form with instructor and Dean's signature (WP or WF on transcript)	Not permitted
Change to/from Audit	CyberBear	CyberBear	Not permitted	Not permitted	Not permitted
Change to/from CR/NCR grading, or change credits (for variable credit courses)	CyberBear	CyberBear	Summer Override & Add/Drop Form with instructor signature	Summer Override & Add/Drop Form with instructor signature	Not permitted

Summer Semester: 10-week Session

Instructional Days	**Day 1-5**	**Day 6-10**	**Day 11-29**	**Day 30-47**	**Day 48 & Beyond**
Add a Course	CyberBear	Summer Override & Add/Drop Form with instructor signature	Summer Override & Add/Drop Form with instructor signature	Summer Override & Add/Drop Form with instructor signature	Only errors can be corrected; use the Summer Override & Add/Drop Form with instructor signature
Change a Section	CyberBear	Summer Override & Add/Drop Form with both instructors' signatures	Summer Override & Add/Drop Form with both instructors' signatures	Summer Override & Add/Drop Form with both instructors' signatures	Only errors can be corrected; use the Summer Override & Add/Drop Form with both instructors' signatures

Drop a Course	CyberBear	CyberBear	Summer Override & Add/Drop Form with instructor signature (W on transcript)	Summer Override & Add/Drop Form with instructor and Dean's signature (WP or WF on transcript)	Not permitted
Change to/from Audit	CyberBear	CyberBear	Not permitted	Not permitted	Not permitted
Change to/from CR/NCR grading, or change credits (for variable credit courses)	CyberBear	CyberBear	Summer Override & Add/Drop Form with instructor signature	Summer Override & Add/Drop Form with instructor signature	Not permitted

Special Sessions

Special Session courses, offered during any term, will vary from the sessions listed above. For example, a course taught over a period of five weeks is considered a "special session" course if its start and end dates are different than the published regular term dates. Please check with the Registrar's Office for specific dates related to changing registration in a special session course.

Adding, Dropping and Other Course Changes – Detailed Information

All guidelines and timelines that follow refer to the traditional autumn and spring semesters, which are generally 74-75 days in length. The timelines that apply to Summer Sessions and Winter Session are detailed in the tables above. Important Dates are listed on the Registrar's Office calendar web page. Please see the Business Services/Student Accounts website for information regarding how fees are impacted by dropping/adding courses, as well as the refund schedule for a complete withdrawal from the University of Montana.

Adding, Dropping or Other Course Changes – First Through Seventh (1 – 7) Instructional Day of the Semester

During this timeframe, students may use CyberBear to add courses, drop courses, change grading options, and/or change variable credits. Access to CyberBear for adding courses or changing sections ends at 5:00 p.m. Mountain Time on the seventh day of classes.

Adding, Dropping or Other Course Changes – Eighth Through Fifteenth (8 – 15) Instructional Day of the Semester

During this timeframe, with consent of the course instructor, students may add courses or change sections with a signed paper-Registration Override Form or an instructor-approved electronic override (via CyberBear). Fees are reassessed each night during this time period. Added courses and credits may result in additional fees.

Students may drop courses, change grading option (including audit), and/or change variable credits via CyberBear until 5:00 p.m. Mountain Time on the fifteenth day.

Adding, Dropping or Other Course Changes – Sixteenth Through Forty fifth (16 – 45) Instructional Day of the Semester

During this timeframe, students must complete a paper Course Drop Form or Course Add/Change Form as well as obtain the signature of both the course instructor and student's advisor to (i) drop/add a course and/or (ii) make changes of section, grading option, or credit. The ability to change to or from audit is no longer available at this time. Completed forms must be returned to the GrizCentral Registration Counter (or the Registrar's Office at the Missoula College Campus) no later than close of business on the forty-fifth instructional day of a semester. A $10.00 processing fee is charged for each drop or add. Added courses and credits may result in additional fees. There are no refunds or reductions of fees for courses dropped after the 15th day (or equivalent), and a grade of W (withdrawn) is recorded for each dropped course.

Adding, Dropping, or Other Course Changes – Forty sixth Instructional Day of the Semester Through the Last Regular Class Day/Friday before Finals Week

During this timeframe, a Course Add/Change Form must be completed by the student and signed by the course instructor and the student's advisor to add a course, change the grade option, or change variable credits. Changing to or from audit is not permitted during this time. Not all requests for adds, changing grade options, or changing variable credits are approved. Advisors have the right to indicate they do not recommend approval of the request. However, it is the course instructor's decision to approve or deny the request to add/change a course.

Completed forms must be returned to the GrizCentral Registration Counter (or the Registrar's Office at the Missoula College Campus) no later than close of business on the Last Day of Regular Classes. A $10.00 processing fee is charged for each add. Added courses and credits may result in additional fees.

During this timeframe, students may drop courses only by petition. Note that not all petitions are approved, and that documented justification is required. Some examples of documented circumstances that may merit approval are: accident or illness, family emergency, or other circumstances beyond the student's control. Instructors and advisors have the right to indicate they do not recommend the drop. However, it is the decision of the Dean of the student's major to approve or deny the request to drop courses.

To petition to drop a course, a Course Drop Form must be completed, with the signature of the student's advisor, the course instructor, and the Dean of the student's major. Completed forms must be returned to the GrizCentral Registration Counter (or the Registrar's Office at the Missoula College Campus) no later than close of business on the Last Regular Class Day/Friday before Finals Week. A $10.00 processing fee is charged for each drop. There are no refunds or reductions of fees for courses dropped, and the instructor assigns a grade of WP (withdrawn/passing) if a student's course work has been passing or WF (withdrawn/failing) if failing. These grades do not affect grade averages but they are recorded on a student's transcript.

The opportunity to drop a course for the current term ends on the last day of instruction before scheduled final exams. Dropping a course taken in a previous term or altering grading option or audit status for such a course is not allowed. The only exceptions are for students who have received a grade of NF (never attended/fail).

Law School Students - See the School of Law section of this catalog for links to the School of Law website, which will list the add and drop deadlines for law courses.

Cancellation of Courses

The University reserves the right to cancel any course.

Common Course Numbering - Montana University System

All universities, 4-year and 2-year colleges that are part of the Montana University System are now required to use the same course numbering for undergraduate courses. With common course numbering, transfer students can be reassured that they will receive credit for undergraduate courses taken at another Montana institution, as long as the admitting institution offers that same course. This transparency will make it easier for students to continue their higher education at any state-supported campus.

Effective Autumn Semester 2009, all units of the Montana University System (MUS) began to offer classes using new subject abbreviations and new numbers that are common across all MUS units. Subject areas and numbers continue to be renumbered as of the publication of this catalog. Information regarding Common Course Numbering at the University of Montana is available at the Common Course Numbering web page.

Withdrawal from the University

Students who withdraw from the University (withdrawing from ALL classes) while a semester is in progress must complete withdrawal forms which are obtained from the Registration Counter in Griz Central (Lommasson Center) or the Registrar's Office at Missoula College. Drop/add forms cannot be used to withdraw from school and students are not allowed to drop all their courses on the Internet. International students must first contact the Foreign Student Advisor before withdrawing as visa status will be affected. Medical withdrawals are granted only for a student's significant health problems and must be documented by a healthcare provider.

See the Expenses section of this catalog for fee information relating to withdrawal from The University.

If a student receiving financial aid withdraws they may have to repay aid received in the current semester and it may affect eligibility in the future semesters. If a student stops attending classes without formally withdrawing they too may have to repay aid received in the current semester and may be ineligible for aid in future terms. Students who reside in a University residence hall or in family housing must notify the Residence Life Office or the Family Housing Office of the withdrawal.

Students who purchase health insurance with registration will receive a refund and lose coverage if withdrawn during the first fifteen instructional days unless a student is granted a medical withdrawal. Withdrawal after the fifteenth day will not result in a refund but coverage will continue through the remainder of the semester.

When withdrawal forms are completed in Griz Central or the Registrar's Office at Missoula College, before the last two weeks of the semester, grades of W (withdrawal) are assigned. Beginning two weeks from the end of the term, students may not withdraw from the University except for very unusual circumstances, as described below.

Retroactive Withdrawals:

In exceptional cases, a student may appeal for a retroactive withdrawal for a previous semester in attendance, all such appeals are reviewed by a committee. Forms and instrucitons are located at this link: http://www.umt.edu/registrar/PDF/RetroWithdrawalPetition.pdf

Hardship Withdrawals:

In the case of extreme medical, family or other emergencies that are documented and have impacted a student's ability to attend and succeed in courses, a student may appeal for a hardship withdrawal from the universit. Such appeals are reviewed by a committe and are considered on a case by case basis. To apply for a hardship petition contact Student Accounts at 406-243-2223.

Prerequisites and Co-requisties

"Prerequisite" indicates that the course(s) or requirement(s) described must have been met/satisfactorily completed (grade of C- or better, unless otherwise specified in the course description in the catalog) before the student may take the course that requires the listed pre-requisite. Failure to complete satisfactorily the pre-requisite will result in the student being dropped from the course which requires the pre-requisite. If credit for a pre-requisite was earned via the Advanced Placement (AP) Examination Program, the AP score is recorded on a student's academic record with a grade of "CR* (prior to Autumn Semester 2012), or a score of AP3, AP4, or AP5 (Autumn Semester 2012 and thereafter). "Co-requisite" indicates the course or courses must be taken concurrently (in the same academic term) with the course described. In some cases a co-requisite may be completed prior to the semester in which the course that requires the co-requisite is taken.

Course Numbering System

- 001-099 Courses below college level. Credit not allowed toward a degree.
- 100-199 Primarily for freshmen.
- 200-299 Primarily for sophomores.
- 300-399 Primarily for juniors.
- 400-499 Primarily for seniors.
- 500-699 Primarily for graduate students.
- Senior (5th year) courses in Pharmacy are numbered 500 to 599.
- 800 cross-listed courses, used for secondary or other listing.

Undergraduates in Graduate Courses

Post-baccalaureates and seniors holding a 3.0 (or greater) grade point average may, with consent of instructor, enroll in 500-level courses for undergraduate credit. Variance from these requirements cannot be petitioned.

Cross-listed and Equivalent Courses

A few courses are approved to be offered jointly by two or more departments. In such cases, the course description will provide information for registration.

In certain cases, a course description indicates credit is not allowed for a particular course and for another course offered by a different department. These courses are very similar in content, although offered separately, and credit is not allowed toward a degree for both courses.

Technical Courses

A few courses at the Missoula College are shown with a course number suffix of "T" and are primarily technical in nature. The courses will be required in a specific Certificate of Applied Science program or a specific Associated of Applied Science program or professional industry certificate offered by the College. Up to 15 credits of vocational-technical course work from regionally accredited schools are accepted as free elective in transfer toward an AA, AS, or baccalaureate program. Up to 20 credits may transfer for students completing an AAS degree. Refer to vocational technical credits in the Admissions section or Credit Maximums section.

Full-Time Student Defined

Undergraduate Students

Full Time:	12 or more enrolled credits
1/2 Time:	6 -11 enrolled credits
<1/2 Time:	5 or fewer enrolled credits
Not Enrolled:	0 enrolled credits (withdrawn/graduated, etc.)

Graduate Students

*Full Time:	9 or more enrolled credits

1/2 Time: 6 – 8 enrolled credits

<1/2 Time: 5 or fewer enrolled credits.

Not enrolled: 0 enrolled credits (withdrawn/graduated, etc.)

* One credit of PSYX 638 Clinical Psychology Internship per semester is equivalent to full-time enrollment for students in the Clinical Psychology Ph.D. Program.

* One credit of PSYX 588 School Psychology Internship (equivalent to PSYX638) per semester is equivalent to full-time enrollment for students in the School Psychology PhD Program.

In most baccalaureate programs a student must earn at least 15 credits per semester to graduate in a four year period. One and two year programs usually require enrollment in between 15 and 19 credits per semester.

Maximum Credit Load

Generally, an undergraduate student should register for no more than 21 credits during a semester. The credit load would include physical education activity courses, and also remedial courses (those numbered below 100), credits from which do not count toward a certificate or degree.

Permission to enroll for more than the maximum credit load given above may be approved by the student's faculty advisor.

Final Examinations

Final examinations for the semester are scheduled in two-hour segments, one for each course. The segments should be considered as class meetings to be treated by the instructor as he or she thinks educationally appropriate. The time scheduled for final examinations is the only time period during which final examinations are to be given. If an instructor elects not to give a final examination during the designated week, under no circumstances are final examinations to be given during the week preceding the scheduled final examination days.

Students may seek relief from writing more than two examinations during the same day. Students who are scheduled for more than two examinations may contact the appropriate faculty to arrange an alternate testing time during the scheduled final examination period. If satisfactory arrangements cannot be made, the student should seek the assistance of his or her dean.

University Employee Registration

University employees who have applied and have been accepted for admission to the University may register with the approval of the employee's supervisor. Waivers of some fees are granted to some faculty and staff members who are at least three quarter time salaried employees on the date of registration. Additional information and the necessary forms are available in the Office of Human Resource Services in the Lommasson Center.

Grading and Academic Standing Information

Grading System

The University uses two types of grading: traditional letter grades and credit/ no credit grades. At the option of the instructors some courses are offered only on the traditional letter grade basis or only on the credit/no credit basis. Other courses are open to either type of grading, at the option of the student. Courses offered on the A -F basis only or CR/NCR only will be indicated in the Class Schedule or via CyberBear. Grades preceded by an R indicate remedial courses. Grades preceded by an E indicate academic forgiveness was granted.

The instructor has the first fifteen (15) class days of the semester to change the grading option for their course. If a change does occur from the original published grading option, the students in the class and the Registrar's office must be notified of the change not later than the fifteenth (15) class day.

Traditional Letter Grading (A-F)

Traditional Letter Grades represent an assessment of the overall quality of work performed in a given course. A-Excellent; B-Good; C-Satisfactory; D-Poor, F-Failure. When assigning traditional letter grades, instructors may, at their discretion, utilize the symbols + or -. Use of the + or - will be limited to A-, B+, B-, C+, C-, D+, and D-. Other grade symbols used are: I-Incomplete; N-work on the course may be continued in later semesters (when work is completed, the final grade assigned applies to all semesters of the course); NF-no record of academic performance; W-withdrawal from a course or course dropped after the fifteenth instructional day; WP-course dropped after the forty-fifth instructional day with passing work; WF-course dropped after the forty-fifth instructional day with failing work; AUD-auditor registration. (AUD is recorded for all students who register in courses as auditors, intending to listen to the courses without earning credit or being graded. The same fees are

assessed as when registering for credit. Any attendance or participation expectations are established by the instructor of the course. If attendance expectations are not met, the instructor may request a notation be placed on the student's academic record indicating attendance was not satisfactory.) Remedial courses do not count in credits earned, nor in grade point averages, nor do they count toward graduation.

Credit/No Credit Grading (CR/NCR)

Student Option: To encourage students to venture into courses where they might otherwise hesitate because of uncertainty regarding their aptitude or preparation, they may enroll in some courses on a credit/no credit basis. Freshmen and sophomores are discouraged from taking more than one course a semester on a credit/no credit basis.

No more than 18 CR credits may be counted toward graduation requirements at the baccalaureate level. Courses taken to satisfy General Education Requirements must be taken for traditional letter grade. Courses required for the student's major or minor must be taken for traditional letter grade.

A grade of CR is assigned for work deserving credit (A through D-) and a grade of NCR is assigned for work of failing quality (F). CR and NCR grades do not affect grade point averages. The grades of CR and NCR are not defined in terms of their relationship to traditional grades for graduate course work.

Election of the credit/no credit option must be indicated at registration time or within the first 15 class days on CyberBear. Between the 16th day and the last day of instruction before finals week, a student may request a change from credit/no credit enrollment to an enrollment under the A-F grade system, or the reverse, by means of a Course Add/Change Form; note that not all such requests are approved. See instructions above.

The University cautions students that many graduate and professional schools and some employers do not recognize non-traditional grades (i.e., those other than A through F) or may discriminate against students who use the credit/no credit option for many courses. Moreover, students are cautioned that some degree programs may have different requirements regarding CR/NCR credits, as stipulated in the catalog.

No Credit Grading in Composition (CN)

Students enrolled in WRIT 095 and WRIT 101 are graded by the traditional letter grades of A through F or are given NC for no credit. The NC grade is awarded when exceptional progress has occurred but the student needs to repeat the course. The NC grade does not affect grade point average.

Incomplete Grade Policy

It is assumed that students have the responsibility for completing the requirements of the courses in which they are enrolled within the time framework of the semester

A grade of Incomplete (I) may be given when, in the opinion of the instructor, there is a reasonable probability that students can complete the course without retaking it.

The incomplete is not an option to be exercised at the discretion of a student. In all cases it is given at the discretion of the instructor within the following guidelines:

1. A mark of incomplete may be assigned students when:
    - The student has been in attendance and doing passing work up to three weeks before the end of the semester, and
    - For reasons beyond the student's control and which are acceptable to the instructor, the student has been unable to complete the requirements of the course on time. Negligence and indifference are not acceptable reasons.
2. The instructor sets the conditions for the completion of the course work, and communicates them to the departmental office.
3. When a student has met the conditions for making up the incomplete, the instructor will assign a grade based upon an evaluation of the total work done by the student in the course.
4. An incomplete which is not made up within one calendar year automatically will revert to the alternate grade which was assigned by the instructor at the time the incomplete was submitted.
5. An incomplete remains on the permanent record and is accompanied by the final grade, for example, IA, IB, IC, etc.

Faculty Options for Grading Mode

* A faculty member may elect to grade an entire class using the traditional letter grading option (A-F).

* A faculty member may elect to grade an entire class using the credit/no credit option (CR/NCR). This method of grading is used in courses where more precise grading is inappropriate.

* A faculty member may elect to grade an entire class with the open grade mode option which allows students to choose between traditional letter grading and credit/no credit grading. When a course is offered with the open grade mode option, then the default grading at the time of registration defaults to traditional letter grading. It is the student’s responsibility to make the change to credit/no credit grading if this is their preference.

* Faculty members must choose the grade mode option for their courses at the time when courses are being proposed for a particular semester or within the first 15 instructional days of the semester.

* Courses graded credit/no credit only and courses graded A-F only will be identified in the Class Schedule or via CyberBear.

Credit Definition

Credit is defined in terms of semester hours. In general, 1 semester hour credit is allowed for 1 hour of lecture each week of the semester, or an average of 2 hours of laboratory each week of the semester.

In determining semester hour recommendations, evaluators use the following guidelines:

1. One semester credit hour for each 15 hours of classroom contact plus 30 hours of outside preparation or the equivalent; or
2. One semester credit hour for each 30 hours of laboratory work plus necessary outside preparation or its equivalent, normally expected to be 15 hours; or
3. One semester credit hour for not less than 45 hours of shop instruction (contact hours) or the equivalent.

Computation of Cumulative Grade Point Average

Quality points are assigned as follows: 4 quality points for each credit of A; 3.7 quality points for each credit of A-; 3.3 quality points for each credit of B+; 3 quality points for each credit of B; 2.7 quality points for each credit of B-; 2.3 quality points for each credit of C+; 2 quality points for each credit of C; 1.7 quality points for each credit of C-; 1.3 quality points for each credit of D+; 1 quality point for each credit of D; and 0.7 quality points for each credit of D-.

The cumulative grade average is computed by dividing the total quality points earned by the total number of credits attempted, excluding courses assigned W, WF, WP, CR, NC, NCR, I, AUD, or N grades and courses numbered under 100 (grade is preceded by an R). For repeated courses, excluding courses assigned W. WF, WP, CR, NC, NCR, I, AUD, or N grades, only the last grade earned will count toward the cumulative grade average. Grades for courses transferred from other colleges and universities are not included in the calculation of the grade average for graduation.

Repeating a Course

Repeat Fee Structure:

- 1st repeat - $25.00
- 2nd repeat - $35.00
- 3rd repeat - $50.00

The fee is assessed when a single course is repeated. The repeat fee is assessed for all students who repeat courses, not just those wanting to replace a grade for a course they took previously. Exemptions from the fee will be allowed for individuals with disabilities or financial hardship based upon recommendations from the Office of Disability Services or the Financial Aid Office.

Initial grades will be marked as repeated and remain on the transcript, but they will not be used to in the GPA calculation. Grades of AUD, I, N, NC, NCR, NP, NF, W, WP, or WF may not be used to replace grades. An F grade will be used to replace grades. If the last grade received is an F, no credit is given for previous passing grades. All courses repeated remain on the permanent record but only the last grade received is used to determine credits earned. Only the last grade received is used in calculating the grade point average.

If students receiving federal financial aid repeat a course previously passed they can only receive financial aid to do so a second time. On a third attempt the course will not be counted in the enrollment status for determining aid eligibility.

If enrollment in a course is closed, a student who is repeating or auditing the course may be required by the instructor to drop the course. This rule grants enrollment preference to those students attempting to register for the course for the first time for credit. It is the responsibility of the student who is not allowed to remain in the course to formally drop the course to avoid a failing grade for that course.

Repeating a course in the School of Law is governed by a different policy. See the School of Law section of this catalog.

Credit By Examination

Under certain circumstances, a currently registered student may receive credit by examination for a course in which he or she has not been regularly enrolled. The student must have a minimum cumulative grade average of 2.00 and an entering freshman must present a high school scholastic record equivalent to a 2.00 grade average to be eligible to earn credit by examination in any course.

Each school or department may determine those courses, if any, for which credit may be earned by examination. The dean of the school or the chair of the department must approve any arrangements prior to testing for such credit. On the successful completion of an examination, the department notifies the Registrar's Office. There are no fees for this type of credit by examination and grading may be credit/no credit or traditional letter grade.

Undergraduate Academic Performance

The cumulative grade average is calculated by dividing the total quality points earned by the total number of credits attempted, excluding courses assigned W, WF, WP, CR, NC, NCR, I, AUD, or N grades and courses numbered under 100 (grade is preceded by an R). Grades for courses transferred from other colleges and universities are not included in the calculation of the grade average for graduation. However, for determination of graduation honors/high honors, grades for all work transferred to this University, including failing grades are factored into the calculation.

Dean's List (Honor Roll)

To qualify for the Dean's List, students must be undergraduates, must earn a semester grade average of 3.50 or higher, and receive grades of A or B in at least 9 credits. No grades of C+, C, C-, D+, D, D-, F, NC or NCR are allowed.

Undergraduate Academic Probation

An undergraduate student will be placed on academic probation if at the end of any semester his/her cumulative grade average drops below 2.00. The effect of the academic probation is to serve notice to the student that the quality of his/her work is below an acceptable level and that continuation of unsatisfactory work during their next semester of enrollment will result in academic suspension. Academic probation status is recorded on the student's academic transcript and semester grades. Students placed on probation should contact their academic advisor immediately to seek assistance and direction.

Undergraduate Academic Suspension

An undergraduate student will be placed on academic suspension at the end of any semester if the student was on academic probation during his/her prior semester of attendance and the student's cumulative grade average remains below 2.00. Exceptions are made if the student earns at least a 2.00 grade average for the current semester without raising the cumulative grade average to the required minimum. In such cases, students remain on academic probation. A student placed on academic suspension may not re enroll at the University unless the student has been reinstated. Reinstatement will require, at minimum, one full semester of non-enrollment at any campus of the Montana university system. Academic suspensions are noted on final grades and academic transcripts. Additional information can be found on the Office for Student Success Academic Standing web page .

Reinstatement from Academic Suspension

As noted above, an undergraduate student will be academically suspended at the end of a semester if placed on academic probation during the previous semester of attendance and the student's cumulative graduate point average (CGPA) remains below the 2.00 CGPA required for good academic standing.

Students who have been suspended for academic reasons and seek reinstatement must receive the approval of the academic dean of the school or college in which they intend to enroll. [If seeking reinstatement in the Missoula College, contact the Retention and Advising Coordinator at MC.] Typically, retroactive grade changes, dropped courses or withdrawals do not reverse the academic suspension status that is recorded on the transcript, unless there was an error or grading mistake.

Academic reinstatement is not automatic.The student must provide the reasons for previous poor academic performance along with a carefully prepared plan for improvement that is completed with the help of an academic advisor. A student denied reinstatement may appeal the denial in writing to the President of the University within ten days of receiving the notice of denial. The decision to deny reinstatement normally will not be reversed unless there is evidence the decision was made arbitrarily.

If a suspended and reinstated student has not attended UM for more than two years, the student must also complete an application for readmission through the Registrar's Office. The readmission form re-activates the student's record and, along with the reinstatement form, allows the student to register for courses.

Appeal of Academic Suspension

Students may appeal a suspension in cases where there are compelling and documented circumstances. If the appeal is approved by the dean of the student's college, the student may return to

the university without sitting out a semester. Appeals are considered where the student has otherwise demonstrated an ability to succeed at the university and the compelling circumstances that led to the poor performance have been resolved. An appeal of academic suspension will only be granted one time, on the approval of the appropriate dean. See the Appeal of Suspension Form, which details eligibility criteria and appropriate procedures.
http://www.umt.edu/registrar/PDF/AppealofSuspension.pdf

Academic Forgiveness

- A University of Montana – Missoula undergraduate, seeking their first undergraduate degree, who returns to the university after a minimum absence of three years and completes 30 credits of academic study with a minimum cumulative GPA of 2.5 is eligible for Academic Forgiveness.
- Academic Forgiveness allows a student who has met the requirements in statement #1 to select a prior semester or semesters he/she wishes to have excluded from calculation in the cumulative GPA. The semester(s) chosen must have occurred prior to his/her return to the university.
- Receiving Academic Forgiveness for a semester or semesters results in all credits and grades earned in the semester to be excluded from the student's GPA calculation. A student will not be allowed to select specific grades and credits to retain while excluding others earned within the same semester. The excluded courses and grades will remain on the transcript; however, they may not be used to fulfill any university requirements.
- Only University of Montana – Missoula grades and credits will be excluded.
- All excluded courses are still counted as attempted courses in determining if a student is meeting the Pace standard of the financial aid satisfactory academic progress (SAP) policy. If the terms being forgiven include courses a student previously passed the result could be that the student would now be out of compliance with the SAP policy and would have to do a financial aid appeal to have aid eligibility reinstated
- A student will be granted Academic Forgiveness only one time.
- Students who receive Academic Forgiveness will be bound by the University Catalog in effect at the time of their return to The University or any subsequent catalog in accordance with University policy.
- Students wishing to apply for Academic Forgiveness will contact the Registrar's Office for the appropriate form. The Registrar's Office will be responsible for verifying eligibility and notifying the student of approval.
- Other options exist for students who have not left the university, such as course repeat, withdrawals, and other mechanisms listed under academic policies in this catalog.

Students wishing to apply for Academic Forgiveness may obtain the form at the GrizCentral registration counter, or on the Registrar's Academic Forgiveness web page.

Transcript of Academic Record

A transcript of a student's academic record may be obtained from the Registrar's Office in the Lommasson Center, or the Registrar's Office at the Missoula College, upon the written and signed request of the student. In compliance with federal and state laws designed to protect student privacy, transcripts are not released without the student's authorizing signature.

Transcripts are usually available within two to five working days after receipt of the signed request. There is a charge for each official transcript. Payment must be received before transcripts are released. Transcripts and other services are withheld if the student owes a debt to the University. Special handling requests require extra fees.

Students may also order an academic transcript on-line for an additional fee through the National Student Clearinghouse service. Copies ordered via this service can be delivered electronically, hard copy or direct electronic data exchange. Additional information regarding ordering options and fees may be viewed via the Registrar's Website.

Any student who enrolled after summer semester 1991 may view his or her academic record in CyberBear

Student Rights and Responsibilites

Privacy and Release of Student Education Records (FERPA)

What is FERPA?

FERPA (Family Educational Rights and Privacy Act) was enacted in 1974. It is a set of regulations that applies to those institutions, such as the University of Montana, that receive funding from the Department of Education.

FERPA was written specifically for students and guarantees them the right to inspect and review their education records, the right to seek to amend education records, and the right to have some control over the disclosure of information from those education records.

Resources for Students

Notification Regarding Release of Student Directory Information

The Family Educational Rights and Privacy Act (FERPA) of 1974 (20 U.S.C. § 1232g; 34 CFR Part 99) is a federal law that protects the privacy of student education records. "Education records" are "those records, files documents, and other materials which 1) contain information directly related to a student; and 2) are maintained by an educational institution. (20 U.S.C. § 1232g(a)(4)(A); 34 CFR § 99.3). FERPA applies to all schools that receive funds under an applicable program of the U.S. Department of Education.

Generally speaking, FERPA allows the University to disclose education records or personally identifiable information from education records in the following circumstances: with the written consent of the student, if the disclosure meets one of the statutory exemptions, or if the disclosure is directory information and the student has not placed a hold on release of directory information.

The University defines the following information as public (directory) information:

- Student's name
- Email address
- Telephone number
- Dates of attendance
- Degrees and awards received
- Major and minor field(s) of studies
- Class
- Participation in officially recognized activities and sports
- Most recent previous educational agency or institution attended by the student
- Weight and height, if student is a member of an intercollegiate athletic team

FERPA allows the University to release a student's directory information to anyone unless the student informs the University Office of the Registrar that he or she does not wish directory information to be released.

NO to Release of Directory Information

If you do not wish to authorize the release of directory information and do not want your directory information to appear in the University Student Directory, you must inform the Office of the Registrar of this by completing a *UM Confidentiality Request Form* which can be obtained from the Registrar's Office Website. You should allow at least three business days for processing.

You should be aware ...

You should be aware that restricting the release of your directory information has other consequences. For instance, a FERPA restriction makes it difficult or impossible for potential employers to verify your enrollment, or to verify the fact that you have earned a degree from the University. The University cannot notify your home town paper about awards and honors you receive (e.g., Dean's list). For this reason alone, many students choose to remove their FERPA restriction.

Change from NO to YES

At any time after restricting the release of your directory information, you may change your mind and choose to authorize the University to release directory information and for it to appear in the University Student Directory. You can grant such authorization at any time by going to the Registrar's Office at 201 Lommasson with a valid photo identification.

Notification of Students' Rights Under FERPA

FERPA also affords students certain rights with respect to their education records. These rights include:

1. The right to inspect and review the student's education records within 45 days of the day the University receives a request for access.

To inspect and review his or her education records, a student should submit to the university official(s) or office(s) having custody of the particular record(s), a written request that identifies the record(s) the student wishes to inspect.

1. The right to request the amendment of the student's education records that the student believes are inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA.

(*This process cannot be used to challenge a grade* .)

A student who wishes to ask the University to amend a record should write the appropriate University dean or director responsible for custody of the record, clearly identify the part of the record the student wants changed, and specify why it should be changed.

If the University decides not to amend the record as requested, the University will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to provide written consent before the University discloses personally identifiable information from the student's education records, except that the University will disclose the following information without a student's consent:

1. Disclosure to school officials with legitimate educational interests. A **school official** is a person employed by the University in an administrative, supervisory, academic, research, or support staff position (including, but not limited to University Police Department personnel, and Curry Health staff); a contractor, consultant, or other outside service provider retained to provide various institutional services and functions under contract or by statute instead of using University employees or officials (including, but not limited to an attorney, auditor, collection agent, information systems specialist, teaching affiliate, and clinical mentor); a person serving on the Board of Regents, staff in the Office of the Commission of Higher Education, the Institutional Review Board, and any other University board, committee or council; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

A school official has a **legitimate educational interest** if the official needs to review an education record in order to fulfill his or her professional responsibilities for the University.

1. Compliance with a lawfully issued subpoena or judicial order.
2. Requests in connection with a student's application for financial aid.
3. Information submitted to accrediting organizations.
4. To other agencies or institutions that have requested the records and in which the student seeks or intends to enroll or is already enrolled so long as the disclosure is for purposes related to the student's enrollment or transfer.
5. Requests by federal and state authorities and authorized third parties designated by federal and state authorities to evaluate a federal or state supported education program; to researchers performing certain types of studies; in connection with statewide longitudinal data systems studies and tracking.
6. In the case of emergencies, the University may release information to appropriate persons in connection with an emergency, if the knowledge of such information is necessary to protect the health or safety of a student or other persons.
7. To the extent otherwise permitted by law, the results of a disciplinary proceeding or investigation conducted by the University to an alleged victim of a crime.
8. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202-5901

Additional Resources

For more information on FERPA, please see the following links:

1. Family Policy Compliance Office
2. FERPA 20 USC 1232(g)
3. 34 CFR Part 99
4. Montana Code Annotated

Student Rights

Public Safety Report and Alcohol and Drug Guidelines

The health and safety of students, faculty, staff, and visitors are of paramount concern to The University of Montana. Each year the University publishes an annual report outlining on-campus security and safety information and crime statistics. The report provides important information for security awareness and crime

prevention programs, emergency procedures and reporting crimes, plus law enforcement and safety services on campus.

Additionally, the booklet contains the University's policy on sexual assault and information about support services for victims of sexual assault. The booklet also includes information about the University's drug and alcohol policy, programs and support services for substance abuse, and risk management guidelines for University-related events.

The booklet is available by writing or calling the Office of Public Safety (406) 342-6131 or the Office of the Vice President for Student Affairs (406) 243-5225, The University of Montana, Missoula, Missoula, MT 59812. The information can also be accessed on the University of Montana Student Affairs website and the University of Montana Public Safety website.

Student Complaint Procedures

Under the terms of the Collective Bargaining Agreement between The University of Montana University Faculty Association and The Montana University System, there is a formal procedure for students who have a complaint against a faculty member or an administrator. Information about this procedure is available at the Vice President for Student Affairs website. The ASUM Student Resolution Officer is available to answer questions about procedures and to assist with the process. Time restrictions are important, so students should review procedures immediately if they feel they may have complaints. The Resolution Officer receives voice mail at 243-5431 or email at asum.resolutionoff@mso.umt.edu.

Notice to Students with Disabilities

Students with disabilities may obtain assistance with the registration process and the relocation of classes (if needed) through Disability Services in Lommasson Center 154 (406) 243 2243 VOICE/TDD.

Student Conduct Code

The Student Conduct Code, embodying the ideals of academic honesty, integrity, human rights and responsible citizenship, governs all student conduct at The University of Montana-Missoula. Student enrollment presupposes a commitment to the principles and policies embodied in this Code. The Student Conduct Code sets forth University jurisdiction, student rights, standards of academic and general student conduct, disciplinary sanctions for breach of the standards of student conduct and procedures to be followed in adjudicating charges of both academic and general misconduct.

The Vice President for Student Affairs is responsible for procedural administration of the Student Conduct Code for all general conduct. The Provost and Vice President for Academic Affairs is responsible for all academic conduct. Copies of the Student Conduct Code can be obtained from the offices of the Vice President for Student Affairs, the Provost and Vice President for Academic Affairs, Residence Life, and Associated Students of University of Montana-Missoula (ASUM). The Student Conduct Code also can be accessed on the Vice President for Student Affairs Conduct Code web page.

Plagiarism Warning

Plagiarism is the representing of another's work as one's own. It is a particularly intolerable offense in the academic community and is strictly forbidden. Students who plagiarize may fail the course and may be remanded to Academic Court for possible suspension or expulsion. (See Student Conduct Code that follows in this section of the catalog.)

Students must always be very careful to acknowledge any kind of borrowing that is included in their work. This means not only borrowed wording but also ideas. Acknowledgment of whatever is not one's own original work is the proper and honest use of sources. Failure to acknowledge whatever is not one's own original work is plagiarism.

Class Attendance/Absence Policy

Students who are registered for a course but do not attend the first two class meetings may be required by the instructor to drop the course. This rule allows for early identification of class vacancies to permit other students to add classes. Students not allowed to remain must complete a drop form or drop the course through CyberBear to avoid receiving a failing grade. Students who know they will be absent should contact the instructor in advance.

Students are expected to attend all class meetings and complete all assignments for courses in which they are enrolled. Instructors may excuse brief and occasional absences for reasons of illness, injury, family emergency, religious observance or participation in a University sponsored activity. (University sponsored activities include for example, field trips, ASUM service, music or drama performances, and intercollegiate athletics.) Instructors shall excuse absences for reasons of military service or mandatory public service.

Instructors may establish absence policies to conform to the educational goals and requirements of their courses. Such policies will ordinarily be set out in the course syllabus. Customarily, course syllabi will describe the procedures for giving timely notice of absences, explain how work missed because of an excused absence may be made up, and stipulate any penalty to be assessed for absences.

The UM Faculty Senate encourages the faculty to accommodate students incurring an excused absence by allowing them to make up missed work when this can be done in a manner consistent with the educational goals of their courses. Students expecting to incur excused absences should consult with their instructors early in the term to be sure that they understand the absence policies for each of their courses.

Major and Minor Requirement Information

Declaring a Major and Changing a Major

Students indicate on the application for admission the major or majors in which they are interested. Students undecided as to a field of interest may elect to be Undeclared while making program and career decisions. Students must declare a major in a degree granting program prior to completion of 45 credits or after three semesters, whichever occurs first.

Students must complete a major in order to earn a degree or certificate.

Students may change their majors or minors by obtaining the proper approval on a change of major or minor form available from the Registration Counter in Griz Central in the Lommasson Center. Because of enrollment limitations, students must request a change to a program in the Missoula College by completing an application for admission and submitting it to the College. Students whose initial admission was to the Missoula College may change to a major outside the College by submitting an application for admission to Enrollment Services-Admissions & New Student Services in the Lommasson Center.

Credits Required for a Major

Students in a bachelor degree program must complete a minimum of 30 credits in their major. Most majors require more.

Students may elect to earn a single degree with more than one major. Students may complete a double major (two majors) or any number of majors. All requirements for the majors must be completed even though students will receive a single degree such as a Bachelor of Arts with majors in Psychology and Sociology. It is only necessary to complete the total credit requirement for a single bachelor degree.

Courses completed to satisfy the requirements of a major also may be applied toward the General Education Requirement if they appear on the list of approved courses at the time they are taken.

Students in programs in the Missoula College complete requirements as listed in the Missoula College section of this catalog.

Credit Limitations in a Major

A maximum of 60 credits in the student's major may be counted toward the baccalaureate degree, except some options in Health and Human Performance and Education, majors in Computer Science, and majors in the Schools of Business Administration, College of Visual and Performing Arts, Journalism, Law, The College of Health Professions and Biomedical Sciences and the College of Forestry and Conservation are allowed more. Students with combined majors, as opposed to two majors, are allowed to apply 75 credits in the major.

Grade Requirement

Courses taken to satisfy the requirements of the major must be completed with a grade of C- or better.

A minimum grade average of 2.00 in all work attempted in the major at the University of Montana-Missoula is required for graduation.

Major Concentration

Groups of courses have been identified which lead to a specialization within one major or between two or more majors. These specializations are called concentrations. The names of approved concentrations will be recorded on the permanent records of those students who have satisfactorily completed the requirements as given in the catalog governing their graduation. A student desiring a particular concentration must satisfy the requirements of the major offering it. If one concentration is offered within two or more majors, the student must satisfy the requirements of only one.

Only courses listed within the supporting major count toward the 60 credit limitation in the major. Courses in other fields do not count toward the maximum of 60 credits in the major even though they may be required or elected for the concentration.

If one major has two or more concentrations, a student may satisfy the requirements for more than one concentration so long as the maximum credit limitations are observed.

Minor Requirements

Baccalaureate students may elect to complete one or more minors in fields outside their majors. Minors may be in fields unrelated to students' majors or they may be complementary or supportive of majors. A student may not take a minor in the same field of study as his or her major.

A student will not be required to satisfy the requirements of a minor in order to graduate unless that minor is required by the student's major department or school.

Courses completed to satisfy the requirements of a minor also may be applied toward the General Education Requirement if they appear on the list of approved courses at the time they are taken.

Credits Required for a Minor

To complete a minor, students must earn at least 18 credits in an approved minor listed in this catalog and complete a baccalaureate degree.

Students possessing a baccalaureate degree from an accredited college or university may earn a minor if they have been accepted by the University as an undergraduate degree student. In addition to meeting minor requirements, students must earn from the University of Montana-Missoula a minimum of 9 credits in the minor field and 15 credits overall.

Grade Requirement

Courses taken to satisfy the requirements of the major and the minor must be completed with a grade of C- or better. Some majors require a C or higher grade for some of the required courses. Specific information regarding the major requirements can be found in the majors individual section of the catalog.

A minimum grade average of 2.00 in all work attempted in the minor at the University of Montana-Missoula is required for graduation with the minor.

Teaching Minors

Teaching minors are separate entities from degree minors as described in this section. Teaching minors are identified and requirements listed in the College of Education section of this catalog.

Colleges, Schools and Programs

The offerings listed below are for undergraduate and professional programs. For detailed information about The Graduate School and graduate programs offered at the University of Montana visit the Graduate School Programs webpage. To find out more about a specific graduate program, please contact the department.

Name	Minor	Certificate	Associate	Bachelor
Accounting				Requirements
Accounting Information Systems		Requirements		
Accounting Technology			Requirements	
Administrative Management			Requirements	
Administrative System Mgmt	Requirements			
African-American Studies	Requirements			Requirements

Name	Minor	Certificate	Associate	Bachelor
Anthropology	Requirements			Requirements
Applied Science				Requirements
Arabic Studies	Requirements			
Art				Requirements
Art History/Criticism	Requirements			
Art Studio	Requirements			
Astronomy	Requirements			
Big Data Analytics		Requirements		
Biochemistry	Requirements			Requirements
Bioinformatics		Requirements		
Biology	Requirements			Requirements
Business Administration	Requirements			
Business Media Design		Requirements		
Central & Southwest Asian Stds	Requirements			Requirements
Chemistry	Requirements			Requirements
Chinese	Requirements			
Classical Civilization	Requirements			
Classics				Requirements
Climate Change Studies	Requirements			
Commun Sci & Disorders	Requirements			Requirements
Communication Studies	Requirements			Requirements
Computed Tomography		Requirements		
Computer Aided Design		Requirements		
Computer Applications	Requirements			
Computer Programming		Requirements		
Computer Sci-Mathematical Sci				Requirements
Computer Science	Requirements			Requirements

Name	Minor	Certificate	Associate	Bachelor
Computer Support		Requirements		
Construction Helper		Requirements		
Culinary Arts		Requirements		
Customer Relations		Requirements		
Cybersecurity		Requirements		
Dance	Requirements			Requirements
Dance Specialization Education	Requirements			
Diesel Technology			Requirements	
Digital Marketing		Requirements		
Early Childhood Education	Requirements			
East Asian Studies				Requirements
Ecological Restoration	Requirements			
Ecological Sciences & Restorat				Requirements
Economics	Requirements			Requirements
Education				
Electronics Technology		Requirements	Requirements	
Elementary Education				Requirements
Energy Auditor		Requirements		
Energy Technology		Requirements	Requirements	
Engl as a Sec Lang		Requirements		
English	Requirements			Requirements
Entertainment Management		Requirements		
Entrepreneurship		Requirements		
Entrepreneurship/Start-up		Requirements		
Environmental Studies	Requirements			Requirements
Facility Management		Requirements		
Film Studies	Requirements			

Name	Minor	Certificate	Associate	Bachelor
Finance				Requirements
Fire Sciences & Management	Requirements			
Food Service Management			Requirements	
Forensic Studies		Requirements		
Forestry				Requirements
French	Requirements			Requirements
General AA			Requirements	
Geographic Information Systems		Requirements		
Geography	Requirements			Requirements
Geosciences	Requirements			Requirements
German	Requirements			Requirements
Gerontology	Requirements			
Global Leadership		Requirements		
Global Public Health	Requirements			
Greek	Requirements			
HVAC Technician		Requirements		
Health & Human Performance				Requirements
Health Behavior Coaching		Requirements		
Health Information Technology		Requirements		
Heavy Equipment Operation		Requirements		
Historic Preservation		Requirements		
History	Requirements			Requirements
History-Political Science				Requirements
Hospitality Management		Requirements	Requirements	
Human and Family Development	Requirements			
Information Technology			Requirements	
International Business				Requirements

Name	Minor	Certificate	Associate	Bachelor
International Development Stds	Requirements			
International Field Geos Dual				Requirements
International Field Geos Joint				Requirements
Irish Studies	Requirements			
Japanese	Requirements			Requirements
Journalism	Requirements			Requirements
Language Rejuvenation & Maint		Requirements		
Latin	Requirements			
Latin American Studies	Requirements			
Liberal Studies	Requirements			Requirements
Linguistics	Requirements			
Management			Requirements	Requirements
Management Information Systems				Requirements
Marketing				Requirements
Mathematical Sci-Computer Sci				Requirements
Mathematics	Requirements			Requirements
Media Arts	Requirements			Requirements
Medical Assisting			Requirements	
Medical Information Technology			Requirements	
Medical Laboratory Science				Requirements
Medical Reception		Requirements		
Microbiology	Requirements			Requirements
Military Studies	Requirements			
Mountain Studies	Requirements			
Music	Requirements			Requirements
Music Education				Requirements

Name	Minor	Certificate	Associate	Bachelor
Native American Studies	Requirements			Requirements
Neuroscience				Requirements
Nonprofit Administration	Requirements			
Paralegal Studies			Requirements	
Parks, Tourism &Rec Management				Requirements
Pharmacy Technology		Requirements		
Philosophy	Requirements			Requirements
Physics	Requirements			Requirements
Political Science	Requirements			Requirements
Practical Nursing			Requirements	
Precision Machine Technology		Requirements		
Psychology	Requirements			Requirements
Radiologic Technology			Requirements	
Recreational Power Equipment		Requirements		
Recycling Technology		Requirements		
Registered Nursing			Requirements	
Resource Conservation				Requirements
Respiratory Care			Requirements	
Russian	Requirements			Requirements
Russian Studies	Requirements			
Sales and Marketing		Requirements		
Secondary Certification				
Social Work				Requirements
Sociology	Requirements			Requirements
South & Southeast Asian Stds	Requirements			
Spanish	Requirements			Requirements

Name	Minor	Certificate	Associate	Bachelor
Surgical Technology			Requirements	
Sustainable Business Strategy		Requirements		
Sustainable Construction		Requirements		
Sustainable Construction Tech		Requirements	Requirements	
Theatre	Requirements			Requirements
Theatre Education	Requirements			
Welding Technology		Requirements	Requirements	
Wilderness Studies	Requirements			
Wildlife Biology	Requirements			Requirements
Women's, Gender & Sexuality St	Requirements			Requirements

South and Southeast Asian Studies

Ruth Vanita, Director

The Liberal Studies Program offers undergraduates at the University of Montana-Missoula an opportunity to study South and Southeast Asian peoples, cultures, histories, and societies, as well as their literary, artistic and religious traditions. The region includes India, Nepal, Bhutan, Tibet, Sri Lanka, Pakistan, Bangladesh, Myanmar (Burma), Thailand, Laos, Cambodia, Vietnam, Malaysia, Brunei, Singapore, Indonesia, East Timor, and the Philippines.

The South Asianist faculty of Liberal Studies and the Dean of the College of Humanities and Sciences work closely with those faculty from other disciplines at the University of Montana who have research and teaching interests in the area, and competence in regional languages.

Students may choose to minor in South and Southeast Asia with a major in any discipline. They must register with Professor Ruth Vanita, the advisor, and are encouraged to plan their course sequence at least one semester in advance, in consultation with an assigned core faculty advisor from those listed below.

South/Southeast Asian Studies

Back to Top

- SSEA 195 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, offerings of new courses, or one-time offerings of current topics. Course Attributes: Internships/Practicums
- SSEA 202X - Introduction to India
  Credits: 3. Offered alternate years. This course introduces students to the history, economy, political and legal system, society, culture, religions, and literary and artistic traditions of India, which is the world's largest secular democracy and the birthplace of four major world religions. Course Attributes: Cultural Intl Diversity (X)
- SSEA 232H - Buddhism
  Credits: 3. Offered autumn. Same as RLST 232H. A historical introduction to the development of Buddhist thought and practice in the cultures of Asia and the West. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)
- SSEA 234X - Hindu Religious Traditions

Credits: 3. Offered spring, odd-numbered years. Same as RLST 234X. Critical exploration of selected aspects of Hindu thought, narrative and practice, both in contemporary and historical perspective. Focus primarily on India, but with consideration of Hinduism's transformation and impact beyond South Asia. Course Attributes: Cultural Intl Diversity (X)

- SSEA 295 - Special Topics
  Credits: 1 TO 12. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Internships/Practicums
- SSEA 330X - Peoples and Cultures of World
  Credits: 3. Offered intermittently. Same as ANTY 330X. Ethnographic survey of societies and cultures of Indonesia and the Philippines.
- SSEA 342 - Topics Comparative Lit & Rel
  Credits: 3. Offered intermittently. Same as LSH 342. These courses compare major traditions, texts and trends in two or more world civilizations or cultures. Works of literature and/or philosophy are examined in their historical contexts, and in relation to each other.
- SSEA 353 - Topics So. Asian Religions
  Credits: 3. Offered intermittently. No prerequisites. This course will examine select topics of central importance with respect to the history of interaction between the major religions (Hinduism, Islam, Buddhism, Jainism and Sikhism) of South Asia.
- SSEA 366 - Tibetan Civilization
  Credits: 3. Offered intermittently. No prerequisites. An exploration of the history and culture of a unique civilization that has influenced greatly the cultures of Himalayan, East and South Asia. Special attention will be given to Tibetan religions, modernity, and globalization as they have presented profound challenges to Buddhist traditions.
- SSEA 368 - Contemporary Buddhism in SSEA
  Credits: 3. Offered intermittently. No prerequisites. Like other major religions, modernity and globalization have presented profound challenges to Buddhist traditions. In this course we will explore various contemporary issues that have affected Theravada Buddhist societies-colonial and post-colonial revivalism, religious nationalism, women's rights and social reform-as case studies of some of the major ways religions have confronted modernity.
- SSEA 395 - Special Topics
  Credits: 1 TO 12. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Internships/Practicums
- SSEA 495 - Special Topics
  Credits: 1 TO 12. (R-12) Seminar designed for students with a minor in South and Southeast Asian Studies. Regional or temporal focus may vary. Course Attributes: Internships/Practicums

South and Southeast Asian Studies Minor

Minor - South & Southeast Asian Stds (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18

Required Cumulative GPA: 2.0

SSEA Minor Lower Division Requirements

Rule: Complete the following subcategories of courses

Note: All substitutions must be approved by the SSEA faculty advisor

Minimum Required Grade: C-

9 Total Credits Required

Introductory Course

Rule: Complete the following course

	Course	Credits
	SSEA 102H - Intro to South & S. East Asia Offered intermittently. Same as ANTY 102H/LS 102H. An introduction to South and Southeast Asian regions, cultures, societies, and histories, with particular emphasis on artistic, religious and literary traditions from prehistory to the present. An overview approach with different materials and emphases.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Lower Division Electives

Rule: Choose 2 of the following courses

	Course	Credits
	SSEA 202X - Introduction to India Offered alternate years. This course introduces students to the history, economy, political and legal system, society, culture, religions, and literary and artistic traditions of India, which is the world's largest secular democracy and the birthplace of four major world religions.	3 Credits
	SSEA 212S - Southeast Asian Cult & Civ Offered intermittently. Introduction to the cultures, social organization, and contemporary events of Southeast Asia.	3 Credits
	SSEA 232H - Buddhism Offered autumn. Same as RLST 232H. A historical introduction to the development of Buddhist thought and practice in the cultures of Asia and the West.	3 Credits
	SSEA 234X - Hindu Religious Traditions Offered spring, odd-numbered years. Same as RLST 234X. Critical exploration of selected aspects of Hindu thought, narrative and practice, both in contemporary and historical perspective. Focus primarily on India, but with consideration of Hinduism's transformation and impact beyond South Asia.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

SSEA minor Upper Division Requirements

Rule: Complete the following subcategories

Note: All substitutions must be approved by the SSEA faculty advisor

Minimum Required Grade: C-

9 Total Credits Required

SSEA Humanities courses

Rule: Choose 3-6 credits from the following courses.

	Course	Credits
	LSH 328 - Love in Bombay Cinema Offered intermittently. Examines the representation of romantic love in Bombay cinema, in the context of the representation of many types of love, familial, friendly and devotional.	3 Credits
	LSH 415 - Same Sex Unions Literature Offered intermittently. Examines the literary representation of same-sex unions in European and Indian literary traditions.	3 Credits
	LSH 416 - The Bhagavad Gita Offered every year or alternate year. Close reading of the Hindi Scripture, Bhagavad Gita in translation, examining its literary, philosophical, ethical and religious dimensions, its influence on Western and Indian literatures, and the way Indian and Western commentators have interpreted and used it.	3 Credits
	SSEA 342 - Topics Comparative Lit & Rel Offered intermittently. Same as LSH 342. These courses compare major traditions, texts and trends in two or more world civilizations or cultures. Works of literature and/or philosophy are examined in their historical contexts, and in relation to each other.	3 Credits
	SSEA 353 - Topics So. Asian Religions Offered intermittently. No prerequisites. This course will examine select topics of central importance with respect to the history of interaction between the major religions (Hinduism, Islam, Buddhism, Jainism and Sikhism) of South Asia.	3 Credits
	SSEA 366 - Tibetan Civilization Offered intermittently. No prerequisites. An exploration of the history and culture of a unique civilization that has influenced greatly the cultures of Himalayan, East and South Asia. Special attention will be given to Tibetan religions, modernity, and globalization as they have presented profound challenges to Buddhist traditions.	3 Credits
	SSEA 368 - Contemporary Buddhism in SSEA Offered intermittently. No prerequisites. Like other major religions, modernity and globalization have presented profound challenges to Buddhist traditions. In this course we will explore various contemporary issues that have affected Theravada Buddhist societies-colonial and post-colonial revivalism, religious nationalism, women's rights and social reform-as case studies of some of the major ways religions have confronted modernity.	3 Credits
Minimum Required Grade: C-		3-6 Total Credits Required

SSEA Social Sciences courses

Rule: Choose 3-6 credits from the following courses.

	Course	Credits
	SSEA 330X - Peoples and Cultures of World Offered intermittently. Same as ANTY 330X. Ethnographic survey of societies and cultures of Indonesia and the Philippines.	3 Credits
	SSEA 440 - Contemporary Issues of SE Asia Offered spring odd years. Same as ANTY 440 (ANTH 340). Prereq. SSEA 102. An examination of the major issues that affect the contemporary experience of Southeast Asians.	3 Credits
Minimum Required Grade: C-		3-6 Total Credits Required

Women's, Gender and Sexuality Studies

Elizabeth Hubble, Director

Women's, Gender and Sexuality Studies, an interdisciplinary program founded in 1990, encourages the production, discussion, and dissemination of knowledge about women's experiences, oppressions, and achievements in Montana, the U.S., and the world. In the last decade this focus has broadened to include study of the social and cultural construction of gender, sex, and sexualities. By fostering awareness of cultural and international diversity, as well as of the circulations of power mediated by race, class, age, and sexual orientation, Women's, Gender, and Sexuality Studies encourages students to think critically and to envision justice for all peoples.

The Women's, Gender and Sexuality Studies program is administered by the director, with assistance from the program coordinator, in consultation with the Women's, Gender and Sexuality Studies Executive Committee, an interdisciplinary group of faculty and professional associates with teaching, research, and scholarly interests in women, gender and sexuality.

Students may include Women's, Gender and Sexuality Studies in their studies in two ways. They can major in Women's, Gender and Sexuality Studies, or they can complete the Women's, Gender and Sexuality Studies minor. Students may select coursework from a wide variety of courses offered in the humanities, social sciences, natural sciences, law, education and other disciplines. Women's, Gender and Sexuality Studies offers scholarships and sponsors or co-sponsors a variety of events including lectures, discussions, and performances that make a vibrant contribution to both the campus and the Missoula community life.

To be admitted, students must register with the Women's, Gender and Sexuality Studies director, who will explain major or minor requirements and supervise their program.

Department Faculty

Professors

Casey Charles, Professor
M. Ione Crummy, Professor
Paul Dietrich, Professor of Religious Studies and Liberal Studies
Janet Finn, Professor
Christine Fiore, Ph.D., Professor and Department Chair
Sara Hayden, Professor
Anya Jabour, Regents Professor of History; Co-Director, Women & Gender Studies
Kathy J. Kuipers, Associate Professor, Director Graduate Studies
Clary Loisel, Professor

Associate Professors

Hiltrud Arens, Professor
Bryan Cochran, Professor of Psychology and Director of Clinical Training

Sarah J. Halvorson, Professor
Teresa Sobieszczyk, Associate Professor, Sociology
Celia Winkler, Professor

Assistant Professors

Tobin Miller Shearer, Associate Professor of History; Director of Graduate Studies (History); Director of African-American Studies

Adjunct Faculty

Beth Hubble, Adjunct Assistant Professor of Women''s Studies

Women's, Gender & Sexuality St

Back to Top

- WGSS 150X - Women's Rights and Women's Roles Around the World
  Credits: 3. Offered autumn in odd-numbered years. This course offers an interdisciplinary perspective on women's participation in family, community, and political life around the world. This course will use a comparative approach to familiarize students with multiple societies in the Americas, Europe, Africa, Asia, and Australia and examine transnational themes that range across time and place. Guest lectures, field trips, and films will expose students to different approaches to the study of women's lives, work, and activism and to the range of women's activities around the world. In the second part of the course, students will collaborate on further research and design a final project presentation. Course Attributes: Cultural Intl Diversity (X)
- WGSS 163L - Hist/Lit Persp Women
  Credits: 3. Offered autumn. Formerly PHL 151H, LS 119H, WGS 119H, WGGS 163H. This is an introduction to the discipline and scope of Western thought from antiquity to the present focusing on women as the subject rather than men. The objective of the course is to provide an understanding and critical appreciation of seminal texts by and about women through readings, class discussion and written assignments. Course Attributes: Lit & Artistic Studies (L)
- WGSS 250 - Media Representations of Women, Men, and Sexuality
  Credits: 3. Offered autumn in even-numbered years. This course is designed as a survey introduction to a variety of issues related to gender and sexuality in the mass media and pop culture. The goal of the course is to familiarize students with the breadth of these issues while at the same time providing them tools to critically analyze and engage with modern media. The course focuses largely on mass mediated forms such as television, film, music, sports, news, advertising and new media. An underlying understanding within the course is a recognition of the inextricable interconnections between gender, race, ethnicity, class, sexual orientation and so forth. Therefore, the course is invested in exploring the ways in which differences in identity produce different mediated representations and experiences of media. The course is comprised of class discussions based on readings, class presentations, and viewing and interpreting various mediated texts and documentaries. The course readings are both practical and theoretical, and while many of them focus on specific case studies, they are intended to provoke thoughtfulness in each student such that it can be applied to a variety of media.
- WGSS 263S - Women, Men, and Sexuality
  Credits: 3. Offered autumn. Broad overview of gender and women's issues from a social science perspective. Relevant topics related to the sociological and psychological aspects of gender across culture are explored, including masculinity, femininity, violence, reproductive health, cultural diversity in the expression of gender, issues in sexual orientation, and media contributions to these issues. Course Attributes: Social Sciences Course (S)
- WGSS 291 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- WGSS 294 - Seminar
  Credits: 1 TO 6. (R-6) Offered intermittently. A review and discussion of current research. Topics vary.
- WGSS 363 - Feminist Theory and Methods

Credits: 3. Offered spring. In-depth exposure to feminist views and critique of the ethics and methods of scientific, social, and literary inquiry. Includes exposure to primary sources and current societal and global issues and movements, research finding, and literature exemplifying these methods of inquiry and the gendered dimensions of such inquiry. Course Attributes: Writing Course-Advanced

- WGSS 390 - Undergraduate Research
  Credits: 1 TO 6. (R-6) Offered intermittently. Directed individual research and study appropriate to the back ground and objectives of the student. Course Attributes: Research & Creative Schlrshp
- WGSS 391 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- WGSS 392 - Independent Study
  Credits: 1 TO 12. (R-12) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.
- WGSS 398 - Coop Education/Internship
  Credits: 1 TO 6. R-6) Offered intermittently. Prereq., consent of director. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums
- WGSS 463 - WGS Capstone
  Credits: 2. Offered spring. Capstone course for the Women's and Gender Studies majors and minors.
- WGSS 490 - Undergraduate Research
  Credits: 1 TO 6. (R-6) Offered intermittently. Directed individual research and study appropriate to the back ground and objectives of the student. Course Attributes: Research & Creative Schlrshp
- WGSS 491 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- WGSS 492 - Independent Study
  Credits: 1 TO 9. (R-9) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.
- WGSS 595 - Special Topics
  Credits: 1 TO 12. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate Course Attributes: Internships/Practicums
- WGSS 596 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course Attributes: Independent Study
- WGSS 598 - Internship
  Credits: 1 TO 6. (R-6) Offered by special arrangement. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Level: Graduate Course Attributes: Internships/Practicums

Women's, Gender and Sexuality Studies Option

Women's, Gender and Sexuality Studies Option, Professor Elizabeth Hubble, Director of the Women's, Gender and Sexuality Studies:

Students who choose the Women's, Gender and Sexuality Studies (WGSS) option must register with the WGSS advisor, who will supervise their program. The following requirements must be met to complete the WGSS option within the liberal studies major.

Minor - Women's, Gender & Sexuality St (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 20
Required Cumulative GPA: 1.7

Lower Division Core Requirements

Rule: Must take one or the other

	Course	Credits
	WGSS 163L - Hist/Lit Persp Women Offered autumn. Formerly PHL 151H, LS 119H, WGS 119H, WGGS 163H. This is an introduction to the discipline and scope of Western thought from antiquity to the present focusing on women as the subject rather than men. The objective of the course is to provide an understanding and critical appreciation of seminal texts by and about women through readings, class discussion and written assignments.	3 Credits
	WGSS 263S - Women's and Gender Studies Offered autumn. Broad overview of gender and women's issues from a social science perspective. Relevant topics related to the sociological and psychological aspects of gender across culture are explored, including masculinity, femininity, violence, reproductive health, cultural diversity in the expression of gender, issues in sexual orientation, and media contributions to these issues.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core Requirements

	Course	Credits
	WGSS 363 - Feminist Theory and Methods Offered spring. In-depth exposure to feminist views and critique of the ethics and methods of scientific, social, and literary inquiry. Includes exposure to primary sources and current societal and global issues and movements, research finding, and literature exemplifying these methods of inquiry and the gendered dimensions of such inquiry.	3 Credits
	WGSS 463 - WGS Capstone Offered spring. Capstone course for the Women's and Gender Studies majors and minors.	2 Credits
Minimum Required Grade: C-		5 Total Credits Required

Approved Elective Courses

Rule: Additional 12 credits of Women's and Gender Studies, at least one of which is Upper Division (300-400 level)

Note: WGS 398, Co-operative Education Experience internships, may be applied toward these credits

Minimum Required Grade: C-

12 Total Credits Required

Women's, Gender and Sexuality Studies B.A.

Women's, Gender and Sexuality Studies B.A., Professor Elizabeth Hubble, Director of the Women's, Gender and Sexuality Studies:

Students who choose the Women's, Gender and Sexuality Studies (WGSS) B.A. must register with the WGSS advisor, who will supervise their program.

Bachelor of Arts - Women's, Gender & Sexuality St

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 33

Required Cumulative GPA: 2.0

Required Courses

Rule: Take all of the following courses.

Note: May Substitute LSH 152L for LSH 151L

	Course	Credits
	LSH 151L - Humanities:Greeks,Bible,Roman Offered autumn. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, comparing and contrasting the Greco–Roman with the Jewish and Christian traditions.	0 To 4 Credits
	WGSS 163L - Hist/Lit Persp Women Offered autumn. Formerly PHL 151H, LS 119H, WGS 119H, WGGS 163H. This is an introduction to the discipline and scope of Western thought from antiquity to the present focusing on women as the subject rather than men. The objective of the course is to provide an understanding and critical appreciation of seminal texts by and about women through readings, class discussion and written assignments.	3 Credits
	WGSS 263S - Women, Men, and Sexuality Offered autumn. Broad overview of gender and women's issues from a social science perspective. Relevant topics related to the sociological and psychological aspects of gender across culture are explored, including masculinity, femininity, violence, reproductive health, cultural diversity in the expression of gender, issues in sexual orientation, and media contributions to these issues.	3 Credits

	WGSS 363 - Feminist Theory and Methods Offered spring. In-depth exposure to feminist views and critique of the ethics and methods of scientific, social, and literary inquiry. Includes exposure to primary sources and current societal and global issues and movements, research finding, and literature exemplifying these methods of inquiry and the gendered dimensions of such inquiry.	3 Credits
	WGSS 463 - WGS Capstone Offered spring. Capstone course for the Women's and Gender Studies majors and minors.	2 Credits
Minimum Required Grade: C-		15 Total Credits Required

Electives

Rule: Additional Elective WGSS Credits (18 credits (11 credits must be UD))

Note: Interdisciplinary courses and courses that appear on the WGSS curriculum list that do not fall within the Humanities and Social Science lists may be substituted with the approval of co-directors.

WGSS Internship/Independent Study (392, 398, 492) courses may count for either the Humanities Core or the Social Science Core, depending on the topic.

List of regularly offered courses that would fulfill the WGSS elective credits (unless indicated, all courses are 3 credits). (These courses are offered, in general, every one, two, or three years. Students are advised to check with the WGSS Office for individual semester course listings.)

Humanities Core

Rule: Must complete 9 credits from the following:

	Course	Credits
	COMX 380 - Gender and Communication Offered yearly. The meaning of gender in our culture. Examines how gender is displayed and perpetuated through social institutions such as the media and through our private and public verbal and nonverbal interactions.	3 Credits
	COMX 447 - Rhetorical Constrctn of Woman Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.	3 Credits
	COMX 449 - Rhetoric of Women's Activism Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.	3 Credits
	HSTA 370H - Wmn Amer Colonial to Civil War Offered autumn. Interpretive overview of major themes and events in U.S. womens history to 1865. Same as WGS 370H.	3 Credits

	HSTA 371H - Wmn Amer Civil War to Present Offered spring. Interpretive overview of major themes and events in U.S. women's history from 1865 to the present. Same as WGS 371.	3 Credits
	HSTA 385 - Families & Children in America (AM) Historical overview of families and children in the United States from the colonial era to the present. Topics include changing patterns of family life, the evolution of attitudes toward children and youth, the relationship between the American family and the nation-state, and debates over "family values" from the nation's founding to the present.	3 Credits
	LIT 379L - Gender & Sexuality in Eng. Fic Offered alternate years. Same as LSH 327L. Major 20th century novels and short stories written in English in different parts of the world and how these texts explore changing concepts of gender and sexuality.	3 Credits
	LSH 329 - Fathers & Daughters in Lit Prereq., WRIT 101. Examines how relationships between fathers and daughters have been represented, celebrated and critiqued in literature in the Western world, from antiquity to the present. Includes discussion of changing patriarchal formations, symbolic and adoptive fatherhood, incestuous rape, homosexuality and role reversals. Texts include Greek tragedy, Shakespeare, romantic poetry, novel, and graphic novel. Both male and female authors.	3 Credits
	RLST 370 - Mysticism (R-6) An inquiry into the literature and interpretation of mysticism in the major religious traditions. Each offering will focus on a specific tradition or period.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Social Science Core

Rule: Must complete 9 credits from the following:

	Course	Credits
	ANTY 427 - Anthropology of Gender Offered spring. Comparative study of the history and significance of gender in social life.	3 Credits
	BIOL 265 - Human Sexuality Offered autumn. Same as ANTY 227. Biological, behavioral, cross-cultural aspects of human sexuality to help students place their own sexuality and that of others in a broader perspective. Includes sexual anatomy, physiology, development, reproduction, diseases, determination, as well as gender development and current issues.	3 Credits

	COUN 242S - Intimate Relationships Offered autumn and spring semester. This course covers the fascinating, multi-faceted world of intimate relationships and explores the topic from empirical and theoretical perspectives. The examination of intimate relationships in this course will look at the subject through cultural, biological, social and developmental lenses and will explore specific topics such as attraction, communication, friendship, sexuality, love, conflict, power and violence, loss, social cognition, and repairing relationships.	3 Credits
	COUN 485 - Counseling Theories Offered autumn. Prereq., PSYX 100S. Same as PSYX 442 and SW 485. Introduction to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies, and diversity issues.	3 Credits
	PSYX 348 - Psychology of Family Violence Offered spring. Prereq., PSYX 100S. Same as WGS 385. Exploration of theoretical explanations for the presence of violence in American families; research and interventions in such areas as child physical and sexual abuse, battering of women, marital rape, spousal homicide, etc.	3 Credits
	S W 323 - Women & Soc Action Amer Offered intermittently. Prereq., one of SW 100, SOCI 101S, or ANTY 101H or consent of instr. Same as WS 323. Focus on women's experiences of and contributions to social change in North, South and Central America in the mid to late-20th century. Through case studies, testimonials, discussions with activists and Internet connections examine social constructions of gender, compare forms of social action in diverse cultural, political and historical contexts, link practice to theories of social participation, and reflect on lessons learned from women's experiences.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 275S - Gender and Society Offered spring. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S.; gender ideologies affect the social definition and position of gendered individuals in work, family, sexual relationships, gendered divisions of labor, and social movements.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
	SOCI 441 - Capstone: Inequal and Soc Just Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation.	3 Credits

	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
	WGSS 250 - Media Representations Offered autumn in even-numbered years. This course is designed as a survey introduction to a variety of issues related to gender and sexuality in the mass media and pop culture. The goal of the course is to familiarize students with the breadth of these issues while at the same time providing them tools to critically analyze and engage with modern media. The course focuses largely on mass mediated forms such as television, film, music, sports, news, advertising and new media. An underlying understanding within the course is a recognition of the inextricable interconnections between gender, race, ethnicity, class, sexual orientation and so forth. Therefore, the course is invested in exploring the ways in which differences in identity produce different mediated representations and experiences of media. The course is comprised of class discussions based on readings, class presentations, and viewing and interpreting various mediated texts and documentaries. The course readings are both practical and theoretical, and while many of them focus on specific case studies, they are intended to provoke thoughtfulness in each student such that it can be applied to a variety of media.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

College of Humanities and Sciences

Christopher M. Comer, Dean

Jenny McNulty, Associate Dean

S. Melanie Hoell, Director of Advising

Homepage

The College of Humanities and Science is the intellectual core of the University of Montana. We fulfill the central purpose for which the University was chartered in 1893: to provide a liberal education and integrated knowledge of the humanities and the sciences.

A liberal arts education gives students the means to think broadly and test the value of diverse ideas, beliefs and facts. It empowers them to continue the learning process throughout life. By studying the ways of thinking and expression that are characteristic of the humanities and the social and natural sciences, students will be educated citizens. They will be enabled to think critically about scientific methods and findings, social analysis, creativity in the arts and humanities, aesthetics and values. Equally important is effective expression of one's understandings. Clear thinking, cogent expression, and solid values provide the foundation of successful careers.

A particular strength of the College is the breadth of its disciplines and programs. This breadth makes possible a varied and flexible curriculum that advances both general programs and specialized education on the undergraduate and graduate levels. Another strength is the quality of the faculty. Its members have a distinguished record of teaching, research and creation of new knowledge, and service to our communities. Their commitment to undergraduate liberal arts education is demonstrated by the quality of the graduates the College has produced. The pre-professional education received here has enabled University of Montana graduates to compete successfully for admission to graduate schools across the nation. A third strength of the

College is its commitment to students as they pursue their academic studies at the University. This is reflected in close student/faculty relationships and in the continuous attention given by the College to the effect that policies, procedures, and administrative practices have on students' educational experience.

Name	Minor	Certificate	Associate	Bachelor
African-American Studies	Requirements			Requirements
Anthropology	Requirements			Requirements
Applied Science				Requirements
Arabic Studies	Requirements			
Astronomy	Requirements			
Biochemistry	Requirements			Requirements
Bioinformatics		Requirements		
Biology	Requirements			Requirements
Central & Southwest Asian Stds	Requirements			Requirements
Chemistry	Requirements			Requirements
Chinese	Requirements			
Classical Civilization	Requirements			
Classics				Requirements
Communication Studies	Requirements			Requirements
Computer Applications	Requirements			
Computer Programming		Requirements		
Computer Sci-Mathematical Sci				Requirements
Computer Science	Requirements			Requirements
East Asian Studies				Requirements
Economics	Requirements			Requirements
Engl as a Sec Lang		Requirements		
English	Requirements			Requirements
Environmental Studies	Requirements			Requirements
Film Studies	Requirements			
Forensic Studies		Requirements		

Name	Minor	Certificate	Associate	Bachelor
French	Requirements			Requirements
Geographic Information Systems		Requirements		
Geography	Requirements			Requirements
Geosciences	Requirements			Requirements
German	Requirements			Requirements
Global Leadership		Requirements		
Global Public Health	Requirements			
Greek	Requirements			
Historic Preservation		Requirements		
History	Requirements			Requirements
History-Political Science				Requirements
Human and Family Development	Requirements			
International Development Stds	Requirements			
International Field Geos Dual				Requirements
International Field Geos Joint				Requirements
Irish Studies	Requirements			
Japanese	Requirements			Requirements
Language Rejuvenation & Maint		Requirements		
Latin	Requirements			
Latin American Studies	Requirements			
Liberal Studies	Requirements			Requirements
Linguistics	Requirements			
Mathematical Sci-Computer Sci				Requirements
Mathematics	Requirements			Requirements
Medical Laboratory Science				Requirements
Microbiology	Requirements			Requirements
Military Studies	Requirements			

Name	Minor	Certificate	Associate	Bachelor
Mountain Studies	Requirements			
Native American Studies	Requirements			Requirements
Neuroscience				Requirements
Nonprofit Administration	Requirements			
Philosophy	Requirements			Requirements
Physics	Requirements			Requirements
Political Science	Requirements			Requirements
Psychology	Requirements			Requirements
Russian	Requirements			Requirements
Russian Studies	Requirements			
Sociology	Requirements			Requirements
South & Southeast Asian Stds	Requirements			
Spanish	Requirements			Requirements
Women's, Gender & Sexuality St	Requirements			Requirements

Forensic Anthropology

Bachelor of Arts - Anthropology; Forensic Anthropology Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.0

Note: For a degree in Anthropology with an option in Forensic Anthropology the student must meet all the general requirements for the major, including the completion of ANTY 310, ANTY 314, and an approved option elective field or laboratory course. Note that in addition to fulfilling option requirements these ANTY courses also fulfill certain major requirements.

Lower Division Core Courses

Rule: Complete all courses

	Course	Credits

	ANTY 210N - Intro to Physical Anthropology Offered autumn and spring. An introduction to human evolutionary biology including processes of evolution, primate studies, hominid paleontology, and human variation.	3 Credits
	ANTY 220S - Culture & Society Offered autumn and spring. Study of social organization of non-western societies; emphasis on variations in ecology, social structure, economic, political and religious beliefs and practices.	3 Credits
	ANTY 250S - Intro to Archaeology Offered autumn and spring. What archaeologists do and how they reconstruct past human cultures. Methodological and theoretical approaches to understanding and explaining past human societies.	3 Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Anthropology or Cognate Electives

Rule: Complete 12 credits.

Note: The student must complete CJUS 125N, either SOCI 211S OR SOCI 221 and 12 elective credits from approved courses in criminology or disciples for which a branch of the forensic sciences exists. The student should work with their advisor to select these elective courses.

Minimum Required Grade: C-

12 Total Credits Required

Upper Division Writing Requirement

Rule: Complete either an upper-division writing course from the approved list in the catalog, or one of the following courses listed below.

	Course	**Credits**
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits
	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits
	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits

	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits
	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits
	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea I-Theory and Methods

Rule: Complete 3 credits in Theory and 3 credits in Methods. Students in the Forensic Anthropology Option should satisfy this requirement with ANTY 312, 415, 450, or 456.

Minimum Required Grade: C-

6 Total Credits Required

Anthropological Theory

Rule: Complete one of the following

	Course	Credits
	ANTY 312 - Human Evolution Offered autumn. Prereq., ANTY 210N. An exploration of the fossil and archaeological records of the evolution of human beings, and of current methods and theories used in interpreting these data.	3 Credits

	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits
	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits
	ANTY 404 - Anthropological Museology Offered spring even-numbered years. Prereq., ANTY 101H. Introduction to anthropological museums, museum work and museum theory.	3 Credits
	ANTY 415 - Emergence Modern Humans Offered spring. Prereq., ANTY 210N. An exploration of the emergence of "modern" humans and their relationships with Neanderthals. Exploration of what it means to be "a modern human" through an examination of human evolutionary history.	3 Credits
	ANTY 430 - Social Anthropology Offered spring even-numbered years. Seminar style senior capstone course for cultural anthropology students. This course focuses on bringing theory and methods together in written and visual ethnography.	3 Credits
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 456 - Historic Archaeology Offered spring. Prereq., ANTY 250S or consent of instr. Understanding and interpreting the past through historical archaeological remains, methods, and theories. Focuses on historical archaeological sites and topics from the American West, but also examines the field's global perspective.	3 Credits
	ANTY 458 - Arch of Hunter-Gatherers Offered autumn even-numbered years. Introduction to the archaeological study of hunter-gatherer societies. Primary emphasis on archaeological method and theory.	3 Credits
	LING 470 - Linguistic Analysis Offered autumn. An in-depth examination of the formal properties of language, concentrating on the core areas of linguistic analysis (phonetics, phonology, morphology, syntax and semantics).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Anthropological Methods

Rule: Complete one of the following. . Forensic Anthropology Option students should fill this requirement with a course consistent with the Option Elective below.

	Course	**Credits**

	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits
	ANTY 412 - Osteology Offered autumn. Prereq., ANTY 314 and consent of instr. A detailed examination of the human skeleton with an emphasis on identifying individual bones and their structures. Specifically extended to fragmentary skeletal elements. Direct hands-on experience required.	4 Credits
	ANTY 413 - Forensic and Mortuary Arch Offered spring. Prereq., ANTY 314 and consent of instr. Practical approaches to locating, documenting and recovering human skeletal remains, including surface scatters and burials. Emphasis on interpretations of evidence for recovery scene formation and mortuary behavior.	3 Credits
	ANTY 416 - Dental Anthropology Offered intermittently. Prereq., ANTY 210N. The use of information from teeth in investigating evolutionary trends, the relationships between human groups, subsistence change, and culture change.	3 Credits
	ANTY 431 - Ethnographic Field Methods Offered spring odd-numbered years. Prereq., ANTY 220S or consent of instr. Introduction to socio-cultural anthropological methods including participant observation, interviewing and narrative techniques and analysis of qualitative data.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits
	ANTY 454 - Lithic Technology Offered autumn odd-numbered years. Prereq., ANTY 250S and consent of instr. Analysis of stone artifacts and debitage.	3 Credits
	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	ANTY 466 - Archaeological Survey (R-12) Prereq., ANTY 250S. Offered autumn. A field course in Montana archaeology.	1 To 12 Credits

	ANTY 476 - Methods for Native Languages (R-6) Offered Spring. In an effort to highlight promising methodologies that will advance the success of Native language acquisition and instruction, students will be exposed to an innovative methodology while being instructed in an Indigenous language.	3 Credits
	ANTY 495 - Field Experience: (R- 12) Offered intermittently. Prereq., consent of instr. Organized field experience in anthropology.	1 To 12 Credits
	LING 474 - Historical Linguistics Offered spring even-numbered years. Prereq., LING 470. An introduction to the study of language change over time. Topics include: methods for studying language change (the comparative method and internal reconstruction); types of language change (sound change, borrowing, analogical change, lexical, syntactic, and semantic change); and explanations for language change. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change. This course co-convenes with LING 574.	3 Credits
	LING 475 - Linguistic Field Methods Offered spring odd-numbered years. Prereq., LING 470. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a less commonly taught language. This course co-convenes with LING 575.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea II, III, IV

Rule: Complete 6 credits from 2 of 3 Subareas
Minimum Required Grade: C-
6 Total Credits Required

Subarea II: Human Adaptation and Diversity

Rule: Complete one of the following

	Course	Credits
	ANTY 122S - Race and Minorities Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.	3 Credits
	ANTY 133H - Food and Culture Offered spring. Examination of the ways culture shapes the satisfaction of a biological need; food production, preparation, choices, customs, taste, taboos, beverages, spices and food distribution around the globe.	3 Credits
	ANTY 211N - Anthropological Genetics Offered intermittently. Genetics-related problems that confront individuals and society. Variation and natural selection in human populations. Designed for non-biology majors.	3 Credits

	ANTY 310 - Human Variation Offered autumn. Prereq., ANTY 210N or consent of instr. Introduction to human biological variation, and to the methods and theories that are used to explain the distribution of variable features.	3 Credits
	ANTY 333 - Culture and Population Offered autumn, even-numbered years. The relationship between population processes and culture to the human condition; survey data, methodologies, theories of demographic and culture change.	3 Credits
	ANTY 418 - Evol and Genet Var Human Pops Offered spring. Prereq. ANTY 310. Human genetic variation examined from a molecular perspective. Emphasis on the role of infectious disease and other factors as a selective factor in human evolution and exploration of the implications of these associations for human genetic variation.	3 Credits
	ANTY 426 - Culture, Health and Healing Offered autumn. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.	3 Credits
	LING 375X - Endangered Languages Offered intermittently. Survey of endangered languages and the communities in which those endangered languages are spoken. Topics to be addressed include linguistic diversity, language endangerment, language shift and loss, language maintenance efforts, and prospects for the future of these languages.	3 Credits
	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea III: World Societies and Cultures

Rule: Complete one of the following

	Course	**Credits**
	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	ANTY 241H - Central Asian Culture and Civ Offered autumn even numbered years. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits

	ANTY 251H - Foundations of Civilization Offered intermittently. Focus on the worldwide evolution of human society from Stone Age hunter-gatherers to the beginnings of modern civilization. Approached through the colorful and exciting world of archaeologists and the sites they excavate.	3 Credits
	ANTY 254H - Arch Wonders of the World Offered spring even numbered years. This course highlights the classical civilizations of the ancient world, fields such as Egyptology and Classical Archaeology, and the major archaeological discoveries which are associated with them.	3 Credits
	ANTY 323 - Native People of Montana Offered spring. The history and culture of the Indian tribes in Montana.	3 Credits
	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	ANTY 347 - Central Asia and Its Neighbors Offered intermittently. Analysis of the human communities and cultures of Central and Southwest Asia, with particular emphasis on the importance of relationships with neighboring countries and civilizations since ancient times.	3 Credits
	ANTY 351H - Archaeology of North America Offered autumn. The origins, backgrounds and development of Pre-Columbian American peoples and cultures.	3 Credits
	ANTY 352X - Archaeology of Montana Offered spring. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions.	3 Credits
	ANTY 353 - PaleoIndian Archaeology Offered spring or winter, even-numbered years. Examines archaeological, linguistic, biological and skeletal data to determine from where and when Native Americans arrived in North America. Examines archaeological sites from such diverse places as Montana, Siberia, Virginia, and Chile to answer the most intriguing question in contemporary American archaeology today: how, when and from where did people first arrive in the Americas?	3 Credits
	ANTY 354H - Mesoamerican Prehistory Offered spring odd-numbered years. The development of civilization and prehistoric states in the New World. Prehistoric lifeways and the effects of European contact on these cultures.	3 Credits
	ANTY 442 - Cities/Landscapes Central Asia Offered spring odd numbered years. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.	3 Credits
	ANTY 444 - Artistic Tradtns Central Asia Offered autumn odd-numbered years. Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits

	ANTY 457 - Arch of the Pacific Northwest Offered autumn odd-numbered years. Introduction to the study of archaeology in the Pacific Northwest region inclusive of the Northwest Coast and Columbia/Fraser-Thompson Plateau. Understanding hunter-gatherer adaptations, evolution of social complexity, and ancient history of contemporary native peoples in the region.	3 Credits
	ANTY 459 - Archof the Arctic/Subarctic Offered spring even-numbered years. Introduction to the study of Arctic and Subarctic archaeology emphasizing the Pleistocene and Holocene prehistory of North America and eastern Siberia. Understanding of methodological problems associated with archaeology in a northern context, the evolution of Inuit, Eskimo, Aleut and Athapaskan cultures, and hunter-gatherer adaptations to northern interior and coastal environments.	3 Credits
	ANTY 465 - Arch of the SW United States Offered autumn even-numbered years. The development of the prehistoric communities in the southwestern United States from ancient times to the dawn of history in the area.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea IV: Concepts and Issues

Rule: Complete one of the following

	Course	Credits
	ANTY 216 - Primates in Peril Offered intermittently. An overview of the living primates and their behavior with a focus on conservation issues that have an impact on primates.	3 Credits
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits
	ANTY 326E - Indigenous Peoples & Globl Dev Offered spring odd-numbered years. This class will examine the impact of global development on tribal and Indigenous peoples. Topics will include land issues, health, employment, and cultural change caused by global development and explore how these societies are resisting and adapting to their changing world.	3 Credits
	ANTY 336 - Myth, Ritual and Religion Offered autumn odd-numbered years. Theories and practices concerning supernatural phenomena, and the comparative study of world religions and cosmological traditions of indigenous peoples throughout the world.	3 Credits
	ANTY 349 - Social Change in NnWstrn Socts Offered autumn, odd-numbered years. Study of the processes of change, modernization and development.	3 Credits

	ANTY 422 - Mind, Culture and Society Offered autumn even-numbered years. Prereq., ANTY 220S or consent of instr. The study of socialization, personality, cognition, and mental health cross-culturally.	3 Credits
	ANTY 423 - Culture and Identity Offered spring. The comparative study of identity formation along and across racial, ethnic, and ethno-national lines. Emphasis on issues of ethnogenesis, cultural resistance, transformation, domination, colonialism as well as sharing to understand both the cultural commonalties and differences in identity formation.	3 Credits
	ANTY 427 - Anthropology of Gender Offered spring. Comparative study of the history and significance of gender in social life.	3 Credits
	ANTY 435 - Drugs, Culture and Society Offered intermittently. Drug use in a cross-cultural perspective. The role of drugs in cultural expression and social interaction. Examination of the prehistory of drug use, drug use in traditional non-Western and Western societies, and drug use in the context of global sociocultural change.	3 Credits
	ANTY 440 - Contemporary Issues of SE Asia Offered intermittently. Prereq., ANTY 102H. An examination of the major issues that affect the contemporary experience of South and Southeast Asians.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 477 - Bilingualism Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits
	NASX 306X - Contemp Global Iss Indg People Offered Autumn. An examination of the major issues that affect the contemporary experiences of Indigenous Peoples of the Americas, and other global communities.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Forensic Anthropology Option

Rule: Must complete the following subcategories

15-16 Total Credits Required

Option Requirements

Rule: Complete the following courses

	Course	Credits
	ANTY 310 - Human Variation Offered autumn. Prereq., ANTY 210N or consent of instr. Introduction to human biological variation, and to the methods and theories that are used to explain the distribution of variable features.	3 Credits
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Option Electives

Rule: A 400-level course with a lab or field component in physical anthropology, archaeology, non-human osteology, geographic information systems (GIS), subsurface imaging, chemical analysis, genetic/evolutionary analysis, or multivariate statistics. Minimum grade C-.

Anthropology Department

Tully J. Thibeau, Chair

Anthropology is the study of people, both ancient and contemporary, in their biological, archaeological, cultural, and linguistic context. Anthropology uses a holistic approach to integrate findings from the social sciences, natural sciences, and humanities. The primary educational mission of the Department of Anthropology is teaching, research, and professional service in order to impart the critical importance of understanding the human condition and its relevance to an increasingly diverse world. To accomplish this task, the Department of Anthropology provides a curriculum that will help students understand and appreciate the range of human cultures as well as the significance of biological evolution of the human condition. Through our undergraduate and graduate programs, students not only achieve a broad cross-cultural education but also prepare to apply their anthropological knowledge in their chosen career paths. A minor, Bachelor of Arts, Master of Arts, and Doctor of Philosophy degrees are offered in Anthropology, with options or specializations available at every level. For undergraduates, the B.A. can include an option in Archaeology, Cultural and Ethnic Diversity, Forensic Anthropology, Linguistics, Medical Anthropology - or a general degree crafted to the interests of the student. Parallel missions to promote the study of human diversity and experience are advanced by the Linguistics Program, which is also housed in the Department. Additional offerings include certificates in Forensic Science and Historic Preservation; these certificates are interdisciplinary by nature, but are administered within the Anthropology Department.

Department Faculty

Professors

Gregory Campbell, Professor
Kelly Dixon, Professor
John Douglas, Professor
S. Neyooxet Greymorning, Professor
Ardeshir Kia, Associate Director, Central and Southwest Asia Program

Douglas MacDonald, Professor & Graduate Program Coordinator
Kimber Haddix McKay, Professor
Mizuki Miyashita, Professor, Linguistics Program Director
Anna Prentiss, Professor
Gilbert Quintero, Professor
Randall Skelton, Professor
G.G. Weix, Professor

Associate Professors

Irene Appelbaum, Associate Professor
Leora Bar-el, Associate Professor
Tully Thibeau, Associate Professor, Dept.Chair

Assistant Professors

Ashley Kendell, Visiting Assistant Professor
Meradeth Snow, Assistant Professor

Lecturers

D. Garry Kerr, Adjunct Instructor
Richard Sattler, Adjunct/Lecturer

Emeritus Professors

Thomas A. Foor, Professor Emeritus

Anthropology

Back to Top

- ANTY 101H - Anthro & the Human Experience
  Credits: 3. Offered autumn and spring. Offered intermittently in summer. A survey of anthropology which introduces the fundamental concepts, methods and perspectives of the field. The description and analysis of human culture, its growth and change. The nature and functions of social institutions. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)
- ANTY 102H - Intro to South & S. East Asia
  Credits: 3. Offered intermittently. An introduction to South and Southeast Asian regions, cultures, societies, and histories, with particular emphasis on artistic, religious and literary traditions from prehistory to the present. Countries include India, Indonesia, Vietnam, Thailand, Sri Lanka, Pakistan and Nepal. An overview approach with different materials and emphases. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)
- ANTY 103H - Intro Latin American Studies
  Credits: 3. Offered intermittently. Multidisciplinary survey and introduction to Latin America from pre- Columbian times to the present. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)
- ANTY 104 - Ancient Migrations
  Credits: 3. Offered intermittently. An exploration of migrations in human prehistory and history as known from DNA studies, the archaeological record, historical linguistics, the human fossil record and history. How these migrations have impacted the culture, institutions, and biology of contemporary societies and populations.
- ANTY 122S - Race and Minorities
  Credits: 3. Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups. Course Attributes: Social Sciences Course (S) Democracy and Citizenship (Y)
- ANTY 133X - Food and Culture

Credits: 3. Offered spring. Examination of the ways culture shapes the satisfaction of a biological need; food production, preparation, choices, customs, taste, taboos, beverages, spices and food distribution around the globe. Course Attributes: Cultural Intl Diversity (X)

- ANTY 141H - The Silk Road

  Credits: 3. Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)

- ANTY 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ANTY 198 - Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, and 498) may count toward graduation. Course Attributes: Internships/Practicums

- ANTY 210N - Intro to Physical Anthropology

  Credits: 3. Offered autumn and spring. An introduction to human evolutionary biology including processes of evolution, primate studies, hominid paleontology, and human variation. Course Attributes: Natural Science Course (N)

- ANTY 211N - Anthropological Genetics

  Credits: 3. Offered intermittently. Genetics-related problems that confront individuals and society. Variation and natural selection in human populations. Designed for non-biology majors. Course Attributes: Natural Science Course (N)

- ANTY 213N - Physical Anthropology Lab

  Credits: 1. Prereq., or coreq., ANTY 210N. Offered autumn and spring. This lab course allows students to more deeply explore the concepts and materials covered in Introduction to Physical Anthropology. Students will engage in lab based activities involving human genetics and processes of evolution, biology and behavior of non-human primates, human evolution, and modern human adaptation and variation. Course Attributes: Natural Science Lab Course (N)
  Natural Science Course (N)

- ANTY 216 - Primates in Peril

  Credits: 3. Offered intermittently. An overview of the living primates and their behavior with a focus on conservation issues that have an impact on primates.

- ANTY 220S - Culture & Society

  Credits: 3. Offered autumn and spring. Study of social organization of non-western societies; emphasis on variations in ecology, social structure, economic, political and religious beliefs and practices. Course Attributes: Social Sciences Course (S) Cultural Intl Diversity (X)

- ANTY 241H - Central Asian Culture and Civ

  Credits: 3. Offered autumn even numbered years. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)

- ANTY 250S - Intro to Archaeology

  Credits: 3. Offered autumn and spring. What archaeologists do and how they reconstruct past human cultures. Methodological and theoretical approaches to understanding and explaining past human societies. Course Attributes: Social Sciences Course (S)

- ANTY 251H - Foundations of Civilization

  Credits: 3. Offered intermittently. Focus on the worldwide evolution of human society from Stone Age hunter-gatherers to the beginnings of modern civilization. Approached through the colorful and exciting world of archaeologists and the sites they excavate. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)

- ANTY 254H - Arch Wonders of the World

Credits: 3. Offered spring even numbered years. This course highlights the classical civilizations of the ancient world, fields such as Egyptology and Classical Archaeology, and the major archaeological discoveries which are associated with them. Course Attributes: Hist & Cultural Studies (H) Writing Course-Intermediate Cultural Intl Diversity (X)

- ANTY 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings relating to current problems or new developments in the discipline.

- ANTY 310 - Human Variation

  Credits: 3. Offered autumn. Prereq., ANTY 210N or consent of instr. Introduction to human biological variation, and to the methods and theories that are used to explain the distribution of variable features. Course Attributes: Writing Course-Intermediate

- ANTY 312 - Human Evolution

  Credits: 3. Offered autumn. Prereq., ANTY 210N. An exploration of the fossil and archaeological records of the evolution of human beings, and of current methods and theories used in interpreting these data.

- ANTY 314 - Principles of Forensic Anthro

  Credits: 3. Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.

- ANTY 318 - Casting & Facial Approximation

  Credits: 3. Offered spring. Prereq., ANTY 314 and consent of instr. An exploration of techniques for conservation and replication of skeletal elements, facial reconstruction, and other techniques for identification of individuals from their skeletal remains.

- ANTY 323 - Native People of Montana

  Credits: 3. Offered spring. The history and culture of the Indian tribes in Montana.

- ANTY 323X - Native Peoples of Montana

  Credits: 3. Offered spring. The history and culture of the Indian tribes in Montana. Course Attributes: Cultural Intl Diversity (X)

- ANTY 326E - Indigenous Peoples & Globl Dev

  Credits: 3. Offered spring odd-numbered years. This class will examine the impact of global development on tribal and Indigenous peoples. Topics will include land issues, health, employment, and cultural change caused by global development and explore how these societies are resisting and adapting to their changing world. Course Attributes: Ethical & Human Values Course Cultural Intl Diversity (X)

- ANTY 330X - Peoples and Cultures of World

  Credits: 3. (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures. Course Attributes: Cultural Intl Diversity (X)

- ANTY 333 - Culture and Population

  Credits: 3. Offered autumn, even-numbered years. The relationship between population processes and culture to the human condition; survey data, methodologies, theories of demographic and culture change.

- ANTY 336 - Myth, Ritual and Religion

  Credits: 3. Offered autumn odd-numbered years. Theories and practices concerning supernatural phenomena, and the comparative study of world religions and cosmological traditions of indigenous peoples throughout the world.

- ANTY 347 - Central Asia and Its Neighbors

  Credits: 3. Offered intermittently. Analysis of the human communities and cultures of Central and Southwest Asia, with particular emphasis on the importance of relationships with neighboring countries and civilizations since ancient times.

- ANTY 349 - Social Change in NnWstrn Socts

  Credits: 3. Offered autumn, odd-numbered years. Study of the processes of change, modernization and development.

- ANTY 351H - Archaeology of North America

  Credits: 3. Offered autumn. The origins, backgrounds and development of Pre-Columbian American peoples and cultures. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)

- ANTY 352X - Archaeology of Montana

  Credits: 3. Offered spring. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions. Course Attributes: Cultural Intl Diversity (X)

- ANTY 353 - PaleoIndian Archaeology

  Credits: 3. Offered spring or winter, even-numbered years. Examines archaeological, linguistic, biological and skeletal data to determine from where and when Native Americans arrived in North America. Examines archaeological sites from such diverse places as Montana, Siberia, Virginia, and Chile to answer the most intriguing question in contemporary American archaeology today: how, when and from where did people first arrive in the Americas?

- ANTY 354H - Mesoamerican Prehistory

  Credits: 3. Offered spring odd-numbered years. The development of civilization and prehistoric states in the New World. Prehistoric lifeways and the effects of European contact on these cultures. Course Attributes: Hist & Cultural Studies (H)

- ANTY 391 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ANTY 398 - Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., 9 credits in anthropology; consent of faculty supervisor and cooperative education officer. Practical application of classroom learning through internship in a number of areas such as museology, cultural resource management, and forensics. A maximum of 6 credits of Internship (198, 298, 398, and 498) may count toward graduation. Course Attributes: Internships/Practicums

- ANTY 400 - History of Anthropology

  Credits: 3. Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.

- ANTY 401 - Anthropological Data Analysis

  Credits: 3. Offered autumn. Prereq., M 104, M 105, M 115, M 121, M 122, M 135, M 151 or consent of instr. An analysis of the foundations of anthropological scaling and measurement.

- ANTY 402 - Quan Ethnographic Field Methds

  Credits: 3. Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats. Course Attributes: Writing Course-Advanced

- ANTY 403E - Ethics and Anthropology

  Credits: 3. Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology. Course Attributes: Ethical & Human Values Course

- ANTY 404 - Anthropological Museology

  Credits: 3. Offered spring even-numbered years. Prereq., ANTY 101H. Introduction to anthropological museums, museum work and museum theory.

- ANTY 408 - Advanced Anthro Statistics

  Credits: 3. Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis. Course Attributes: Writing Course-Advanced

- ANTY 409 - Preceptorship in Anthropology

  Credits: 1 TO 3. (R-6) Offered autumn and spring. Prereq., ANTY 210N, 220S, 250S and consent of instr. Assisting a faculty member by tutoring, grading objective exams, conducting review sessions,

and carrying out other class-related responsibilities. Open to juniors, senior, and graduate students with consent of the faculty member with whom they serve. Proposals must be approved by department chair.

- ANTY 412 - Osteology

  Credits: 4. Offered autumn. Prereq., ANTY 314 and consent of instr. A detailed examination of the human skeleton with an emphasis on identifying individual bones and their structures. Specifically extended to fragmentary skeletal elements. Direct hands-on experience required.

- ANTY 413 - Forensic and Mortuary Arch

  Credits: 3. Offered spring. Prereq., ANTY 314 and consent of instr. Practical approaches to locating, documenting and recovering human skeletal remains, including surface scatters and burials. Emphasis on interpretations of evidence for recovery scene formation and mortuary behavior.

- ANTY 415 - Emergence Modern Humans

  Credits: 3. Offered spring. Prereq., ANTY 210N. An exploration of the emergence of "modern" humans and their relationships with Neanderthals. Exploration of what it means to be "a modern human" through an examination of human evolutionary history.

- ANTY 416 - Dental Anthropology

  Credits: 3. Offered intermittently. Prereq., ANTY 210N. The use of information from teeth in investigating evolutionary trends, the relationships between human groups, subsistence change, and culture change.

- ANTY 418 - Evol and Genet Var Human Pops

  Credits: 3. Offered spring. Prereq. ANTY 310. Human genetic variation examined from a molecular perspective. Emphasis on the role of infectious disease and other factors as a selective factor in human evolution and exploration of the implications of these associations for human genetic variation.

- ANTY 422 - Mind, Culture and Society

  Credits: 3. Offered autumn even-numbered years. Prereq., ANTY 220S or consent of instr. The study of socialization, personality, cognition, and mental health cross-culturally.

- ANTY 423 - Culture and Identity

  Credits: 3. Offered spring. The comparative study of identity formation along and across racial, ethnic, and ethno-national lines. Emphasis on issues of ethnogenesis, cultural resistance, transformation, domination, colonialism as well as sharing to understand both the cultural commonalties and differences in identity formation.

- ANTY 426 - Culture, Health and Healing

  Credits: 3. Offered autumn. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.

- ANTY 427 - Anthropology of Gender

  Credits: 3. Offered spring. Comparative study of the history and significance of gender in social life.

- ANTY 430 - Social Anthropology

  Credits: 3. Offered spring even-numbered years. Seminar style senior capstone course for cultural anthropology students. This course focuses on bringing theory and methods together in written and visual ethnography. Course Attributes: Writing Course-Advanced

- ANTY 431 - Ethnographic Field Methods

  Credits: 3. Offered spring odd-numbered years. Prereq., ANTY 220S or consent of instr. Introduction to socio-cultural anthropological methods including participant observation, interviewing and narrative techniques and analysis of qualitative data.

- ANTY 432 - Med Anth Global Health

  Credits: 2. Offered intermittently. The course is designed to enhance student understanding of ‘global health’ from the perspective of medical anthropologists and clinicians involved in health care delivery in many settings in the developing world. Students will read broadly in medical anthropology, and will hear the real-life perspectives of health development program designers, project managers, and clinicians.

- ANTY 433 - Indig Global Health & Healing

Credits: 3. Offered spring even-numbered years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.

- ANTY 435 - Drugs, Culture and Society

  Credits: 3. Offered intermittently. Drug use in a cross-cultural perspective. The role of drugs in cultural expression and social interaction. Examination of the prehistory of drug use, drug use in traditional non-Western and Western societies, and drug use in the context of global sociocultural change.

- ANTY 440 - Cont. Issues of SSEA

  Credits: 3. Offered intermittently. Prereq., ANTY 102H. An examination of the major issues that affect the contemporary experience of South and Southeast Asians.

- ANTY 442 - Cities/Landscapes Central Asia

  Credits: 3. Offered spring odd numbered years. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.

- ANTY 444 - Artistic Tradtns Central Asia

  Credits: 3. Offered autumn odd-numbered years. Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.

- ANTY 450 - Archaeological Theory

  Credits: 3. Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology. Course Attributes: Writing Course-Advanced

- ANTY 451 - Cultural Resource Management

  Credits: 3. Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.

- ANTY 452 - GIS in Archaeology

  Credits: 3. Offered intermittently. Prereq., ANTY 250s. Anthropological and archaeological data acquisition, management, and analysis using Geographic Information Systems (GIS) tools and techniques.

- ANTY 454 - Lithic Technology

  Credits: 3. Offered autumn odd-numbered years. Prereq., ANTY 250S and consent of instr. Analysis of stone artifacts and debitage.

- ANTY 455 - Artifact Analysis

  Credits: 3. Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives. Course Attributes: Writing Course-Advanced

- ANTY 456 - Historical Archaeology

  Credits: 3. Offered spring. Prereq., ANTY 250S or consent of instr. Understanding and interpreting the past through historical archaeological remains, methods, and theories. Focuses on historical archaeological sites and topics from the American West, but also examines the field's global perspective.

- ANTY 457 - Arch of the Pacific Northwest

  Credits: 3. Offered autumn odd-numbered years. Introduction to the study of archaeology in the Pacific Northwest region inclusive of the Northwest Coast and Columbia/Fraser-Thompson Plateau. Understanding hunter-gatherer adaptations, evolution of social complexity, and ancient history of contemporary native peoples in the region.

- ANTY 458 - Arch of Hunter-Gatherers

  Credits: 3. Offered autumn even-numbered years. Introduction to the archaeological study of hunter-gatherer societies. Primary emphasis on archaeological method and theory.

- ANTY 459 - Archof the Arctic/Subarctic

  Credits: 3. Offered spring even-numbered years. Introduction to the study of Arctic and Subarctic archaeology emphasizing the Pleistocene and Holocene prehistory of North America and eastern

Siberia. Understanding of methodological problems associated with archaeology in a northern context, the evolution of Inuit, Eskimo, Aleut and Athapaskan cultures, and hunter-gatherer adaptations to northern interior and coastal environments.

- ANTY 465 - Arch of the SW United States

  Credits: 3. Offered autumn even-numbered years. The development of the prehistoric communities in the southwestern United States from ancient times to the dawn of history in the area.

- ANTY 466 - Archaeological Survey

  Credits: 1 TO 12. (R-12) Prereq., ANTY 250S. Offered autumn. A field course in Montana archaeology.

- ANTY 467 - Archaeological Field School

  Credits: 3 TO 12. (R-12) Offered summer. Prereq., ANTY 250S and consent of instructor. Provides students with a well-rounded experience in archaeological field methods. Field schools will typically occur at archaeological site locations away from campus. During the archaeological field experience, students may learn methods of excavation, survey, research, and analysis to facilitate their transition to careers as professional archaeologists.

- ANTY 476 - Methods for Native Languages

  Credits: 3. (R-6) Offered Spring. In an effort to highlight promising methodologies that will advance the success of Native language acquisition and instruction, students will be exposed to an innovative methodology while being instructed in an Indigenous language.

- ANTY 491 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ANTY 492 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- ANTY 494 - Seminar/Workshop

  Credits: 3. Offered spring even-numbered years. Advanced analysis of historical and contemporary issues involving human communities, cultures, and economies of a particular region, and that region’s role in the world.

- ANTY 495 - Field Experience:

  Credits: 1 TO 12. (R- 12) Offered intermittently. Prereq., consent of instr. Organized field experience in anthropology. Course Attributes: Internships/Practicums

- ANTY 500 - Cont Anthro Thought

  Credits: 3. Offered autumn. Prereq., graduate standing or consent of instructor. A review of major contributions to current anthropological theory, with an emphasis on the application of theory to anthropological problems. Significant advances in general theory, symbolic anthropology, critical theory, cultural studies, and postmodernism. Level: Graduate

- ANTY 501 - Historical Anthropology

  Credits: 3. Offered spring even numbered years. The location, use, and value of written records in anthropological research. Level: Graduate

- ANTY 510 - Sem Human Var & Evol

  Credits: 3. (R-6) Offered autumn. Prereq., ANTY 515. Various topics related to genetic evidence of human biological evolution, morphological and genetic diversity of modern humans, and problems of "race". Level: Graduate

- ANTY 512 - Adv Forensic Anthropology

  Credits: 3. (R-6) Offered spring. Prereq., ANTY 515 and consent of instr. Review of traditional methods and exploration of new methods of skeletal analysis, as applied to cases from the forensic collection. Level: Graduate

- ANTY 513 - Sem Bioarch & Skel Biol

  Credits: 3. (R-6) Offered spring. Prereq., ANTY 515 or consent of instructor. Theoretical and methodological approaches to the analysis of human skeletal remains derived from archaeological contexts. Demography, health and disease, diet and nutrition, growth, activity patterns, and measures of biological relatedness are interpreted within a biocultural framework. Level: Graduate

- ANTY 514 - Sem Paleoanth & Evol Analy

  Credits: 3. (R-6) Offered intermittently. Prereq., ANTY 515 or consent of instructor. Exploration of selected aspects of the human fossil, archaeological, & genetic records and the theories and methods of evolutionary analysis used to analyze them. Level: Graduate

- ANTY 515 - Theor & Meth in Bioanth

  Credits: 3. Offered autumn. A detailed review of the body of theory that is foundational for the study of human evolution, human variation, bioarchaeology, forensic anthropology, and primatology, along with a consideration of major methods used to analyze data in these fields. Level: Graduate

- ANTY 520 - Contemporary Ethnography

  Credits: 3. Offered autumn. A review and discussion of current ethnographic research. Level: Graduate

- ANTY 521 - Applied Anthropology

  Credits: 3. Offered spring odd-numbered years. Study of ways in which anthropological skills may be used in non-academic fields. Level: Graduate

- ANTY 522 - Medical Anthropology

  Credits: 3. Offered intermittently. An examination of selected issues and trends in contemporary theory and methodology within medical anthropology. Seminar assignments and discussions focus on understanding the application of anthropological concepts and methods in medical settings and are organized around several topics, including cultural conceptualizations of health, illness and risk; global health; the social and cultural construction of illness; drug and pharmaceutical use; and mental health in cultural context. Level: Graduate

- ANTY 550 - Seminar in Archaeology

  Credits: 3. Offered autumn odd-numbered years. A review and discussion of current research. Topics vary. Level: Graduate

- ANTY 551 - Sem Historical Archaeology

  Credits: 3. Offered autumn odd-numbered years. An exploration of theories, methods, and literature in historical archaeology. Level: Graduate

- ANTY 553 - Evolutionary Archaeology

  Credits: 3. Offered autumn even-numbered years. Examination of method and theory in Darwinian evolutionary archaeology. Seminar assignments and discussions focus on human behavioral ecology, cultural transmission, and macroevolution. Level: Graduate

- ANTY 593 - Professional Project

  Credits: 1 TO 10. (R-10) Offered every term. Prereq., consent of instr. Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate

- ANTY 595 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
  Course Attributes: Internships/Practicums

- ANTY 596 - Independent Study

  Credits: 1 TO 9. (R-9) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course Attributes: Independent Study

- ANTY 597 - Research

  Credits: 1 TO 10. (R-10) Offered every term. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate

- ANTY 598 - Internship

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., graduate standing and consent of faculty supervisor. Practical application of classroom learning through internship in a number of areas such as museology, cultural resource management and forensics. Written reports are required. Level: Graduate Course Attributes: Internships/Practicums

- ANTY 599 - Thesis

Credits: 1 TO 10. (R-10) Offered every term. Prereq., consent of instr. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

- ANTY 600 - Issues Cultural Herit

  Credits: 3. Offered autumn. Prereq., consent of instr. Doctoral dissertation research activties.A review of the range of topics that fall under the umbrella of cultural heritage and a review of theory and practice in one or more of these topics. Level: Graduate

- ANTY 601 - Resrch Design & Proposal Prep

  Credits: 3. Offered spring. Prereq., graduate standing. Seminar in the development of anthropological research designs and proposals. Level: Graduate

- ANTY 602 - Cultl Herit Policy & Pract

  Credits: 3. Offered spring odd-numbered years. Prereq., graduate standing. Exploration of critical issues in cultural heritage policy emphasizing the regulatory basis for federal CRM, public anthropology, and indigenous people's issues. Hands-on training in the design and production of federal planning documents. Level: Graduate

- ANTY 694 - Seminar Cultural Heritage

  Credits: 1 TO 6. (R-6) Offered intermittently. A review and discussion of current research. Topics vary. Level: Graduate

- ANTY 697 - Advanced Research

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Independent research projects, other than dissertation. Level: Graduate

- ANTY 699 - Dissertation

  Credits: 1 TO 10. (R-10) Offered every term. Doctoral dissertation research activities. Level: Graduate

Criminal Justice

Back to Top

- CJUS 125N - Fund of Forensic Science

  Credits: 3. Offered autumn and online spring. A survey of the forensic sciences and related disciplines and their use in criminal investigations, the role of forensic scientists in the investigative process and as expert witnesses. Course Attributes: Natural Science Course (N)

- CJUS 488 - For Sci Crime Lab & Beyond

  Credits: 3. Offered spring and online in autumn. Examination of the forensic sciences with emphases on the non-crime lab forensic sciences, new technologies, and new directions in the forensic sciences.

English as a Second Language

Back to Top

- EASL 195 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- EASL 250 - Interm Eng Acad Purpose I

  Credits: 3. Offered autumn and spring. Prereq., 525 to 549 on the Paper-Based TOEFL or equivalent. Concentration on academic tasks prompting comprehension of evidence offered to support opinion; gathering facts to be stated in narrative/descriptive patterns is emphasized as distinct from practicing summary exposition. This course is highly recommended to all international students with TOEFL scores between 525 and 549. Student Option Grade Mode (traditional or credit/no credit).

- EASL 251 - Inter Eng Acad Purposes II

  Credits: 3. Offered autumn and spring. Prereq., 525 to 549 on the Paper-Based TOEFL or equivalent. Concentration on academic tasks guiding identification of main ideas underlying formal speech (broadcasts, lectures, interviews); recognition of intent of discussion and status of

detail therein bearing on readings is emphasized. This course is highly recommended to all international students with TOEFL scores between 525 and 549. Student Option Grade Mode (traditional or credit/no credit).

- EASL 450 - Adv Eng Acad Purposes I

  Credits: 3. Offered autumn and spring. Prereq., 550 to 574 on the Paper-Based TOEFL or equivalent. Concentration on academic tasks prompting the collection and comprehension of evidence used to draw inferences regarding debatable issues; explanation of connection between evidence and inference is emphasized. This course is highly recommended to all international students with TOEFL scores between 550 and 574. Student Option Grade Mode (traditional or credit/no credit).

- EASL 451 - Adv Eng Acad Purposes II

  Credits: 3. Offered autumn and spring. Prereq., 550 to 574 on the Paper-Based TOEFL or equivalent. Concentration on academic tasks obliging comprehension of main ideas/details furnished in spoken media (broadcasts, lectures, discussions); detection of intended message and essential facts related to readings is emphasized.This course is highly recommended to all international students with TOEFL scores between 550 and 574. Student Option Grade Mode (traditional or credit/no credit).

Historic Preservation

Back to Top

- HPRV 400 - Historic Preservation

  Credits: 3. Offered spring even-numbered years. This course is intended to provide a comprehensive foundation to historic preservation practice and issues.Topics include the history and theory of the American historic preservation movement, identification and documentation of historic properties, preservation technology, strategies for conservation of historic resources and a critical examination of the philosophy and principles of preservation.

Linguistics

Back to Top

- LING 191 - Special Topics

  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- LING 198 - Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- LING 270S - Introduction to Linguistics

  Credits: 3. Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning. Course Attributes: Social Sciences Course (S)

- LING 375X - Endangered Languages

  Credits: 3. Offered intermittently. Survey of endangered languages and the communities in which those endangered languages are spoken. Topics to be addressed include linguistic diversity, language endangerment, language shift and loss, language maintenance efforts, and prospects for the future of these languages. Course Attributes: Cultural Intl Diversity (X)

- LING 391 - Special Topics

  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- LING 398 - Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services

office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- LING 465 - Structure & History of English

  Credits: 3. Offered once per year. The development of the English language from a historical perspective contrasted with the phonological and grammatical structure of English from a modern linguistic point of view; specifically designed for teachers.

- LING 470 - Linguistic Analysis

  Credits: 3. Offered autumn. An in-depth examination of the formal properties of language, concentrating on the core areas of linguistic analysis (phonetics, phonology, morphology, syntax and semantics).

- LING 471 - Phonetics and Phonology

  Credits: 3. Offered autumn. Prereq., LING 470. A study of phonetic and phonological systems from as many as 20 languages, most of them non–Indo–European; training in how to do linguistic analysis as well as linguistic theory. This course co-convenes with LING 571. Course Attributes: Co-Convened Course

- LING 472 - Generative Syntax

  Credits: 3. Offered autumn. Prereq., LING 470. A study of the human language sentence–formation system, the means for expressing semantic information as propositional content. Emphasis on the abstraction of utterances in the form of mathematical objects. This course co-convenes with LING 572. Course Attributes: Co-Convened Course

- LING 473 - Language and Culture

  Credits: 3. Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573. Course Attributes: Co-Convened Course Writing Course-Advanced

- LING 474 - Historical Linguistics

  Credits: 3. Offered spring even-numbered years. Prereq., LING 470. An introduction to the study of language change over time. Topics include: methods for studying language change (the comparative method and internal reconstruction); types of language change (sound change, borrowing, analogical change, lexical, syntactic, and semantic change); and explanations for language change. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change. This course co-convenes with LING 574. Course Attributes: Co-Convened Course

- LING 475 - Linguistic Field Methods

  Credits: 3. Offered spring odd-numbered years. Prereq., LING 470. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a less commonly taught language. This course co-convenes with LING 575. Course Attributes: Co-Convened Course

- LING 477 - Bilingualism

  Credits: 3. Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.

- LING 478 - Learner Language

  Credits: 3. Offered spring. Prereq., LING 270S or equivalent. Observing/describing language learners' behaviors and, to a degree, advances toward proficiency (i.e., fluency plus accuracy); the presence of error as conditioned by a priori knowledge of language and implications for child and adult development; and applying typical methods of linguistic analysis to the (non-) systematic variants in language form characterizing developmental processes as a way of trying to explain variable behavior.

- LING 480 - Tchg Engl as For Lang

  Credits: 3. Offered autumn online. Prereq., LING 270 or equiv. Same as ENLI 480. The application of principles of modern linguistics to the problems of teaching English as a foreign language.

- LING 484 - NA Indigenous Lang & Ling

  Credits: 3. Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584. Course Attributes: Co-Convened Course Writing Course-Advanced

- LING 489 - Morphology

  Credits: 3. Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589. Course Attributes: Co-Convened Course

- LING 491 - Special Topics

  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- LING 492 - Independent Study

  Credits: 1 TO 9. (R–9) Offered intermittently. Prereq., consent of instr. Special projects in linguistic analysis.

- LING 494 - Seminar

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., LING 270 or LING 470. A review and discussion of advanced topics covering descriptive linguistics, linguistic theory and subjects related to the analysis of human languages.

- LING 495 - ESL Practicum

  Credits: 1 TO 3. Offered autumn and spring. Prereq., or coreq., LING 480. Offered every term. Students with a teaching major take the course for 3 credits; others take it for 1 credit and do one third of the work.

- LING 498 - Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- LING 559 - Preceptorship

  Credits: 1. (R–4) Offered autumn and spring. Prereq., consent of instr. Materials development, assessment and evaluation of learners' needs and interests in teaching English as an academic second Language to international students attending universities with English instruction. Level: Graduate

- LING 570 - Seminar in Linguistics

  Credits: 3. (R–12) Offered autumn and spring. Advanced topics in linguistic analysis. Level: Graduate

- LING 571 - Phonetics and Phonology

  Credits: 3. Offered autumn. A study of phonetic and phonological systems from as many as 20 languages, most of them non–Indo–European; training in how to do linguistic analysis as well as linguistic theory. This course co-convenes with LING 471. Graduate students taking LING 571 will complete additional requirements and their work will be of a more advanced nature. Level: Graduate Course Attributes: Co-Convened Course

- LING 572 - Generative Syntax

  Credits: 3. Offered autumn. Prereq., LING 470 or equivalent.An investigation of human language sentence–formation systems, construed as functions (combinatorial computations) mapping utterances (physical sounds) to propositions (mental meanings). Emphasis on abstracting away from observable cross-linguistic data in favor of underlying formal (i.e., computational) structures. This course is co-convened with LING 472. Level: Graduate Course Attributes: Co-Convened Course

- LING 573 - Language and Culture

  Credits: 3. Offered spring. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 473. Graduate students will complete additional requirements and their work will be of a more advanced nature. Level: Graduate Course Attributes: Co-Convened Course

- LING 574 - Historical Linguistics

  Credits: 3. Offered spring even-numbered years. An introduction to the study of language change over time. Topics include:methods for studying language change (the comparative method and internal reconstruction); types of language change (sound change, borrowing, analogical change, lexical, syntactic, and semantic change); and explanations for language change. The principles of

historical reconstruction and comparative method in the analysis of linguistic variation and change. This course co-convenes with LING 474. Graduate students will complete additional requirements and their work will be of a more advanced nature. Level: Graduate Course Attributes: Co-Convened Course

- LING 575 - Linguistic Field Methods

  Credits: 3. Offered spring odd-numbered years. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a less commonly taught language. This courses co-convenes with LING 475. Graduate students will complete additional requirements and their work will be of a more advanced nature. Level: Graduate Course Attributes: Co-Convened Course

- LING 584 - NA Indigenous Lang and Ling

  Credits: 3. Offered autumn odd-numbered years. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 484. Graduate students will complete additional requirements and their work will be of a more advanced nature. Level: Graduate Course Attributes: Co-Convened Course

- LING 589 - Morphology

  Credits: 3. Offered spring. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 489. Graduate students taking LING 589 will complete additional requirements and their work will be of a more advanced nature. Level: Graduate Course Attributes: Co-Convened Course

- LING 595 - Special Topics

  Credits: 1 TO 9. (R–9) Offered intermittenly. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics. Level: Graduate Course Attributes: Internships/Practicums

- LING 596 - Independent Study

  Credits: 1 TO 3. (R–6) Offered intermittenly. Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course Attributes: Service Learning/Volunteer

- LING 598 - Internship

  Credits: 1 TO 6. (R–6) Offered intermittenly. Extended classroom experience which provides practical application of classroom learning during placements off campus. Level: Graduate Course Attributes: Internships/Practicums

- LING 599 - Professional Paper

  Credits: 1 TO 6. (R–6) Offered intermittenly. Preparation of a professional paper appropriate to the needs and objectives of the indiviumdual student. Level: Graduate

- LING 699 - Thesis

  Credits: 1 TO 6. (R–6) Offered autumn and spring. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

Archaeology

Bachelor of Arts - Anthropology; Archaeology Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.0

Note: For a degree in Anthropology with an option in Archeology, student must complete all the general major requirements, including a total of nine credits of Archeology Option core requirements. Note that in addition to fulfilling option requirements these ANTY courses also fulfill certain major requirements.

Lower Division Core Courses

Rule: Complete all courses

	Course	Credits
	ANTY 210N - Intro to Physical Anthropology Offered autumn and spring. An introduction to human evolutionary biology including processes of evolution, primate studies, hominid paleontology, and human variation.	3 Credits
	ANTY 220S - Culture & Society Offered autumn and spring. Study of social organization of non-western societies; emphasis on variations in ecology, social structure, economic, political and religious beliefs and practices.	3 Credits
	ANTY 250S - Intro to Archaeology Offered autumn and spring. What archaeologists do and how they reconstruct past human cultures. Methodological and theoretical approaches to understanding and explaining past human societies.	3 Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
Minimum Required Grade: C		12 Total Credits Required

Anthropology or Cognate Electives

Rule: Complete 12 credits.

Note: The student must complete six credits from one of the following allied disciplines (Biology, Geography, Geology) and six credits from one of the following allied disciplines(Computer Science, Environmental Studies, Forestry, History, Mathematical Sciences, or Native American Studies.

Minimum Required Grade: C

12 Total Credits Required

Upper Division Writing Requirement

Rule: Complete either an upper-division writing course from approved list in catalog, or one of the following courses listed below.

	Course	Credits
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits
	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits

	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits
	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits
	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea I-Theory and Methods

Rule: Complete 3 credits in Theory and 3 credits in Methods
Minimum Required Grade: C
6 Total Credits Required

Anthropological Theory

Rule: Complete one of the following

	Course	Credits
	ANTY 312 - Human Evolution Offered autumn. Prereq., ANTY 210N. An exploration of the fossil and archaeological records of the evolution of human beings, and of current methods and theories used in interpreting these data.	3 Credits
	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits
	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits
	ANTY 404 - Anthropological Museology Offered spring even-numbered years. Prereq., ANTY 101H. Introduction to anthropological museums, museum work and museum theory.	3 Credits
	ANTY 415 - Emergence Modern Humans Offered spring. Prereq., ANTY 210N. An exploration of the emergence of "modern" humans and their relationships with Neanderthals. Exploration of what it means to be "a modern human" through an examination of human evolutionary history.	3 Credits
	ANTY 430 - Social Anthropology Offered spring even-numbered years. Seminar style senior capstone course for cultural anthropology students. This course focuses on bringing theory and methods together in written and visual ethnography.	3 Credits
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 456 - Historic Archaeology Offered spring. Prereq., ANTY 250S or consent of instr. Understanding and interpreting the past through historical archaeological remains, methods, and theories. Focuses on historical archaeological sites and topics from the American West, but also examines the field's global perspective.	3 Credits
	ANTY 458 - Arch of Hunter-Gatherers Offered autumn even-numbered years. Introduction to the archaeological study of hunter-gatherer societies. Primary emphasis on archaeological method and theory.	3 Credits
	LING 470 - Linguistic Analysis Offered autumn. An in-depth examination of the formal properties of language, concentrating on the core areas of linguistic analysis (phonetics, phonology, morphology, syntax and semantics).	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Anthropological Methods

Rule: Complete one of the following

	Course	Credits
	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits
	ANTY 412 - Osteology Offered autumn. Prereq., ANTY 314 and consent of instr. A detailed examination of the human skeleton with an emphasis on identifying individual bones and their structures. Specifically extended to fragmentary skeletal elements. Direct hands-on experience required.	4 Credits
	ANTY 413 - Forensic and Mortuary Arch Offered spring. Prereq., ANTY 314 and consent of instr. Practical approaches to locating, documenting and recovering human skeletal remains, including surface scatters and burials. Emphasis on interpretations of evidence for recovery scene formation and mortuary behavior.	3 Credits
	ANTY 416 - Dental Anthropology Offered intermittently. Prereq., ANTY 210N. The use of information from teeth in investigating evolutionary trends, the relationships between human groups, subsistence change, and culture change.	3 Credits
	ANTY 431 - Ethnographic Field Methods Offered spring odd-numbered years. Prereq., ANTY 220S or consent of instr. Introduction to socio-cultural anthropological methods including participant observation, interviewing and narrative techniques and analysis of qualitative data.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits
	ANTY 454 - Lithic Technology Offered autumn odd-numbered years. Prereq., ANTY 250S and consent of instr. Analysis of stone artifacts and debitage.	3 Credits

	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	ANTY 466 - Archaeological Survey (R-12) Prereq., ANTY 250S. Offered autumn. A field course in Montana archaeology.	1 To 12 Credits
	ANTY 476 - Methods for Native Languages (R-6) Offered Spring. In an effort to highlight promising methodologies that will advance the success of Native language acquisition and instruction, students will be exposed to an innovative methodology while being instructed in an Indigenous language.	3 Credits
	ANTY 495 - Field Experience: (R- 12) Offered intermittently. Prereq., consent of instr. Organized field experience in anthropology.	1 To 12 Credits
	LING 474 - Historical Linguistics Offered spring even-numbered years. Prereq., LING 470. An introduction to the study of language change over time. Topics include: methods for studying language change (the comparative method and internal reconstruction); types of language change (sound change, borrowing, analogical change, lexical, syntactic, and semantic change); and explanations for language change. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change. This course co-convenes with LING 574.	3 Credits
	LING 475 - Linguistic Field Methods Offered spring odd-numbered years. Prereq., LING 470. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a less commonly taught language. This course co-convenes with LING 575.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subarea II, III, IV

Rule: Complete 6 credits from 2 of 3 Subareas
Minimum Required Grade: C
6 Total Credits Required

Subarea II: Human Adaptation and Diversity

Rule: Complete one of the following

	Course	Credits
	ANTY 122S - Race and Minorities Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.	3 Credits

	ANTY 133H - Food and Culture Offered spring. Examination of the ways culture shapes the satisfaction of a biological need; food production, preparation, choices, customs, taste, taboos, beverages, spices and food distribution around the globe.	3 Credits
	ANTY 211N - Anthropological Genetics Offered intermittently. Genetics-related problems that confront individuals and society. Variation and natural selection in human populations. Designed for non-biology majors.	3 Credits
	ANTY 310 - Human Variation Offered autumn. Prereq., ANTY 210N or consent of instr. Introduction to human biological variation, and to the methods and theories that are used to explain the distribution of variable features.	3 Credits
	ANTY 333 - Culture and Population Offered autumn, even-numbered years. The relationship between population processes and culture to the human condition; survey data, methodologies, theories of demographic and culture change.	3 Credits
	ANTY 418 - Evol and Genet Var Human Pops Offered spring. Prereq. ANTY 310. Human genetic variation examined from a molecular perspective. Emphasis on the role of infectious disease and other factors as a selective factor in human evolution and exploration of the implications of these associations for human genetic variation.	3 Credits
	ANTY 426 - Culture, Health and Healing Offered autumn. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.	3 Credits
	LING 375X - Endangered Languages Offered intermittently. Survey of endangered languages and the communities in which those endangered languages are spoken. Topics to be addressed include linguistic diversity, language endangerment, language shift and loss, language maintenance efforts, and prospects for the future of these languages.	3 Credits
	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subarea III: World Societies and Cultures

Rule: Complete one of the following

	Course	**Credits**

	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	ANTY 241H - Central Asian Culture and Civ Offered autumn even numbered years. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits
	ANTY 251H - Foundations of Civilization Offered intermittently. Focus on the worldwide evolution of human society from Stone Age hunter-gatherers to the beginnings of modern civilization. Approached through the colorful and exciting world of archaeologists and the sites they excavate.	3 Credits
	ANTY 254H - Arch Wonders of the World Offered spring even numbered years. This course highlights the classical civilizations of the ancient world, fields such as Egyptology and Classical Archaeology, and the major archaeological discoveries which are associated with them.	3 Credits
	ANTY 323 - Native People of Montana Offered spring. The history and culture of the Indian tribes in Montana.	3 Credits
	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	ANTY 347 - Central Asia and Its Neighbors Offered intermittently. Analysis of the human communities and cultures of Central and Southwest Asia, with particular emphasis on the importance of relationships with neighboring countries and civilizations since ancient times.	3 Credits
	ANTY 351H - Archaeology of North America Offered autumn. The origins, backgrounds and development of Pre-Columbian American peoples and cultures.	3 Credits
	ANTY 352X - Archaeology of Montana Offered spring. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions.	3 Credits
	ANTY 353 - PaleoIndian Archaeology Offered spring or winter, even-numbered years. Examines archaeological, linguistic, biological and skeletal data to determine from where and when Native Americans arrived in North America. Examines archaeological sites from such diverse places as Montana, Siberia, Virginia, and Chile to answer the most intriguing question in contemporary American archaeology today: how, when and from where did people first arrive in the Americas?	3 Credits
	ANTY 354H - Mesoamerican Prehistory Offered spring odd-numbered years. The development of civilization and prehistoric states in the New World. Prehistoric lifeways and the effects of European contact on these cultures.	3 Credits

	ANTY 442 - Cities/Landscapes Central Asia Offered spring odd numbered years. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.	3 Credits
	ANTY 444 - Artistic Tradtns Central Asia Offered autumn odd-numbered years. Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits
	ANTY 457 - Arch of the Pacific Northwest Offered autumn odd-numbered years. Introduction to the study of archaeology in the Pacific Northwest region inclusive of the Northwest Coast and Columbia/Fraser-Thompson Plateau. Understanding hunter-gatherer adaptations, evolution of social complexity, and ancient history of contemporary native peoples in the region.	3 Credits
	ANTY 459 - Archof the Arctic/Subarctic Offered spring even-numbered years. Introduction to the study of Arctic and Subarctic archaeology emphasizing the Pleistocene and Holocene prehistory of North America and eastern Siberia. Understanding of methodological problems associated with archaeology in a northern context, the evolution of Inuit, Eskimo, Aleut and Athapaskan cultures, and hunter-gatherer adaptations to northern interior and coastal environments.	3 Credits
	ANTY 465 - Arch of the SW United States Offered autumn even-numbered years. The development of the prehistoric communities in the southwestern United States from ancient times to the dawn of history in the area.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subarea IV: Concepts and Issues

Rule: Complete one of the following

	Course	**Credits**
	ANTY 216 - Primates in Peril Offered intermittently. An overview of the living primates and their behavior with a focus on conservation issues that have an impact on primates.	3 Credits
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits

	ANTY 326E - Indigenous Peoples & Globl Dev Offered spring odd-numbered years. This class will examine the impact of global development on tribal and Indigenous peoples. Topics will include land issues, health, employment, and cultural change caused by global development and explore how these societies are resisting and adapting to their changing world.	3 Credits
	ANTY 336 - Myth, Ritual and Religion Offered autumn odd-numbered years. Theories and practices concerning supernatural phenomena, and the comparative study of world religions and cosmological traditions of indigenous peoples throughout the world.	3 Credits
	ANTY 349 - Social Change in NnWstrn Socts Offered autumn, odd-numbered years. Study of the processes of change, modernization and development.	3 Credits
	ANTY 422 - Mind, Culture and Society Offered autumn even-numbered years. Prereq., ANTY 220S or consent of instr. The study of socialization, personality, cognition, and mental health cross-culturally.	3 Credits
	ANTY 423 - Culture and Identity Offered spring. The comparative study of identity formation along and across racial, ethnic, and ethno-national lines. Emphasis on issues of ethnogenesis, cultural resistance, transformation, domination, colonialism as well as sharing to understand both the cultural commonalties and differences in identity formation.	3 Credits
	ANTY 427 - Anthropology of Gender Offered spring. Comparative study of the history and significance of gender in social life.	3 Credits
	ANTY 435 - Drugs, Culture and Society Offered intermittently. Drug use in a cross-cultural perspective. The role of drugs in cultural expression and social interaction. Examination of the prehistory of drug use, drug use in traditional non-Western and Western societies, and drug use in the context of global sociocultural change.	3 Credits
	ANTY 440 - Contemporary Issues of SE Asia Offered intermittently. Prereq., ANTY 102H. An examination of the major issues that affect the contemporary experience of South and Southeast Asians.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 477 - Bilingualism Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits

	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits
	NASX 306X - Contemp Global Iss Indg People Offered Autumn. An examination of the major issues that affect the contemporary experiences of Indigenous Peoples of the Americas, and other global communities.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Archeology Core Courses

Rule: Complete one course from each of the 3 Archeology Core Courses Subcategories (Area, Theory, Methods)
Minimum Required Grade: C
9 Total Credits Required

Area

Rule: Complete one course

	Course	Credits
	ANTY 351H - Archaeology of North America Offered autumn. The origins, backgrounds and development of Pre-Columbian American peoples and cultures.	3 Credits
	ANTY 352X - Archaeology of Montana Offered spring. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions.	3 Credits
	ANTY 353 - PaleoIndian Archaeology Offered spring or winter, even-numbered years. Examines archaeological, linguistic, biological and skeletal data to determine from where and when Native Americans arrived in North America. Examines archaeological sites from such diverse places as Montana, Siberia, Virginia, and Chile to answer the most intriguing question in contemporary American archaeology today: how, when and from where did people first arrive in the Americas?	3 Credits
	ANTY 354H - Mesoamerican Prehistory Offered spring odd-numbered years. The development of civilization and prehistoric states in the New World. Prehistoric lifeways and the effects of European contact on these cultures.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits

	ANTY 457 - Arch of the Pacific Northwest Offered autumn odd-numbered years. Introduction to the study of archaeology in the Pacific Northwest region inclusive of the Northwest Coast and Columbia/Fraser-Thompson Plateau. Understanding hunter-gatherer adaptations, evolution of social complexity, and ancient history of contemporary native peoples in the region.	3 Credits
	ANTY 459 - Archof the Arctic/Subarctic Offered spring even-numbered years. Introduction to the study of Arctic and Subarctic archaeology emphasizing the Pleistocene and Holocene prehistory of North America and eastern Siberia. Understanding of methodological problems associated with archaeology in a northern context, the evolution of Inuit, Eskimo, Aleut and Athapaskan cultures, and hunter-gatherer adaptations to northern interior and coastal environments.	3 Credits
	ANTY 465X - Arch of the SW United States Offered intermittently. The development of the prehistoric communities in the southwestern United States from ancient times to the dawn of history in the area.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Theory

Rule: complete one course

	Course	**Credits**
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 456 - Historic Archaeology Offered spring. Prereq., ANTY 250S or consent of instr. Understanding and interpreting the past through historical archaeological remains, methods, and theories. Focuses on historical archaeological sites and topics from the American West, but also examines the field's global perspective.	3 Credits
	ANTY 458 - Arch of Hunter-Gatherers Offered autumn even-numbered years. Introduction to the archaeological study of hunter-gatherer societies. Primary emphasis on archaeological method and theory.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Methods

Rule: complete one course

	Course	**Credits**

	ANTY 454 - Lithic Technology Offered autumn odd-numbered years. Prereq., ANTY 250S and consent of instr. Analysis of stone artifacts and debitage.	3 Credits
	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	ANTY 466 - Archaeological Survey (R-12) Prereq., ANTY 250S. Offered autumn. A field course in Montana archaeology.	1 To 12 Credits
	ANTY 467 - Archaeological Field School (R-12) Offered summer. Prereq., ANTY 250S and consent of instructor. Provides students with a well-rounded experience in archaeological field methods. Field schools will typically occur at archaeological site locations away from campus. During the archaeological field experience, students may learn methods of excavation, survey, research, and analysis to facilitate their transition to careers as professional archaeologists.	3 To 12 Credits
Minimum Required Grade: C		3 Total Credits Required

Cultural and Ethnic Diversity

Bachelor of Arts - Anthropology; Cultural and Ethnic Diversity Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.0

Note: For a degree in Anthropology with an option in Cultural and Ethnic Diversity, the student must meet all the general requirements for the major, including the four required courses for this option (ANTY 122S, ANTY 310, ANTY 423, and ANTY 330X). Note that in addition to fulfilling option requirements these ANTY courses also fulfill certain major requirements.

Lower Division Core Courses

Rule: Complete all courses

	Course	**Credits**
	ANTY 210N - Intro to Physical Anthropology Offered autumn and spring. An introduction to human evolutionary biology including processes of evolution, primate studies, hominid paleontology, and human variation.	3 Credits
	ANTY 220S - Culture & Society Offered autumn and spring. Study of social organization of non-western societies; emphasis on variations in ecology, social structure, economic, political and religious beliefs and practices.	3 Credits

	ANTY 250S - Intro to Archaeology Offered autumn and spring. What archaeologists do and how they reconstruct past human cultures. Methodological and theoretical approaches to understanding and explaining past human societies.	3 Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
Minimum Required Grade: C		12 Total Credits Required

Anthropology or Cognate Electives

Rule: Complete 12 credits.

Note: The student must complete six credits, with adviser approval, in one of the following disciplines (Anthropology, History, or Sociology), and six upper-division credits in one of the following allied disciplines (African-American Studies, Central and Southwest Asian Studies, East Asian Studies, Latin American Studies, Native American Studies, or Women's and Gender Studies).

Minimum Required Grade: C

12 Total Credits Required

Upper Division Writing Requirement

Rule: Complete either an upper-division writing course from approved list in catalog, or one of the following courses listed below.

	Course	**Credits**
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits
	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits
	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits
	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits

	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits
	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea I-Theory and Methods

Rule: Complete 3 credits in Theory and 3 credits in Methods
Minimum Required Grade: C
6 Total Credits Required

Anthropological Theory

Rule: Complete one of the following

	Course	Credits
	ANTY 312 - Human Evolution Offered autumn. Prereq., ANTY 210N. An exploration of the fossil and archaeological records of the evolution of human beings, and of current methods and theories used in interpreting these data.	3 Credits
	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits

	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits
	ANTY 404 - Anthropological Museology Offered spring even-numbered years. Prereq., ANTY 101H. Introduction to anthropological museums, museum work and museum theory.	3 Credits
	ANTY 415 - Emergence Modern Humans Offered spring. Prereq., ANTY 210N. An exploration of the emergence of "modern" humans and their relationships with Neanderthals. Exploration of what it means to be "a modern human" through an examination of human evolutionary history.	3 Credits
	ANTY 430 - Social Anthropology Offered spring even-numbered years. Seminar style senior capstone course for cultural anthropology students. This course focuses on bringing theory and methods together in written and visual ethnography.	3 Credits
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 456 - Historic Archaeology Offered spring. Prereq., ANTY 250S or consent of instr. Understanding and interpreting the past through historical archaeological remains, methods, and theories. Focuses on historical archaeological sites and topics from the American West, but also examines the field's global perspective.	3 Credits
	ANTY 458 - Arch of Hunter-Gatherers Offered autumn even-numbered years. Introduction to the archaeological study of hunter-gatherer societies. Primary emphasis on archaeological method and theory.	3 Credits
	LING 470 - Linguistic Analysis Offered autumn. An in-depth examination of the formal properties of language, concentrating on the core areas of linguistic analysis (phonetics, phonology, morphology, syntax and semantics).	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Anthropological Methods

Rule: Complete one of the following

	Course	**Credits**

	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits
	ANTY 412 - Osteology Offered autumn. Prereq., ANTY 314 and consent of instr. A detailed examination of the human skeleton with an emphasis on identifying individual bones and their structures. Specifically extended to fragmentary skeletal elements. Direct hands-on experience required.	4 Credits
	ANTY 413 - Forensic and Mortuary Arch Offered spring. Prereq., ANTY 314 and consent of instr. Practical approaches to locating, documenting and recovering human skeletal remains, including surface scatters and burials. Emphasis on interpretations of evidence for recovery scene formation and mortuary behavior.	3 Credits
	ANTY 416 - Dental Anthropology Offered intermittently. Prereq., ANTY 210N. The use of information from teeth in investigating evolutionary trends, the relationships between human groups, subsistence change, and culture change.	3 Credits
	ANTY 431 - Ethnographic Field Methods Offered spring odd-numbered years. Prereq., ANTY 220S or consent of instr. Introduction to socio-cultural anthropological methods including participant observation, interviewing and narrative techniques and analysis of qualitative data.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits
	ANTY 454 - Lithic Technology Offered autumn odd-numbered years. Prereq., ANTY 250S and consent of instr. Analysis of stone artifacts and debitage.	3 Credits
	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	ANTY 466 - Archaeological Survey (R-12) Prereq., ANTY 250S. Offered autumn. A field course in Montana archaeology.	1 To 12 Credits

	ANTY 476 - Methods for Native Languages (R-6) Offered Spring. In an effort to highlight promising methodologies that will advance the success of Native language acquisition and instruction, students will be exposed to an innovative methodology while being instructed in an Indigenous language.	3 Credits
	ANTY 495 - Field Experience: (R- 12) Offered intermittently. Prereq., consent of instr. Organized field experience in anthropology.	1 To 12 Credits
	LING 474 - Historical Linguistics Offered spring even-numbered years. Prereq., LING 470. An introduction to the study of language change over time. Topics include: methods for studying language change (the comparative method and internal reconstruction); types of language change (sound change, borrowing, analogical change, lexical, syntactic, and semantic change); and explanations for language change. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change. This course co-convenes with LING 574.	3 Credits
	LING 475 - Linguistic Field Methods Offered spring odd-numbered years. Prereq., LING 470. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a less commonly taught language. This course co-convenes with LING 575.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subarea II, III, IV

Rule: Complete 6 credits from 2 of 3 Subareas
Minimum Required Grade: C
6 Total Credits Required

Subarea II: Human Adaptation and Diversity

Rule: Complete one of the following

	Course	Credits
	ANTY 122S - Race and Minorities Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.	3 Credits
	ANTY 133H - Food and Culture Offered spring. Examination of the ways culture shapes the satisfaction of a biological need; food production, preparation, choices, customs, taste, taboos, beverages, spices and food distribution around the globe.	3 Credits
	ANTY 211N - Anthropological Genetics Offered intermittently. Genetics-related problems that confront individuals and society. Variation and natural selection in human populations. Designed for non-biology majors.	3 Credits

	ANTY 310 - Human Variation Offered autumn. Prereq., ANTY 210N or consent of instr. Introduction to human biological variation, and to the methods and theories that are used to explain the distribution of variable features.	3 Credits
	ANTY 333 - Culture and Population Offered autumn, even-numbered years. The relationship between population processes and culture to the human condition; survey data, methodologies, theories of demographic and culture change.	3 Credits
	ANTY 418 - Evol and Genet Var Human Pops Offered spring. Prereq. ANTY 310. Human genetic variation examined from a molecular perspective. Emphasis on the role of infectious disease and other factors as a selective factor in human evolution and exploration of the implications of these associations for human genetic variation.	3 Credits
	ANTY 426 - Culture, Health and Healing Offered autumn. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.	3 Credits
	LING 375X - Endangered Languages Offered intermittently. Survey of endangered languages and the communities in which those endangered languages are spoken. Topics to be addressed include linguistic diversity, language endangerment, language shift and loss, language maintenance efforts, and prospects for the future of these languages.	3 Credits
	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subarea III: World Societies and Cultures

Rule: Complete one of the following

	Course	Credits
	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	ANTY 241H - Central Asian Culture and Civ Offered autumn even numbered years. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits

	ANTY 251H - Foundations of Civilization Offered intermittently. Focus on the worldwide evolution of human society from Stone Age hunter-gatherers to the beginnings of modern civilization. Approached through the colorful and exciting world of archaeologists and the sites they excavate.	3 Credits
	ANTY 254H - Arch Wonders of the World Offered spring even numbered years. This course highlights the classical civilizations of the ancient world, fields such as Egyptology and Classical Archaeology, and the major archaeological discoveries which are associated with them.	3 Credits
	ANTY 323 - Native People of Montana Offered spring. The history and culture of the Indian tribes in Montana.	3 Credits
	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	ANTY 347 - Central Asia and Its Neighbors Offered intermittently. Analysis of the human communities and cultures of Central and Southwest Asia, with particular emphasis on the importance of relationships with neighboring countries and civilizations since ancient times.	3 Credits
	ANTY 351H - Archaeology of North America Offered autumn. The origins, backgrounds and development of Pre-Columbian American peoples and cultures.	3 Credits
	ANTY 352X - Archaeology of Montana Offered spring. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions.	3 Credits
	ANTY 353 - PaleoIndian Archaeology Offered spring or winter, even-numbered years. Examines archaeological, linguistic, biological and skeletal data to determine from where and when Native Americans arrived in North America. Examines archaeological sites from such diverse places as Montana, Siberia, Virginia, and Chile to answer the most intriguing question in contemporary American archaeology today: how, when and from where did people first arrive in the Americas?	3 Credits
	ANTY 354H - Mesoamerican Prehistory Offered spring odd-numbered years. The development of civilization and prehistoric states in the New World. Prehistoric lifeways and the effects of European contact on these cultures.	3 Credits
	ANTY 442 - Cities/Landscapes Central Asia Offered spring odd numbered years. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.	3 Credits
	ANTY 444 - Artistic Tradtns Central Asia Offered autumn odd-numbered years. Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits

	ANTY 457 - Arch of the Pacific Northwest Offered autumn odd-numbered years. Introduction to the study of archaeology in the Pacific Northwest region inclusive of the Northwest Coast and Columbia/Fraser-Thompson Plateau. Understanding hunter-gatherer adaptations, evolution of social complexity, and ancient history of contemporary native peoples in the region.	3 Credits
	ANTY 459 - Archof the Arctic/Subarctic Offered spring even-numbered years. Introduction to the study of Arctic and Subarctic archaeology emphasizing the Pleistocene and Holocene prehistory of North America and eastern Siberia. Understanding of methodological problems associated with archaeology in a northern context, the evolution of Inuit, Eskimo, Aleut and Athapaskan cultures, and hunter-gatherer adaptations to northern interior and coastal environments.	3 Credits
	ANTY 465 - Arch of the SW United States Offered autumn even-numbered years. The development of the prehistoric communities in the southwestern United States from ancient times to the dawn of history in the area.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subarea IV: Concepts and Issues

Rule: Complete one of the following

	Course	Credits
	ANTY 216 - Primates in Peril Offered intermittently. An overview of the living primates and their behavior with a focus on conservation issues that have an impact on primates.	3 Credits
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits
	ANTY 326E - Indigenous Peoples & Globl Dev Offered spring odd-numbered years. This class will examine the impact of global development on tribal and Indigenous peoples. Topics will include land issues, health, employment, and cultural change caused by global development and explore how these societies are resisting and adapting to their changing world.	3 Credits
	ANTY 336 - Myth, Ritual and Religion Offered autumn odd-numbered years. Theories and practices concerning supernatural phenomena, and the comparative study of world religions and cosmological traditions of indigenous peoples throughout the world.	3 Credits
	ANTY 349 - Social Change in NnWstrn Socts Offered autumn, odd-numbered years. Study of the processes of change, modernization and development.	3 Credits

	ANTY 422 - Mind, Culture and Society Offered autumn even-numbered years. Prereq., ANTY 220S or consent of instr. The study of socialization, personality, cognition, and mental health cross-culturally.	3 Credits
	ANTY 423 - Culture and Identity Offered spring. The comparative study of identity formation along and across racial, ethnic, and ethno-national lines. Emphasis on issues of ethnogenesis, cultural resistance, transformation, domination, colonialism as well as sharing to understand both the cultural commonalties and differences in identity formation.	3 Credits
	ANTY 427 - Anthropology of Gender Offered spring. Comparative study of the history and significance of gender in social life.	3 Credits
	ANTY 435 - Drugs, Culture and Society Offered intermittently. Drug use in a cross-cultural perspective. The role of drugs in cultural expression and social interaction. Examination of the prehistory of drug use, drug use in traditional non-Western and Western societies, and drug use in the context of global sociocultural change.	3 Credits
	ANTY 440 - Contemporary Issues of SE Asia Offered intermittently. Prereq., ANTY 102H. An examination of the major issues that affect the contemporary experience of South and Southeast Asians.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 477 - Bilingualism Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits
	NASX 306X - Contemp Global Iss Indg People Offered Autumn. An examination of the major issues that affect the contemporary experiences of Indigenous Peoples of the Americas, and other global communities.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Culutural and Ethnic Diversity Option Requirements

Rule: Complete all courses

	Course	Credits
	ANTY 122S - Race and Minorities Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.	3 Credits
	ANTY 310 - Human Variation Offered autumn. Prereq., ANTY 210N or consent of instr. Introduction to human biological variation, and to the methods and theories that are used to explain the distribution of variable features.	3 Credits
	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	ANTY 423 - Culture and Identity Offered spring. The comparative study of identity formation along and across racial, ethnic, and ethno-national lines. Emphasis on issues of ethnogenesis, cultural resistance, transformation, domination, colonialism as well as sharing to understand both the cultural commonalties and differences in identity formation.	3 Credits
Minimum Required Grade: C		12 Total Credits Required

Linguistics

Bachelor of Arts - Anthropology; Linguistics Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 39

Required Cumulative GPA: 2.0

Note: For a degree in Anthropology with an option in Linguistics the student must meet all the general requirements for the major, in addition to completing LING 470, LING 473, and two courses from the following: LING 375X, 471, 472, 474, 475, 477, 478, 484, or 489.

Lower Division Core Courses

Rule: Complete all courses

	Course	Credits
	ANTY 210N - Intro to Physical Anthropology Offered autumn and spring. An introduction to human evolutionary biology including processes of evolution, primate studies, hominid paleontology, and human variation.	3 Credits

	ANTY 220S - Culture & Society Offered autumn and spring. Study of social organization of non-western societies; emphasis on variations in ecology, social structure, economic, political and religious beliefs and practices.	3 Credits
	ANTY 250S - Intro to Archaeology Offered autumn and spring. What archaeologists do and how they reconstruct past human cultures. Methodological and theoretical approaches to understanding and explaining past human societies.	3 Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Anthropology or Cognate Electives

Rule: Complete 12 credits.

Note: Speak to your academic adviser for a full list of approved Anthropology or Cognate electives.

Minimum Required Grade: C-

12 Total Credits Required

Upper Division Writing Requirement

Rule: Complete either an upper-division writing course from approved list in catalog, or one of the following courses listed below.

___	**Course**	**Credits**
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits
	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits
	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits

	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits
	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea I-Theory and Methods

Rule: Complete 3 credits in Theory and 3 credits in Methods
Minimum Required Grade: C-
6 Total Credits Required

Anthropological Theory

Rule: Complete one of the following

	Course	Credits
	ANTY 312 - Human Evolution Offered autumn. Prereq., ANTY 210N. An exploration of the fossil and archaeological records of the evolution of human beings, and of current methods and theories used in interpreting these data.	3 Credits
	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits

	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits
	ANTY 404 - Anthropological Museology Offered spring even-numbered years. Prereq., ANTY 101H. Introduction to anthropological museums, museum work and museum theory.	3 Credits
	ANTY 415 - Emergence Modern Humans Offered spring. Prereq., ANTY 210N. An exploration of the emergence of "modern" humans and their relationships with Neanderthals. Exploration of what it means to be "a modern human" through an examination of human evolutionary history.	3 Credits
	ANTY 430 - Social Anthropology Offered spring even-numbered years. Seminar style senior capstone course for cultural anthropology students. This course focuses on bringing theory and methods together in written and visual ethnography.	3 Credits
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 456 - Historic Archaeology Offered spring. Prereq., ANTY 250S or consent of instr. Understanding and interpreting the past through historical archaeological remains, methods, and theories. Focuses on historical archaeological sites and topics from the American West, but also examines the field's global perspective.	3 Credits
	ANTY 458 - Arch of Hunter-Gatherers Offered autumn even-numbered years. Introduction to the archaeological study of hunter-gatherer societies. Primary emphasis on archaeological method and theory.	3 Credits
	LING 470 - Linguistic Analysis Offered autumn. An in-depth examination of the formal properties of language, concentrating on the core areas of linguistic analysis (phonetics, phonology, morphology, syntax and semantics).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Anthropological Methods

Rule: Complete one of the following

	Course	**Credits**

	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits
	ANTY 412 - Osteology Offered autumn. Prereq., ANTY 314 and consent of instr. A detailed examination of the human skeleton with an emphasis on identifying individual bones and their structures. Specifically extended to fragmentary skeletal elements. Direct hands-on experience required.	4 Credits
	ANTY 413 - Forensic and Mortuary Arch Offered spring. Prereq., ANTY 314 and consent of instr. Practical approaches to locating, documenting and recovering human skeletal remains, including surface scatters and burials. Emphasis on interpretations of evidence for recovery scene formation and mortuary behavior.	3 Credits
	ANTY 416 - Dental Anthropology Offered intermittently. Prereq., ANTY 210N. The use of information from teeth in investigating evolutionary trends, the relationships between human groups, subsistence change, and culture change.	3 Credits
	ANTY 431 - Ethnographic Field Methods Offered spring odd-numbered years. Prereq., ANTY 220S or consent of instr. Introduction to socio-cultural anthropological methods including participant observation, interviewing and narrative techniques and analysis of qualitative data.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits
	ANTY 454 - Lithic Technology Offered autumn odd-numbered years. Prereq., ANTY 250S and consent of instr. Analysis of stone artifacts and debitage.	3 Credits
	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	ANTY 466 - Archaeological Survey (R-12) Prereq., ANTY 250S. Offered autumn. A field course in Montana archaeology.	1 To 12 Credits

	ANTY 476 - Methods for Native Languages (R-6) Offered Spring. In an effort to highlight promising methodologies that will advance the success of Native language acquisition and instruction, students will be exposed to an innovative methodology while being instructed in an Indigenous language.	3 Credits
	ANTY 495 - Field Experience: (R- 12) Offered intermittently. Prereq., consent of instr. Organized field experience in anthropology.	1 To 12 Credits
	LING 474 - Historical Linguistics Offered spring even-numbered years. Prereq., LING 470. An introduction to the study of language change over time. Topics include: methods for studying language change (the comparative method and internal reconstruction); types of language change (sound change, borrowing, analogical change, lexical, syntactic, and semantic change); and explanations for language change. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change. This course co-convenes with LING 574.	3 Credits
	LING 475 - Linguistic Field Methods Offered spring odd-numbered years. Prereq., LING 470. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a less commonly taught language. This course co-convenes with LING 575.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subarea II, III, IV

Rule: Complete 6 credits from 2 of 3 Subareas
Minimum Required Grade: C
6 Total Credits Required

Subarea II: Human Adaptation and Diversity

Rule: Complete one of the following

	Course	Credits
	ANTY 122S - Race and Minorities Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.	3 Credits
	ANTY 133H - Food and Culture Offered spring. Examination of the ways culture shapes the satisfaction of a biological need; food production, preparation, choices, customs, taste, taboos, beverages, spices and food distribution around the globe.	3 Credits
	ANTY 211N - Anthropological Genetics Offered intermittently. Genetics-related problems that confront individuals and society. Variation and natural selection in human populations. Designed for non-biology majors.	3 Credits

	ANTY 310 - Human Variation Offered autumn. Prereq., ANTY 210N or consent of instr. Introduction to human biological variation, and to the methods and theories that are used to explain the distribution of variable features.	3 Credits
	ANTY 333 - Culture and Population Offered autumn, even-numbered years. The relationship between population processes and culture to the human condition; survey data, methodologies, theories of demographic and culture change.	3 Credits
	ANTY 418 - Evol and Genet Var Human Pops Offered spring. Prereq. ANTY 310. Human genetic variation examined from a molecular perspective. Emphasis on the role of infectious disease and other factors as a selective factor in human evolution and exploration of the implications of these associations for human genetic variation.	3 Credits
	ANTY 426 - Culture, Health and Healing Offered autumn. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.	3 Credits
	LING 375X - Endangered Languages Offered intermittently. Survey of endangered languages and the communities in which those endangered languages are spoken. Topics to be addressed include linguistic diversity, language endangerment, language shift and loss, language maintenance efforts, and prospects for the future of these languages.	3 Credits
	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea III: World Societies and Cultures

Rule: Complete one of the following

	Course	**Credits**
	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	ANTY 241H - Central Asian Culture and Civ Offered autumn even numbered years. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits

	ANTY 251H - Foundations of Civilization Offered intermittently. Focus on the worldwide evolution of human society from Stone Age hunter-gatherers to the beginnings of modern civilization. Approached through the colorful and exciting world of archaeologists and the sites they excavate.	3 Credits
	ANTY 254H - Arch Wonders of the World Offered spring even numbered years. This course highlights the classical civilizations of the ancient world, fields such as Egyptology and Classical Archaeology, and the major archaeological discoveries which are associated with them.	3 Credits
	ANTY 323 - Native People of Montana Offered spring. The history and culture of the Indian tribes in Montana.	3 Credits
	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	ANTY 347 - Central Asia and Its Neighbors Offered intermittently. Analysis of the human communities and cultures of Central and Southwest Asia, with particular emphasis on the importance of relationships with neighboring countries and civilizations since ancient times.	3 Credits
	ANTY 351H - Archaeology of North America Offered autumn. The origins, backgrounds and development of Pre-Columbian American peoples and cultures.	3 Credits
	ANTY 352X - Archaeology of Montana Offered spring. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions.	3 Credits
	ANTY 353 - PaleoIndian Archaeology Offered spring or winter, even-numbered years. Examines archaeological, linguistic, biological and skeletal data to determine from where and when Native Americans arrived in North America. Examines archaeological sites from such diverse places as Montana, Siberia, Virginia, and Chile to answer the most intriguing question in contemporary American archaeology today: how, when and from where did people first arrive in the Americas?	3 Credits
	ANTY 354H - Mesoamerican Prehistory Offered spring odd-numbered years. The development of civilization and prehistoric states in the New World. Prehistoric lifeways and the effects of European contact on these cultures.	3 Credits
	ANTY 442 - Cities/Landscapes Central Asia Offered spring odd numbered years. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.	3 Credits
	ANTY 444 - Artistic Tradtns Central Asia Offered autumn odd-numbered years. Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits

	ANTY 457 - Arch of the Pacific Northwest Offered autumn odd-numbered years. Introduction to the study of archaeology in the Pacific Northwest region inclusive of the Northwest Coast and Columbia/Fraser-Thompson Plateau. Understanding hunter-gatherer adaptations, evolution of social complexity, and ancient history of contemporary native peoples in the region.	3 Credits
	ANTY 459 - Archof the Arctic/Subarctic Offered spring even-numbered years. Introduction to the study of Arctic and Subarctic archaeology emphasizing the Pleistocene and Holocene prehistory of North America and eastern Siberia. Understanding of methodological problems associated with archaeology in a northern context, the evolution of Inuit, Eskimo, Aleut and Athapaskan cultures, and hunter-gatherer adaptations to northern interior and coastal environments.	3 Credits
	ANTY 465 - Arch of the SW United States Offered autumn even-numbered years. The development of the prehistoric communities in the southwestern United States from ancient times to the dawn of history in the area.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea IV: Concepts and Issues

Rule: Complete one of the following

	Course	Credits
	ANTY 216 - Primates in Peril Offered intermittently. An overview of the living primates and their behavior with a focus on conservation issues that have an impact on primates.	3 Credits
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits
	ANTY 326E - Indigenous Peoples & Globl Dev Offered spring odd-numbered years. This class will examine the impact of global development on tribal and Indigenous peoples. Topics will include land issues, health, employment, and cultural change caused by global development and explore how these societies are resisting and adapting to their changing world.	3 Credits
	ANTY 336 - Myth, Ritual and Religion Offered autumn odd-numbered years. Theories and practices concerning supernatural phenomena, and the comparative study of world religions and cosmological traditions of indigenous peoples throughout the world.	3 Credits
	ANTY 349 - Social Change in NnWstrn Socts Offered autumn, odd-numbered years. Study of the processes of change, modernization and development.	3 Credits

	ANTY 422 - Mind, Culture and Society Offered autumn even-numbered years. Prereq., ANTY 220S or consent of instr. The study of socialization, personality, cognition, and mental health cross-culturally.	3 Credits
	ANTY 423 - Culture and Identity Offered spring. The comparative study of identity formation along and across racial, ethnic, and ethno-national lines. Emphasis on issues of ethnogenesis, cultural resistance, transformation, domination, colonialism as well as sharing to understand both the cultural commonalties and differences in identity formation.	3 Credits
	ANTY 427 - Anthropology of Gender Offered spring. Comparative study of the history and significance of gender in social life.	3 Credits
	ANTY 435 - Drugs, Culture and Society Offered intermittently. Drug use in a cross-cultural perspective. The role of drugs in cultural expression and social interaction. Examination of the prehistory of drug use, drug use in traditional non-Western and Western societies, and drug use in the context of global sociocultural change.	3 Credits
	ANTY 440 - Contemporary Issues of SE Asia Offered intermittently. Prereq., ANTY 102H. An examination of the major issues that affect the contemporary experience of South and Southeast Asians.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 477 - Bilingualism Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits
	NASX 306X - Contemp Global Iss Indg People Offered Autumn. An examination of the major issues that affect the contemporary experiences of Indigenous Peoples of the Americas, and other global communities.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Linguistics Option Requirements

Rule: Must complete the following subcategories

12 Total Credits Required

Option Requirements

Rule: Complete all courses

	Course	Credits
	LING 470 - Linguistic Analysis Offered autumn. An in-depth examination of the formal properties of language, concentrating on the core areas of linguistic analysis (phonetics, phonology, morphology, syntax and semantics).	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Option Electives

Rule: Complete 2 courses

	Course	Credits
	LING 375X - Endangered Languages Offered intermittently. Survey of endangered languages and the communities in which those endangered languages are spoken. Topics to be addressed include linguistic diversity, language endangerment, language shift and loss, language maintenance efforts, and prospects for the future of these languages.	3 Credits
	LING 471 - Phonetics and Phonology Offered autumn. Prereq., LING 470. A study of phonetic and phonological systems from as many as 20 languages, most of them non–Indo–European; training in how to do linguistic analysis as well as linguistic theory. This course co-convenes with LING 571.	3 Credits
	LING 472 - Generative Syntax Offered autumn. Prereq., LING 470. A study of the human language sentence–formation system, the means for expressing semantic information as propositional content. Emphasis on the abstraction of utterances in the form of mathematical objects. This course co-convenes with LING 572.	3 Credits

	LING 474 - Historical Linguistics Offered spring even-numbered years. Prereq., LING 470. An introduction to the study of language change over time. Topics include: methods for studying language change (the comparative method and internal reconstruction); types of language change (sound change, borrowing, analogical change, lexical, syntactic, and semantic change); and explanations for language change. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change. This course co-convenes with LING 574.	3 Credits
	LING 475 - Linguistic Field Methods Offered spring odd-numbered years. Prereq., LING 470. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a less commonly taught language. This course co-convenes with LING 575.	3 Credits
	LING 477 - Bilingualism Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.	3 Credits
	LING 478 - Learner Language Offered spring. Prereq., LING 270S or equivalent. Observing/describing language learners' behaviors and, to a degree, advances toward proficiency (i.e., fluency plus accuracy); the presence of error as conditioned by a priori knowledge of language and implications for child and adult development; and applying typical methods of linguistic analysis to the (non-) systematic variants in language form characterizing developmental processes as a way of trying to explain variable behavior.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Medical Anthropology

Bachelor of Arts - Anthropology; Medical Anthropology Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.0

Note: For a degree in Anthropology with an option in Medical Anthropology, the student must meet all of the general requirements for the major, including completing ANTY 426, in addition to completing three of the following courses: ANTY 333, ANTY 418, ANTY 422, or ANTY 435. Note that in addition to fulfilling option requirements these ANTY courses also fulfill certain major requirements.

Lower Division Core Courses

Rule: Complete all courses

	Course	Credits
	ANTY 210N - Intro to Physical Anthropology Offered autumn and spring. An introduction to human evolutionary biology including processes of evolution, primate studies, hominid paleontology, and human variation.	3 Credits
	ANTY 220S - Culture & Society Offered autumn and spring. Study of social organization of non-western societies; emphasis on variations in ecology, social structure, economic, political and religious beliefs and practices.	3 Credits
	ANTY 250S - Intro to Archaeology Offered autumn and spring. What archaeologists do and how they reconstruct past human cultures. Methodological and theoretical approaches to understanding and explaining past human societies.	3 Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
Minimum Required Grade: C		12 Total Credits Required

Anthropology or Cognate Electives

Rule: Complete 12 credits.

Note: Speak to your academic adviser for a full list of approved Anthropology or Cognate electives.

Minimum Required Grade: C

12 Total Credits Required

Upper Division Writing Requirement

Rule: Complete either an upper-division writing course from approved list in catalog, or one of the following courses listed below.

	Course	Credits
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits

	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits
	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits
	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits
	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea I-Theory and Methods

Rule: Complete 3 credits in Theory and 3 credits in Methods

Minimum Required Grade: C

6 Total Credits Required

Anthropological Theory

Rule: Complete one of the following

	Course	Credits
	ANTY 312 - Human Evolution Offered autumn. Prereq., ANTY 210N. An exploration of the fossil and archaeological records of the evolution of human beings, and of current methods and theories used in interpreting these data.	3 Credits
	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits
	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits
	ANTY 404 - Anthropological Museology Offered spring even-numbered years. Prereq., ANTY 101H. Introduction to anthropological museums, museum work and museum theory.	3 Credits
	ANTY 415 - Emergence Modern Humans Offered spring. Prereq., ANTY 210N. An exploration of the emergence of "modern" humans and their relationships with Neanderthals. Exploration of what it means to be "a modern human" through an examination of human evolutionary history.	3 Credits
	ANTY 430 - Social Anthropology Offered spring even-numbered years. Seminar style senior capstone course for cultural anthropology students. This course focuses on bringing theory and methods together in written and visual ethnography.	3 Credits
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 456 - Historic Archaeology Offered spring. Prereq., ANTY 250S or consent of instr. Understanding and interpreting the past through historical archaeological remains, methods, and theories. Focuses on historical archaeological sites and topics from the American West, but also examines the field's global perspective.	3 Credits
	ANTY 458 - Arch of Hunter-Gatherers Offered autumn even-numbered years. Introduction to the archaeological study of hunter-gatherer societies. Primary emphasis on archaeological method and theory.	3 Credits
	LING 470 - Linguistic Analysis Offered autumn. An in-depth examination of the formal properties of language, concentrating on the core areas of linguistic analysis (phonetics, phonology, morphology, syntax and semantics).	3 Credits

Minimum Required Grade: C	3 Total Credits Required

Anthropological Methods

Rule: Complete one of the following

	Course	Credits
	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits
	ANTY 412 - Osteology Offered autumn. Prereq., ANTY 314 and consent of instr. A detailed examination of the human skeleton with an emphasis on identifying individual bones and their structures. Specifically extended to fragmentary skeletal elements. Direct hands-on experience required.	4 Credits
	ANTY 413 - Forensic and Mortuary Arch Offered spring. Prereq., ANTY 314 and consent of instr. Practical approaches to locating, documenting and recovering human skeletal remains, including surface scatters and burials. Emphasis on interpretations of evidence for recovery scene formation and mortuary behavior.	3 Credits
	ANTY 416 - Dental Anthropology Offered intermittently. Prereq., ANTY 210N. The use of information from teeth in investigating evolutionary trends, the relationships between human groups, subsistence change, and culture change.	3 Credits
	ANTY 431 - Ethnographic Field Methods Offered spring odd-numbered years. Prereq., ANTY 220S or consent of instr. Introduction to socio-cultural anthropological methods including participant observation, interviewing and narrative techniques and analysis of qualitative data.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits

	ANTY 454 - Lithic Technology Offered autumn odd-numbered years. Prereq., ANTY 250S and consent of instr. Analysis of stone artifacts and debitage.	3 Credits
	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	ANTY 466 - Archaeological Survey (R-12) Prereq., ANTY 250S. Offered autumn. A field course in Montana archaeology.	1 To 12 Credits
	ANTY 476 - Methods for Native Languages (R-6) Offered Spring. In an effort to highlight promising methodologies that will advance the success of Native language acquisition and instruction, students will be exposed to an innovative methodology while being instructed in an Indigenous language.	3 Credits
	ANTY 495 - Field Experience: (R- 12) Offered intermittently. Prereq., consent of instr. Organized field experience in anthropology.	1 To 12 Credits
	LING 474 - Historical Linguistics Offered spring even-numbered years. Prereq., LING 470. An introduction to the study of language change over time. Topics include: methods for studying language change (the comparative method and internal reconstruction); types of language change (sound change, borrowing, analogical change, lexical, syntactic, and semantic change); and explanations for language change. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change. This course co-convenes with LING 574.	3 Credits
	LING 475 - Linguistic Field Methods Offered spring odd-numbered years. Prereq., LING 470. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a less commonly taught language. This course co-convenes with LING 575.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subarea II, III, IV

Rule: Complete 6 credits from 2 of 3 Subareas
Minimum Required Grade: C
6 Total Credits Required

Subarea II: Human Adaptation and Diversity

Rule: Complete one of the following

	Course	Credits

	ANTY 122S - Race and Minorities Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.	3 Credits
	ANTY 133H - Food and Culture Offered spring. Examination of the ways culture shapes the satisfaction of a biological need; food production, preparation, choices, customs, taste, taboos, beverages, spices and food distribution around the globe.	3 Credits
	ANTY 211N - Anthropological Genetics Offered intermittently. Genetics-related problems that confront individuals and society. Variation and natural selection in human populations. Designed for non-biology majors.	3 Credits
	ANTY 310 - Human Variation Offered autumn. Prereq., ANTY 210N or consent of instr. Introduction to human biological variation, and to the methods and theories that are used to explain the distribution of variable features.	3 Credits
	ANTY 333 - Culture and Population Offered autumn, even-numbered years. The relationship between population processes and culture to the human condition; survey data, methodologies, theories of demographic and culture change.	3 Credits
	ANTY 418 - Evol and Genet Var Human Pops Offered spring. Prereq. ANTY 310. Human genetic variation examined from a molecular perspective. Emphasis on the role of infectious disease and other factors as a selective factor in human evolution and exploration of the implications of these associations for human genetic variation.	3 Credits
	ANTY 426 - Culture, Health and Healing Offered autumn. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.	3 Credits
	LING 375X - Endangered Languages Offered intermittently. Survey of endangered languages and the communities in which those endangered languages are spoken. Topics to be addressed include linguistic diversity, language endangerment, language shift and loss, language maintenance efforts, and prospects for the future of these languages.	3 Credits
	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subarea III: World Societies and Cultures

Rule: Complete one of the following

	Course	Credits
	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	ANTY 241H - Central Asian Culture and Civ Offered autumn even numbered years. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits
	ANTY 251H - Foundations of Civilization Offered intermittently. Focus on the worldwide evolution of human society from Stone Age hunter-gatherers to the beginnings of modern civilization. Approached through the colorful and exciting world of archaeologists and the sites they excavate.	3 Credits
	ANTY 254H - Arch Wonders of the World Offered spring even numbered years. This course highlights the classical civilizations of the ancient world, fields such as Egyptology and Classical Archaeology, and the major archaeological discoveries which are associated with them.	3 Credits
	ANTY 323 - Native People of Montana Offered spring. The history and culture of the Indian tribes in Montana.	3 Credits
	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	ANTY 347 - Central Asia and Its Neighbors Offered intermittently. Analysis of the human communities and cultures of Central and Southwest Asia, with particular emphasis on the importance of relationships with neighboring countries and civilizations since ancient times.	3 Credits
	ANTY 351H - Archaeology of North America Offered autumn. The origins, backgrounds and development of Pre-Columbian American peoples and cultures.	3 Credits
	ANTY 352X - Archaeology of Montana Offered spring. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions.	3 Credits
	ANTY 353 - PaleoIndian Archaeology Offered spring or winter, even-numbered years. Examines archaeological, linguistic, biological and skeletal data to determine from where and when Native Americans arrived in North America. Examines archaeological sites from such diverse places as Montana, Siberia, Virginia, and Chile to answer the most intriguing question in contemporary American archaeology today: how, when and from where did people first arrive in the Americas?	3 Credits

	ANTY 354H - Mesoamerican Prehistory Offered spring odd-numbered years. The development of civilization and prehistoric states in the New World. Prehistoric lifeways and the effects of European contact on these cultures.	3 Credits
	ANTY 442 - Cities/Landscapes Central Asia Offered spring odd numbered years. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.	3 Credits
	ANTY 444 - Artistic Tradtns Central Asia Offered autumn odd-numbered years. Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits
	ANTY 457 - Arch of the Pacific Northwest Offered autumn odd-numbered years. Introduction to the study of archaeology in the Pacific Northwest region inclusive of the Northwest Coast and Columbia/Fraser-Thompson Plateau. Understanding hunter-gatherer adaptations, evolution of social complexity, and ancient history of contemporary native peoples in the region.	3 Credits
	ANTY 459 - Archof the Arctic/Subarctic Offered spring even-numbered years. Introduction to the study of Arctic and Subarctic archaeology emphasizing the Pleistocene and Holocene prehistory of North America and eastern Siberia. Understanding of methodological problems associated with archaeology in a northern context, the evolution of Inuit, Eskimo, Aleut and Athapaskan cultures, and hunter-gatherer adaptations to northern interior and coastal environments.	3 Credits
	ANTY 465 - Arch of the SW United States Offered autumn even-numbered years. The development of the prehistoric communities in the southwestern United States from ancient times to the dawn of history in the area.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subarea IV: Concepts and Issues

Rule: Complete one of the following

	Course	**Credits**
	ANTY 216 - Primates in Peril Offered intermittently. An overview of the living primates and their behavior with a focus on conservation issues that have an impact on primates.	3 Credits
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits

	ANTY 326E - Indigenous Peoples & Globl Dev Offered spring odd-numbered years. This class will examine the impact of global development on tribal and Indigenous peoples. Topics will include land issues, health, employment, and cultural change caused by global development and explore how these societies are resisting and adapting to their changing world.	3 Credits
	ANTY 336 - Myth, Ritual and Religion Offered autumn odd-numbered years. Theories and practices concerning supernatural phenomena, and the comparative study of world religions and cosmological traditions of indigenous peoples throughout the world.	3 Credits
	ANTY 349 - Social Change in NnWstrn Socts Offered autumn, odd-numbered years. Study of the processes of change, modernization and development.	3 Credits
	ANTY 422 - Mind, Culture and Society Offered autumn even-numbered years. Prereq., ANTY 220S or consent of instr. The study of socialization, personality, cognition, and mental health cross-culturally.	3 Credits
	ANTY 423 - Culture and Identity Offered spring. The comparative study of identity formation along and across racial, ethnic, and ethno-national lines. Emphasis on issues of ethnogenesis, cultural resistance, transformation, domination, colonialism as well as sharing to understand both the cultural commonalties and differences in identity formation.	3 Credits
	ANTY 427 - Anthropology of Gender Offered spring. Comparative study of the history and significance of gender in social life.	3 Credits
	ANTY 435 - Drugs, Culture and Society Offered intermittently. Drug use in a cross-cultural perspective. The role of drugs in cultural expression and social interaction. Examination of the prehistory of drug use, drug use in traditional non-Western and Western societies, and drug use in the context of global sociocultural change.	3 Credits
	ANTY 440 - Contemporary Issues of SE Asia Offered intermittently. Prereq., ANTY 102H. An examination of the major issues that affect the contemporary experience of South and Southeast Asians.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 477 - Bilingualism Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits

	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits
	NASX 306X - Contemp Global Iss Indg People Offered Autumn. An examination of the major issues that affect the contemporary experiences of Indigenous Peoples of the Americas, and other global communities.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Medical Anthropology Option

Rule: Must complete the following subcategories

12 Total Credits Required

Option Requirements

Rule: Complete the following course

	Course	Credits
	ANTY 426 - Culture, Health and Healing Offered autumn. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Option Electives

Rule: Complete 3 courses

	Course	Credits
	ANTY 333 - Culture and Population Offered autumn, even-numbered years. The relationship between population processes and culture to the human condition; survey data, methodologies, theories of demographic and culture change.	3 Credits
	ANTY 336 - Myth, Ritual and Religion Offered autumn odd-numbered years. Theories and practices concerning supernatural phenomena, and the comparative study of world religions and cosmological traditions of indigenous peoples throughout the world.	3 Credits

	ANTY 418 - Ecol Genet Var Human Pops Offered spring. Prereq. ANTY 310. Human genetic variation examined from a molecular perspective. Emphasis on the role of infectious disease and other factors as a selective factor in human evolution and exploration of the implications of these associations for human genetic variation.	3 Credits
	ANTY 422 - Mind, Culture and Society Offered autumn even-numbered years. Prereq., ANTY 220S or consent of instr. The study of socialization, personality, cognition, and mental health cross-culturally.	3 Credits
	ANTY 435 - Drugs, Culture and Society Offered intermittently. Drug use in a cross-cultural perspective. The role of drugs in cultural expression and social interaction. Examination of the prehistory of drug use, drug use in traditional non-Western and Western societies, and drug use in the context of global sociocultural change.	3 Credits
	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Anthropology Minor

Minor - Anthropology (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18
Required Cumulative GPA: 2.0

Lower Core Courses

Rule: Must complete all of the following:

	Course	**Credits**
	ANTY 210N - Intro to Physical Anthropology Offered autumn and spring. An introduction to human evolutionary biology including processes of evolution, primate studies, hominid paleontology, and human variation.	3 Credits
	ANTY 220S - Culture & Society Offered autumn and spring. Study of social organization of non-western societies; emphasis on variations in ecology, social structure, economic, political and religious beliefs and practices.	3 Credits

	ANTY 250S - Intro to Archaeology Offered autumn and spring. What archaeologists do and how they reconstruct past human cultures. Methodological and theoretical approaches to understanding and explaining past human societies.	3 Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Subarea 1 Elective

Rule: Must complete 1 of the following:

Note: If ANTY 466 or ANTY 495 are taken, they must be taken for 3 credits

	Course	Credits
	ANTY 312 - Human Evolution Offered autumn. Prereq., ANTY 210N. An exploration of the fossil and archaeological records of the evolution of human beings, and of current methods and theories used in interpreting these data.	3 Credits
	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits
	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits
	ANTY 404 - Anthropological Museology Offered spring even-numbered years. Prereq., ANTY 101H. Introduction to anthropological museums, museum work and museum theory.	3 Credits
	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits

	ANTY 412 - Osteology Offered autumn. Prereq., ANTY 314 and consent of instr. A detailed examination of the human skeleton with an emphasis on identifying individual bones and their structures. Specifically extended to fragmentary skeletal elements. Direct hands-on experience required.	4 Credits
	ANTY 413 - Forensic and Mortuary Arch Offered spring. Prereq., ANTY 314 and consent of instr. Practical approaches to locating, documenting and recovering human skeletal remains, including surface scatters and burials. Emphasis on interpretations of evidence for recovery scene formation and mortuary behavior.	3 Credits
	ANTY 415 - Emergence Modern Humans Offered spring. Prereq., ANTY 210N. An exploration of the emergence of "modern" humans and their relationships with Neanderthals. Exploration of what it means to be "a modern human" through an examination of human evolutionary history.	3 Credits
	ANTY 416 - Dental Anthropology Offered intermittently. Prereq., ANTY 210N. The use of information from teeth in investigating evolutionary trends, the relationships between human groups, subsistence change, and culture change.	3 Credits
	ANTY 430 - Social Anthropology Offered spring even-numbered years. Seminar style senior capstone course for cultural anthropology students. This course focuses on bringing theory and methods together in written and visual ethnography.	3 Credits
	ANTY 431 - Ethnographic Field Methods Offered spring odd-numbered years. Prereq., ANTY 220S or consent of instr. Introduction to socio-cultural anthropological methods including participant observation, interviewing and narrative techniques and analysis of qualitative data.	3 Credits
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits
	ANTY 454 - Lithic Technology Offered autumn odd-numbered years. Prereq., ANTY 250S and consent of instr. Analysis of stone artifacts and debitage.	3 Credits
	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits

	ANTY 456 - Historic Archaeology Offered spring. Prereq., ANTY 250S or consent of instr. Understanding and interpreting the past through historical archaeological remains, methods, and theories. Focuses on historical archaeological sites and topics from the American West, but also examines the field's global perspective.	3 Credits
	ANTY 458 - Arch of Hunter-Gatherers Offered autumn even-numbered years. Introduction to the archaeological study of hunter-gatherer societies. Primary emphasis on archaeological method and theory.	3 Credits
	ANTY 466 - Archaeological Survey (R-12) Prereq., ANTY 250S. Offered autumn. A field course in Montana archaeology.	1 To 12 Credits
	ANTY 467 - Archaeological Field School (R-12) Offered summer. Prereq., ANTY 250S and consent of instructor. Provides students with a well-rounded experience in archaeological field methods. Field schools will typically occur at archaeological site locations away from campus. During the archaeological field experience, students may learn methods of excavation, survey, research, and analysis to facilitate their transition to careers as professional archaeologists.	3 To 12 Credits
	ANTY 476 - Methods for Native Languages (R-6) Offered Spring. In an effort to highlight promising methodologies that will advance the success of Native language acquisition and instruction, students will be exposed to an innovative methodology while being instructed in an Indigenous language.	3 Credits
	ANTY 495 - Field Experience: (R- 12) Offered intermittently. Prereq., consent of instr. Organized field experience in anthropology.	1 To 12 Credits
	LING 472 - Generative Syntax Offered autumn. Prereq., LING 470. A study of the human language sentence–formation system, the means for expressing semantic information as propositional content. Emphasis on the abstraction of utterances in the form of mathematical objects. This course co-convenes with LING 572.	3 Credits
	LING 475 - Linguistic Field Methods Offered spring odd-numbered years. Prereq., LING 470. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a less commonly taught language. This course co-convenes with LING 575.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subareas 2,3 and 4 Electives

Rule: Must complete 1 of the following:

	Course	**Credits**

	AAS 415 - The Black Radical Tradition Offered intermittently. Same as HSTA 415. Prereq., HSTR 200 and only open to majors and minors in history or consent of instructor. From slave revolts through to the Move rebellion in Philadelphia, this course examines how the African-American community has engaged in radical efforts to change the status quo in the name of seeking justice.	3 Credits
	ANTY 216 - Primates in Peril Offered intermittently. An overview of the living primates and their behavior with a focus on conservation issues that have an impact on primates.	3 Credits
	ANTY 310 - Human Variation Offered autumn. Prereq., ANTY 210N or consent of instr. Introduction to human biological variation, and to the methods and theories that are used to explain the distribution of variable features.	3 Credits
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits
	ANTY 323 - Native People of Montana Offered spring. The history and culture of the Indian tribes in Montana.	3 Credits
	ANTY 326E - Indigenous Peoples & Globl Dev Offered spring odd-numbered years. This class will examine the impact of global development on tribal and Indigenous peoples. Topics will include land issues, health, employment, and cultural change caused by global development and explore how these societies are resisting and adapting to their changing world.	3 Credits
	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	ANTY 333 - Culture and Population Offered autumn, even-numbered years. The relationship between population processes and culture to the human condition; survey data, methodologies, theories of demographic and culture change.	3 Credits
	ANTY 336 - Myth, Ritual and Religion Offered autumn odd-numbered years. Theories and practices concerning supernatural phenomena, and the comparative study of world religions and cosmological traditions of indigenous peoples throughout the world.	3 Credits
	ANTY 347 - Central Asia and Its Neighbors Offered intermittently. Analysis of the human communities and cultures of Central and Southwest Asia, with particular emphasis on the importance of relationships with neighboring countries and civilizations since ancient times.	3 Credits
	ANTY 349 - Social Change in NnWstrn Socts Offered autumn, odd-numbered years. Study of the processes of change, modernization and development.	3 Credits
	ANTY 351H - Archaeology of North America Offered autumn. The origins, backgrounds and development of Pre-Columbian American peoples and cultures.	3 Credits

	ANTY 352X - Archaeology of Montana Offered spring. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions.	3 Credits
	ANTY 353 - PaleoIndian Archaeology Offered spring or winter, even-numbered years. Examines archaeological, linguistic, biological and skeletal data to determine from where and when Native Americans arrived in North America. Examines archaeological sites from such diverse places as Montana, Siberia, Virginia, and Chile to answer the most intriguing question in contemporary American archaeology today: how, when and from where did people first arrive in the Americas?	3 Credits
	ANTY 354H - Mesoamerican Prehistory Offered spring odd-numbered years. The development of civilization and prehistoric states in the New World. Prehistoric lifeways and the effects of European contact on these cultures.	3 Credits
	ANTY 418 - Ecol Genet Var Human Pops Offered spring. Prereq. ANTY 310. Human genetic variation examined from a molecular perspective. Emphasis on the role of infectious disease and other factors as a selective factor in human evolution and exploration of the implications of these associations for human genetic variation.	3 Credits
	ANTY 422 - Mind, Culture and Society Offered autumn even-numbered years. Prereq., ANTY 220S or consent of instr. The study of socialization, personality, cognition, and mental health cross-culturally.	3 Credits
	ANTY 423 - Culture and Identity Offered spring. The comparative study of identity formation along and across racial, ethnic, and ethno-national lines. Emphasis on issues of ethnogenesis, cultural resistance, transformation, domination, colonialism as well as sharing to understand both the cultural commonalties and differences in identity formation.	3 Credits
	ANTY 426 - Culture, Health and Healing Offered autumn. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.	3 Credits
	ANTY 427 - Anthropology of Gender Offered spring. Comparative study of the history and significance of gender in social life.	3 Credits
	ANTY 435 - Drugs, Culture and Society Offered intermittently. Drug use in a cross-cultural perspective. The role of drugs in cultural expression and social interaction. Examination of the prehistory of drug use, drug use in traditional non-Western and Western societies, and drug use in the context of global sociocultural change.	3 Credits
	ANTY 440 - Cont. Issues of SSEA Offered intermittently. Prereq., ANTY 102H. An examination of the major issues that affect the contemporary experience of South and Southeast Asians.	3 Credits
	ANTY 442 - Cities/Landscapes Central Asia Offered spring odd numbered years. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.	3 Credits

	ANTY 444 - Artistic Tradtns Central Asia Offered autumn odd-numbered years. Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits
	ANTY 457 - Arch of the Pacific Northwest Offered autumn odd-numbered years. Introduction to the study of archaeology in the Pacific Northwest region inclusive of the Northwest Coast and Columbia/Fraser-Thompson Plateau. Understanding hunter-gatherer adaptations, evolution of social complexity, and ancient history of contemporary native peoples in the region.	3 Credits
	ANTY 459 - Archof the Arctic/Subarctic Offered spring even-numbered years. Introduction to the study of Arctic and Subarctic archaeology emphasizing the Pleistocene and Holocene prehistory of North America and eastern Siberia. Understanding of methodological problems associated with archaeology in a northern context, the evolution of Inuit, Eskimo, Aleut and Athapaskan cultures, and hunter-gatherer adaptations to northern interior and coastal environments.	3 Credits
	ANTY 465 - Arch of the SW United States Offered autumn even-numbered years. The development of the prehistoric communities in the southwestern United States from ancient times to the dawn of history in the area.	3 Credits
	LING 375X - Endangered Languages Offered intermittently. Survey of endangered languages and the communities in which those endangered languages are spoken. Topics to be addressed include linguistic diversity, language endangerment, language shift and loss, language maintenance efforts, and prospects for the future of these languages.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 477 - Bilingualism Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits
	NASX 306X - Contemp Global Iss Indg People Offered Autumn. An examination of the major issues that affect the contemporary experiences of Indigenous Peoples of the Americas, and other global communities.	3 Credits

	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Anthropology B.A.

Anthropology is an interconnected discipline and majors are urged to acquire a broad background especially in the natural and social sciences and the humanities. Recommended areas of study are biology, economics, English, geography, geology, history, communication studies, linguistics, Native American studies, philosophy, political science, psychology, religious studies, and sociology.

Bachelor of Arts - Anthropology

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.0

Note: There are no prerequisites to the undergraduate major. The major requires 36 credits in Anthropology, Linguistics, or Native American Studies, 12 of which must be the core offerings. In addition to the core courses, students are required to have a course in quantitative methods. Students must complete the core courses and the quantitative course with a letter grade of C- or better

Lower Division Core Courses

Rule: Complete all courses

	Course	**Credits**
	ANTY 210N - Intro to Physical Anthropology Offered autumn and spring. An introduction to human evolutionary biology including processes of evolution, primate studies, hominid paleontology, and human variation.	3 Credits
	ANTY 220S - Culture & Society Offered autumn and spring. Study of social organization of non-western societies; emphasis on variations in ecology, social structure, economic, political and religious beliefs and practices.	3 Credits
	ANTY 250S - Intro to Archaeology Offered autumn and spring. What archaeologists do and how they reconstruct past human cultures. Methodological and theoretical approaches to understanding and explaining past human societies.	3 Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits

Minimum Required Grade: C-	12 Total Credits Required

Anthropology or Cognate Electives

Rule: Complete 12 credits.

Note: Speak to your academic adviser for a full list of approved Anthropology or Cognate electives.

Minimum Required Grade: C-

12 Total Credits Required

Upper Division Writing Requirement

Rule: Complete either an upper-division writing course from approved list in catalog, or one of the following courses listed below.

	Course	Credits
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits
	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits
	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits
	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits

	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea I-Theory and Methods

Rule: Complete 3 credits in Theory and 3 credits in Methods
Minimum Required Grade: C-
6 Total Credits Required

Anthropological Theory

Rule: Complete one of the following

	Course	Credits
	ANTY 312 - Human Evolution Offered autumn. Prereq., ANTY 210N. An exploration of the fossil and archaeological records of the evolution of human beings, and of current methods and theories used in interpreting these data.	3 Credits
	ANTY 400 - History of Anthropology Offered autumn. Prereq., ANTY 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.	3 Credits
	ANTY 403E - Ethics and Anthropology Offered intermittently. Prereq., ANTY 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.	3 Credits
	ANTY 404 - Anthropological Museology Offered spring even-numbered years. Prereq., ANTY 101H. Introduction to anthropological museums, museum work and museum theory.	3 Credits
	ANTY 415 - Emergence Modern Humans Offered spring. Prereq., ANTY 210N. An exploration of the emergence of "modern" humans and their relationships with Neanderthals. Exploration of what it means to be "a modern human" through an examination of human evolutionary history.	3 Credits

	ANTY 430 - Social Anthropology Offered spring even-numbered years. Seminar style senior capstone course for cultural anthropology students. This course focuses on bringing theory and methods together in written and visual ethnography.	3 Credits
	ANTY 450 - Archaeological Theory Offered autumn odd-numbered years. Prereq., ANTY 250S. Historical trends and current major theories and methods in archaeology.	3 Credits
	ANTY 456 - Historic Archaeology Offered spring. Prereq., ANTY 250S or consent of instr. Understanding and interpreting the past through historical archaeological remains, methods, and theories. Focuses on historical archaeological sites and topics from the American West, but also examines the field's global perspective.	3 Credits
	ANTY 458 - Arch of Hunter-Gatherers Offered autumn even-numbered years. Introduction to the archaeological study of hunter-gatherer societies. Primary emphasis on archaeological method and theory.	3 Credits
	LING 470 - Linguistic Analysis Offered autumn. An in-depth examination of the formal properties of language, concentrating on the core areas of linguistic analysis (phonetics, phonology, morphology, syntax and semantics).	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Anthropological Methods

Rule: Complete one of the following

	Course	Credits
	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 408 - Advanced Anthro Statistics Offered intermittently. Prereq., ANTY 401 or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.	3 Credits
	ANTY 412 - Osteology Offered autumn. Prereq., ANTY 314 and consent of instr. A detailed examination of the human skeleton with an emphasis on identifying individual bones and their structures. Specifically extended to fragmentary skeletal elements. Direct hands-on experience required.	4 Credits

	ANTY 413 - Forensic and Mortuary Arch Offered spring. Prereq., ANTY 314 and consent of instr. Practical approaches to locating, documenting and recovering human skeletal remains, including surface scatters and burials. Emphasis on interpretations of evidence for recovery scene formation and mortuary behavior.	3 Credits
	ANTY 416 - Dental Anthropology Offered intermittently. Prereq., ANTY 210N. The use of information from teeth in investigating evolutionary trends, the relationships between human groups, subsistence change, and culture change.	3 Credits
	ANTY 431 - Ethnographic Field Methods Offered spring odd-numbered years. Prereq., ANTY 220S or consent of instr. Introduction to socio-cultural anthropological methods including participant observation, interviewing and narrative techniques and analysis of qualitative data.	3 Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits
	ANTY 454 - Lithic Technology Offered autumn odd-numbered years. Prereq., ANTY 250S and consent of instr. Analysis of stone artifacts and debitage.	3 Credits
	ANTY 455 - Artifact Analysis Offered spring. Prereq., ANTY 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.	3 Credits
	ANTY 466 - Archaeological Survey (R-12) Prereq., ANTY 250S. Offered autumn. A field course in Montana archaeology.	1 To 12 Credits
	ANTY 476 - Methods for Native Languages (R-6) Offered Spring. In an effort to highlight promising methodologies that will advance the success of Native language acquisition and instruction, students will be exposed to an innovative methodology while being instructed in an Indigenous language.	3 Credits
	ANTY 495 - Field Experience: (R- 12) Offered intermittently. Prereq., consent of instr. Organized field experience in anthropology.	1 To 12 Credits

	LING 474 - Historical Linguistics Offered spring even-numbered years. Prereq., LING 470. An introduction to the study of language change over time. Topics include: methods for studying language change (the comparative method and internal reconstruction); types of language change (sound change, borrowing, analogical change, lexical, syntactic, and semantic change); and explanations for language change. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change. This course co-convenes with LING 574.	3 Credits
	LING 475 - Linguistic Field Methods Offered spring odd-numbered years. Prereq., LING 470. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a less commonly taught language. This course co-convenes with LING 575.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea II, III, IV

Rule: Complete 6 credits from 2 of 3 Subareas
Minimum Required Grade: C-
6 Total Credits Required

Subarea II: Human Adaptation and Diversity

Rule: Complete one of the following

	Course	Credits
	ANTY 122S - Race and Minorities Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.	3 Credits
	ANTY 133H - Food and Culture Offered spring. Examination of the ways culture shapes the satisfaction of a biological need; food production, preparation, choices, customs, taste, taboos, beverages, spices and food distribution around the globe.	3 Credits
	ANTY 211N - Anthropological Genetics Offered intermittently. Genetics-related problems that confront individuals and society. Variation and natural selection in human populations. Designed for non-biology majors.	3 Credits
	ANTY 310 - Human Variation Offered autumn. Prereq., ANTY 210N or consent of instr. Introduction to human biological variation, and to the methods and theories that are used to explain the distribution of variable features.	3 Credits
	ANTY 333 - Culture and Population Offered autumn, even-numbered years. The relationship between population processes and culture to the human condition; survey data, methodologies, theories of demographic and culture change.	3 Credits

	ANTY 417 - Adaptation & Nutritional Anth Offered intermittently. Prereq., ANTY 210N. An examination of the adaptation of human populations to the environment and food supply via evolutionary, physiological, and cultural mechanisms.	3 Credits
	ANTY 418 - Ecol Genet Var Human Pops Offered spring. Prereq. ANTY 310. Human genetic variation examined from a molecular perspective. Emphasis on the role of infectious disease and other factors as a selective factor in human evolution and exploration of the implications of these associations for human genetic variation.	3 Credits
	ANTY 426 - Culture, Health and Healing Offered autumn. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.	3 Credits
	LING 375X - Endangered Languages Offered intermittently. Survey of endangered languages and the communities in which those endangered languages are spoken. Topics to be addressed include linguistic diversity, language endangerment, language shift and loss, language maintenance efforts, and prospects for the future of these languages.	3 Credits
	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea III: World Societies and Cultures

Rule: Complete one of the following

	Course	Credits
	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	ANTY 241H - Central Asian Culture and Civ Offered autumn even numbered years. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits
	ANTY 251H - Foundations of Civilization Offered intermittently. Focus on the worldwide evolution of human society from Stone Age hunter-gatherers to the beginnings of modern civilization. Approached through the colorful and exciting world of archaeologists and the sites they excavate.	3 Credits

	ANTY 254H - Arch Wonders of the World Offered spring even numbered years. This course highlights the classical civilizations of the ancient world, fields such as Egyptology and Classical Archaeology, and the major archaeological discoveries which are associated with them.	3 Credits
	ANTY 323X - Native Peoples of Montana Offered spring. The history and culture of the Indian tribes in Montana.	3 Credits
	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	ANTY 347 - Central Asia and Its Neighbors Offered intermittently. Analysis of the human communities and cultures of Central and Southwest Asia, with particular emphasis on the importance of relationships with neighboring countries and civilizations since ancient times.	3 Credits
	ANTY 351H - Archaeology of North America Offered autumn. The origins, backgrounds and development of Pre-Columbian American peoples and cultures.	3 Credits
	ANTY 352X - Archaeology of Montana Offered spring. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions.	3 Credits
	ANTY 353 - PaleoIndian Archaeology Offered spring or winter, even-numbered years. Examines archaeological, linguistic, biological and skeletal data to determine from where and when Native Americans arrived in North America. Examines archaeological sites from such diverse places as Montana, Siberia, Virginia, and Chile to answer the most intriguing question in contemporary American archaeology today: how, when and from where did people first arrive in the Americas?	3 Credits
	ANTY 354H - Mesoamerican Prehistory Offered spring odd-numbered years. The development of civilization and prehistoric states in the New World. Prehistoric lifeways and the effects of European contact on these cultures.	3 Credits
	ANTY 442 - Cities/Landscapes Central Asia Offered spring odd numbered years. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.	3 Credits
	ANTY 444 - Artistic Tradtns Central Asia Offered autumn odd-numbered years. Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits
	ANTY 457 - Arch of the Pacific Northwest Offered autumn odd-numbered years. Introduction to the study of archaeology in the Pacific Northwest region inclusive of the Northwest Coast and Columbia/Fraser-Thompson Plateau. Understanding hunter-gatherer adaptations, evolution of social complexity, and ancient history of contemporary native peoples in the region.	3 Credits

	ANTY 459 - Archof the Arctic/Subarctic Offered spring even-numbered years. Introduction to the study of Arctic and Subarctic archaeology emphasizing the Pleistocene and Holocene prehistory of North America and eastern Siberia. Understanding of methodological problems associated with archaeology in a northern context, the evolution of Inuit, Eskimo, Aleut and Athapaskan cultures, and hunter-gatherer adaptations to northern interior and coastal environments.	3 Credits
	ANTY 465X - Arch of the SW United States Offered intermittently. The development of the prehistoric communities in the southwestern United States from ancient times to the dawn of history in the area.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subarea IV: Concepts and Issues

Rule: Complete one of the following

	Course	Credits
	ANTY 216 - Primates in Peril Offered intermittently. An overview of the living primates and their behavior with a focus on conservation issues that have an impact on primates.	3 Credits
	ANTY 314 - Principles of Forensic Anthro Offered autumn. Prereq., ANTY 210N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human rights abuses.	3 Credits
	ANTY 326E - Indigenous Peoples & Globl Dev Offered spring odd-numbered years. This class will examine the impact of global development on tribal and Indigenous peoples. Topics will include land issues, health, employment, and cultural change caused by global development and explore how these societies are resisting and adapting to their changing world.	3 Credits
	ANTY 336 - Myth, Ritual and Religion Offered autumn odd-numbered years. Theories and practices concerning supernatural phenomena, and the comparative study of world religions and cosmological traditions of indigenous peoples throughout the world.	3 Credits
	ANTY 349 - Social Change in NnWstrn Socts Offered autumn, odd-numbered years. Study of the processes of change, modernization and development.	3 Credits
	ANTY 422 - Mind, Culture and Society Offered autumn even-numbered years. Prereq., ANTY 220S or consent of instr. The study of socialization, personality, cognition, and mental health cross-culturally.	3 Credits

	ANTY 423 - Culture and Identity Offered spring. The comparative study of identity formation along and across racial, ethnic, and ethno-national lines. Emphasis on issues of ethnogenesis, cultural resistance, transformation, domination, colonialism as well as sharing to understand both the cultural commonalties and differences in identity formation.	3 Credits
	ANTY 427 - Anthropology of Gender Offered spring. Comparative study of the history and significance of gender in social life.	3 Credits
	ANTY 435 - Drugs, Culture and Society Offered intermittently. Drug use in a cross-cultural perspective. The role of drugs in cultural expression and social interaction. Examination of the prehistory of drug use, drug use in traditional non-Western and Western societies, and drug use in the context of global sociocultural change.	3 Credits
	ANTY 440 - Contemporary Issues of SE Asia Offered intermittently. Prereq., ANTY 102H. An examination of the major issues that affect the contemporary experience of South and Southeast Asians.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 477 - Bilingualism Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits
	NASX 306X - Contemp Global Iss Indg People Offered Autumn. An examination of the major issues that affect the contemporary experiences of Indigenous Peoples of the Americas, and other global communities.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Forensic Studies Certificate

The certificate in forensic studies is designed so that students may complete the requirements either as resident students at UM-Missoula or completely online through UM-Missoula's online facility.

To earn a certificate in forensic studies the student must complete a minimum of 18 credits, including 6 credits in core forensic science courses.

Certificate of Art - Forensic Studies

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18

Required Cumulative GPA: 2.0

Note: The Certificate in Forensic Studies is primarily designed as a step toward a baccalaureate degree for those interested in a career in the forensic sciences or a related field. It is also designed as an avenue for law enforcement agents, forensic scientists, or other professionals in the justice system to satisfy mandatory continuing education requirements for continued employment or promotion.

Core Courses

Rule: All courses required.

	Course	Credits
	CJUS 125N - Fund of Forensic Science Offered autumn and online spring. A survey of the forensic sciences and related disciplines and their use in criminal investigations, the role of forensic scientists in the investigative process and as expert witnesses.	3 Credits
	CJUS 488 - For Sci Crime Lab & Beyond Offered spring and online in autumn. Examination of the forensic sciences with emphases on the non-crime lab forensic sciences, new technologies, and new directions in the forensic sciences.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Science Electives

Rule: Must complete 6 credits

Note: To meet this requirement, students must complete six credits in courses with a suffix of "N" (courses that have been designated as University of Montana- Missoula General Education Group XI, Natural Sciences) in any department. Any Criminology courses offered through the Sociology department also count towards meeting this requirement. Courses numbered under 100 may not be counted toward meeting this requirement. Minimum grade required is C-.

Minimum Required Grade: C

6 Total Credits Required

Communication Elective

Rule: Must complete a 3 credit course

Note: To meet this requirement, student must complete one, 3-credit course related to written, oral, or pictorial communication, including selected courses in Art, Curriculum & Instruction, Communication Studies, Computer Science, English, Forestry, Journalism, Linguistics, and Media Arts. Courses numbered under 100 may not be counted toward meeting this requirement. WRIT 101 will not be accepted as fulfilling this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Ethics Elective

Rule: Must complete a 3 credit course

Note: To meet this requirement, student must complete one, 3-credit course that has been designated as a University of Montana - Missoula General Education Group VIII (Ethics and Human Values) course in any department.

Minimum Required Grade: C

3 Total Credits Required

Historic Preservation Certificate

Historic Preservation is the interdisciplinary field that seeks to identify, document, preserve and protect significant structures, sites and landscapes.

Certificate of Applied Science - Historic Preservation

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 21

Required Cumulative GPA: 2.0

Note: Historic Preservation is the interdisciplinary field that seeks to identify, document, preserve and protect significant structures, sites and landscapes. To earn a certificate in historic preservation the student must complete a minimum of 21 credits.

Core Courses

Rule: must complete all courses

	Course	Credits
	ANTY 451 - Cultural Resource Management Offered autumn. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the management of archaeological sites, historic structures, and traditional cultural places due to federal laws. Emphasis is on laying foundation of CRM practices for students interested in pursuing it as a potential career.	3 Credits
	ANTY 456 - Historic Archaeology Offered spring. Prereq., ANTY 250S or consent of instr. Understanding and interpreting the past through historical archaeological remains, methods, and theories. Focuses on historical archaeological sites and topics from the American West, but also examines the field's global perspective.	3 Credits
	GPHY 465 - Planning Princ & Processes Offered autumn even-numbered years. Prereq., upper-division or graduate standing. Surveys planning principles, practices and issues in urban and rural environments. Attention is devoted to Montana, state planning programs in the United States., and federal programs and policies that influence land-use planning. Emphasizes skills and techniques used in plan development and implementation.	3 Credits
	HPRV 400 - Historic Preservation Offered spring even-numbered years. This course is intended to provide a comprehensive foundation to historic preservation practice and issues.Topics include the history and theory of the American historic preservation movement, identification and documentation of historic properties, preservation technology, strategies for conservation of historic resources and a critical examination of the philosophy and principles of preservation.	3 Credits

	THTR 335H - Architectural History Offered autumn. Knowledge and understanding of architectural styles, designs and choices of the built environment from prehistoric megalithic architecture to the start of the modern age.	3 Credits
Minimum Required Grade: C		15 Total Credits Required

History Electives

Rule: Must complete three credits

	Course	Credits
	HSTA 320 - Birth of Modern US (AM) The history of the U.S. from 1877 to 1920 is largely the story of Americans responding to profound social, cultural and economic change. In an effort to bring order to their changing world, Americans created new institutions, retooled their ideologies, and improved the nation's infrastructure. The order they created is, in modified form, still with us today. Students will explore the myriad changes that transformed the United States during this period and study the social, political, and cultural struggles that shaped the emergence of Modern America.	3 Credits
	HSTA 321 - America in Crisis (AM) This era in U.S. history was marked by a series of crises: the contested transition to modernity during the 1920s, the Great Depression, and World War II and its aftermath. This course will explore how Americans responded to these crises, why they responded to them the way they did, and how their responses altered the society in which they lived.	3 Credits
	HSTA 322 - American History: WWII to Pres (AM) The Cold War and its consequences, the civil rights revolution, affluence and anxiety, counter-culture, political radicalism, feminism, the Nixon years, Watergate and after.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Internship or Independent Study

Rule: Must complete three credits

Note: Internship must be with an approved, appropriate preservation-based agency or focused on an approved preservation-based topic.

	Course	Credits
	ANTY 398 - Internship Offered intermittently. Prereq., 9 credits in anthropology; consent of faculty supervisor and cooperative education officer. Practical application of classroom learning through internship in a number of areas such as museology, cultural resource management, and forensics. A maximum of 6 credits of Internship (198, 298, 398, and 498) may count toward graduation.	1 To 6 Credits

	ANTY 492 - Independent Study (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
Minimum Required Grade: C		3 Total Credits Required

Linguistics Minor

Minor - Linguistics (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18

Required Cumulative GPA: 2.0

Note: To earn a Minor in Linguistics, students must complete 18 credits beyond their major degree requirements.

Upper Division Core Courses

Rule: Complete the following subcategories of courses

9 Total Credits Required

Core Course

Rule: Must complete the following course

	Course	**Credits**
	LING 470 - Linguistic Analysis Offered autumn. An in-depth examination of the formal properties of language, concentrating on the core areas of linguistic analysis (phonetics, phonology, morphology, syntax and semantics).	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Additional Core Courses

Rule: Must complete 2 of the following 3 courses

	Course	**Credits**
	LING 471 - Phonetics and Phonology Offered autumn. Prereq., LING 470. A study of phonetic and phonological systems from as many as 20 languages, most of them non–Indo–European; training in how to do linguistic analysis as well as linguistic theory. This course co-convenes with LING 571.	3 Credits

	LING 472 - Generative Syntax Offered autumn. Prereq., LING 470. A study of the human language sentence–formation system, the means for expressing semantic information as propositional content. Emphasis on the abstraction of utterances in the form of mathematical objects. This course co-convenes with LING 572.	3 Credits
	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Elective Courses

Rule: Must complete 3 of the following courses

Note: Please note: In earning this minor, neither LING 270S nor LING 465 may be taken after LING 470. In addition, only 1 of LING 270S and LING 465 may be counted towards the minor. LING 471, LING 472, and LING 489 may be taken as an elective, if not taken as a required core course.

	Course	Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
	LING 375X - Endangered Languages Offered intermittently. Survey of endangered languages and the communities in which those endangered languages are spoken. Topics to be addressed include linguistic diversity, language endangerment, language shift and loss, language maintenance efforts, and prospects for the future of these languages.	3 Credits
	LING 465 - Structure & History of English Offered once per year. The development of the English language from a historical perspective contrasted with the phonological and grammatical structure of English from a modern linguistic point of view; specifically designed for teachers.	3 Credits
	LING 471 - Phonetics and Phonology Offered autumn. Prereq., LING 470. A study of phonetic and phonological systems from as many as 20 languages, most of them non–Indo–European; training in how to do linguistic analysis as well as linguistic theory. This course co-convenes with LING 571.	3 Credits
	LING 472 - Generative Syntax Offered autumn. Prereq., LING 470. A study of the human language sentence–formation system, the means for expressing semantic information as propositional content. Emphasis on the abstraction of utterances in the form of mathematical objects. This course co-convenes with LING 572.	3 Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits

	LING 474 - Historical Linguistics Offered spring even-numbered years. Prereq., LING 470. An introduction to the study of language change over time. Topics include: methods for studying language change (the comparative method and internal reconstruction); types of language change (sound change, borrowing, analogical change, lexical, syntactic, and semantic change); and explanations for language change. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change. This course co-convenes with LING 574.	3 Credits
	LING 475 - Linguistic Field Methods Offered spring odd-numbered years. Prereq., LING 470. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a less commonly taught language. This course co-convenes with LING 575.	3 Credits
	LING 477 - Bilingualism Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.	3 Credits
	LING 478 - Learner Language Offered spring. Prereq., LING 270S or equivalent. Observing/describing language learners' behaviors and, to a degree, advances toward proficiency (i.e., fluency plus accuracy); the presence of error as conditioned by a priori knowledge of language and implications for child and adult development; and applying typical methods of linguistic analysis to the (non-) systematic variants in language form characterizing developmental processes as a way of trying to explain variable behavior.	3 Credits
	LING 484 - NA Indigenous Lang & Ling Offered autumn odd-numbered years. Prereq. LING 470. Description and analysis of grammatical features of Indigenous languages of North America. This course co-convenes with LING 584.	3 Credits
	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

English as a Second Language Certificate

Certificate of Art - Engl as a Sec Lang

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 22

Required Cumulative GPA: 2.0

Note: The Certificate is issued by the University upon the recommendation of the Linguistics Program and the Faculty Senate

Core Courses

Rule: Must complete the following subcategories

16 Total Credits Required

Required Courses

Rule: All courses are required

Note: Ling 495 ESL Practicum may be taken for 1 credit on a credit/no credit basis.

	Course	Credits
	LING 470 - Linguistic Analysis Offered autumn. An in-depth examination of the formal properties of language, concentrating on the core areas of linguistic analysis (phonetics, phonology, morphology, syntax and semantics).	3 Credits
	LING 471 - Phonetics and Phonology Offered autumn. Prereq., LING 470. A study of phonetic and phonological systems from as many as 20 languages, most of them non–Indo–European; training in how to do linguistic analysis as well as linguistic theory. This course co-convenes with LING 571.	3 Credits
	LING 472 - Generative Syntax Offered autumn. Prereq., LING 470. A study of the human language sentence–formation system, the means for expressing semantic information as propositional content. Emphasis on the abstraction of utterances in the form of mathematical objects. This course co-convenes with LING 572.	3 Credits
	LING 480 - Tchg Engl as For Lang Offered autumn online. Prereq., LING 270 or equiv. Same as ENLI 480. The application of principles of modern linguistics to the problems of teaching English as a foreign language.	3 Credits
	LING 495 - ESL Practicum Offered autumn and spring. Prereq., or coreq., LING 480. Offered every term. Students with a teaching major take the course for 3 credits; others take it for 1 credit and do one third of the work.	1 To 3 Credits
Minimum Required Grade: C-		13 Total Credits Required

Core Options

Rule: Complete 1 of the following courses

	Course	Credits
	LING 477 - Bilingualism Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.	3 Credits

	LING 478 - Learner Language Offered spring. Prereq., LING 270S or equivalent. Observing/describing language learners' behaviors and, to a degree, advances toward proficiency (i.e., fluency plus accuracy); the presence of error as conditioned by a priori knowledge of language and implications for child and adult development; and applying typical methods of linguistic analysis to the (non-) systematic variants in language form characterizing developmental processes as a way of trying to explain variable behavior.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Elective Courses

Rule: Complete 2 of the following courses

Note: Ling 477 or Ling 478 may be taken as an Elective if not taken as a Required Course.

	Course	Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 481 - The ESL Professional Offered intermittently. Prereq. or coreq., LING 491; prereq., LING 480 or consent of instr. Professional development techniques for the independent language teacher: language test construction, self–critique of teaching strategies, materials development, curriculum evaluation and design, and electronic and print media resources for the language teaching professional.	3 Credits
	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

African-American Studies

Tobin Miller Shearer, Program Director

African-American Studies at the University of Montana connects African and African-American (including Latin America and the Caribbean) history, experiences, and perspectives with the 21st century. The goal of the African-American Studies curriculum is to develop basic knowledge of, and appreciation for, the diverse experiences of the African Diaspora, and their contributions to the nations into which they were incorporated. Through this study students will recognize that the African-American narrative connects to the core issues of nation formation, identity politics, social movements, and the liberal state. Those who take this minor will likewise be equipped to talk alongside, through, and in the midst of the racial fracture lines that mark this nation as a country where the color of one's skin is socially significant. In all these efforts, we promote scholarship that is driven first and foremost by an interest in creating knowledge and furthering our understanding of the African-American experience. The interdisciplinary curriculum of African-American Studies includes course offerings from the following academic disciplines: anthropology, economics, English, geography, history, music, political science, and sociology. Some topics of study include: African heritage and cultural continuity among African-Americans; African-American identity issues and cultural variation; the history of African-American protest and

resistance, including the abolitionist, anti-lynching, and civil rights movements; the Harlem Renaissance; the social dynamics of integration and segregation; and the various circumstances of, and prospects for, African Americans in the 21st century.

Department Faculty

Affiliates

Jill Bergman, Professor Emeritus
Benedicte Boisseron, Associate Professor (MCLL)
Gregory Campbell, Professor
Johan Eriksson, Associate Professor of Saxophone and Jazz Studies
Jeffrey Gritzner, Emeritus Professor
Quan Manh Ha, Associate Professor
Anya Jabour, Regents Professor of History; Co-Director, Women & Gender Studies
Michael Mayer, Professor of History
George Price, Lecturer
Daisy Rooks, Associate Professor
Tobin Miller Shearer, Associate Professor of History; Director of Graduate Studies (History); Director of African-American Studies
Kyle G. Volk, Associate Professor of History
Celia Winkler, Professor

African-American Studies

Back to Top

- AAS 342H - Afr Amer Hist to 1865

  Credits: 3. Offered intermittently. Same as HSTA 342H. Survey of the African-American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism. Course Attributes: Historical & Cultural Course

- AAS 343H - Afr Amer Hist Since 1865

  Credits: 3. Offered intermittently. Same as HSTA 343H (HIST 379H). Study of the African-American experience since the Civil War. Change and continuity in the African-American experience, the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges. Course Attributes: Historical & Cultural Course

- AAS 347 - Voodoo, Muslim, Church

  Credits: 3. Offered intermittently. Same as HSTA 347. The African-American religious experience encompasses Islam, Christianity, Santería, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course is the question, “How did religion shape the experience of the African-American community?” Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history. Course Attributes: Writing Course-Approved

- AAS 415 - The Black Radical Tradition

  Credits: 3. Offered intermittently. Same as HSTA 415. Prereq., HSTR 200 and only open to majors and minors in history or consent of instructor. From slave revolts through to the Move rebellion in Philadelphia, this course examines how the African-American community has engaged in radical efforts to change the status quo in the name of seeking justice. Course Attributes: Writing Course-Advanced

- AAS 417 - Prayer & Civil Rights

  Credits: 3. (AM) Same as HSTA 417. HSTR 200 and only open to majors and minors in history or consent of instructor. This course explores the meaning of public prayer in the Civil Rights Movement. Built around the question, "Does religion help or hinder the pursuit of social change?" this class combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. By focusing on a particular religious practice - in this case prayer - in a specific, but limited period of time, this course challenges students to consider how meaning is formed through historical action and study the social significance of religious practice. This formed through historical action and study the social significance of religious practice. This course complicates prevailing ideas about the normalcy of African-American religious practitioners' prayer, invites students to examine their assumptions about the nature of prayer, and traces how

religion spilled out of sanctuaries into the streets during the civil rights era. Course Attributes: Writing Course-Advanced

African-American Studies

Back to Top

- AAST 141H - Black: From Africa to Hip-Hop
  Credits: 3. Offered autumn. Same as HIST 141H. This course introduces students to the primary questions, themes, and approaches to African-American Studies. In addition to examining key historical periods such as Reconstruction, the Harlem Renaissance, and the Civil Rights era, students will encounter Hip-Hop, African-American film, African-American religion, and contemporary identity politics. This course concludes by discussing the reasons for and new directions in African-American studies, including diaspora studies, Pan-Africanism, and post-colonial studies. Overall students will gain new insight into the social, cultural, political, and intellectual, experiences of a diverse people and into the history and contemporary experience of the United States. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)
- AAST 208H - Discovering Africa
  Credits: 3. Offered intermittently. Same as HIST 208H. Interdisciplinary study of the history of pre-colonial Africa, focusing on social, economic, political and cultural institutions and traditions including the wealth, diversity and complexity of ancient and classical African civilizations and cultures. Course Attributes: Hist & Cultural Studies (H)
- AAST 260 - African Americans and Native Americans
  Credits: 3. Offered intermittently. A study of the broad scope of relations between African Americans and Native Americans in colonial and United States history. Topics explored through history, sociology, and cultural anthropology.
- AAST 262 - Abolitionism: The First Civil Rights Movement
  Credits: 3. Offered spring. Same as HIST 262. Interdisciplinary, historical perspective on the early 19th century movement to abolish slavery and racial discrimination in the United States.
- AAST 291 - Special Topics
  Credits: 1 TO 12. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- AAST 372 - African-American Identity
  Credits: 3. Offered intermittently. Interdisciplinary course designed to explore and illuminate the multifaceted nature and development of African-American group and individual identity.
- AAST 392 - Independent Study
  Credits: 1 TO 9. (R-9) Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.
- AAST 491 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- AAST 492 - Independent Study
  Credits: 1 TO 9. (R-9) Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.
- AAST 499 - Capstone/Thesis
  Credits: 1 TO 6. (R-6) Prereq., consent of instr.

African-American Studies Minor

Minor - African-American Studies (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 24

Required Cumulative GPA: 2.0

African-American Studies Core Courses

Rule: All courses are required

Note: Several of these courses are cross-listed with history (HSTA) and maybe taken under that subject:
AAS 141H = HSTA 141H
AAS 342H = HSTA 342H
AAS 343H = HSTA 343H

	Course	Credits
	AAST 141H - Black: Africa to Hip-Hop Offered autumn. Same as HIST 141H. This course introduces students to the primary questions, themes, and approaches to African-American Studies. In addition to examining key historical periods such as Reconstruction, the Harlem Renaissance, and the Civil Rights era, students will encounter Hip-Hop, African-American film, African-American religion, and contemporary identity politics. This course concludes by discussing the reasons for and new directions in African-American studies, including diaspora studies, Pan-Africanism, and post-colonial studies. Overall students will gain new insight into the social, cultural, political, and intellectual, experiences of a diverse people and into the history and contemporary experience of the United States.	3 Credits
	HSTA 342H - Afr Amer Hist to 1865 (AM) Offered intermittently. Same as AAS 342H. Survey of the African American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism.	3 Credits
	HSTA 343H - Afr Amer Hist Since 1865 (AM) Same as AAS 343H. Study of the African American experience since the Civil War. Change and continuity in the African American experience, the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

African-American Studies Electives

Rule: 6 credits required from the following electives, 3 of which must be in an upper division course

Note: Several of these courses are cross-listed with history (HSTA) and maybe taken under that subject:
AAS 347 = HSTA 347;
AAS 415 = HSTA 415;
AAS 417 = HSTA 417

	Course	Credits

	AAST 208H - Discovering Africa Offered intermittently. Same as HIST 208H. Interdisciplinary study of the history of pre-colonial Africa, focusing on social, economic, political and cultural institutions and traditions including the wealth, diversity and complexity of ancient and classical African civilizations and cultures.	3 Credits
	AAST 260 - African Amer and Native Amer Offered intermittently. A study of the broad scope of relations between African Americans and Native Americans in colonial and United States history. Topics explored through history, sociology, and cultural anthropology.	3 Credits
	AAST 262 - Abolitionism Offered spring. Same as HIST 262. Interdisciplinary, historical perspective on the early 19th century movement to abolish slavery and racial discrimination in the United States.	3 Credits
	AAST 291 - Special Topics (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	AAST 372 - African-American Identity Offered intermittently. Interdisciplinary course designed to explore and illuminate the multifaceted nature and development of African-American group and individual identity.	3 Credits
	AAST 491 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	HSTA 327 - Atlantic World Slavery (AM) Offered alternate years. This course will examine the development and demise of slavery in the early modern Atlantic world, from the late fifteenth to the late nineteenth centuries. Specifically, we will explore the ways the transatlantic slave trade forged economic and cultural connections between Europe, Africa, and the Americas, thereby causing immeasurable suffering while conditioning conceptions of race, reshaping politics and religion, and transforming the ecology of nearly a third of the globe.	3 Credits
	HSTA 347 - Voodoo,Muslim,Church:Black Rel (AM) The African American religious experience encompasses Islam, Christianity, Santeria, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course question, "How did religion shape the experience of the African-American community?" Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history. Same as AAS 347.	3 Credits

	HSTA 415 - The Black Radical Tradition Offered intermittently. Same as HSTA 415. Prereq., HSTR 200 and only open to majors and minors in history or consent of instructor. From slave revolts through to the Move rebellion in Philadelphia, this course examines how the African-American community has engaged in radical efforts to change the status quo in the name of seeking justice.	3 Credits
	HSTA 417 - Prayer & Civil Rights (AM) Same as HSTA 417. HSTR 200 and only open to majors and minors in history or consent of instructor. This course explores the meaning of public prayer in the Civil Rights Movement. Built around the question, "Does religion help or hinder the pursuit of social change?" this class combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. By focusing on a particular religious practice - in this case prayer - in a specific, but limited period of time, this course challenges students to consider how meaning is formed through historical action and study the social significance of religious practice. This formed through historical action and study the social significance of religious practice. This course complicates prevailing ideas about the normalcy of African-American religious practitioners' prayer, invites students to examine their assumptions about the nature of prayer, and traces how religion spilled out of sanctuaries into the streets during the civil rights era.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Other Electives

Rule: 9 credits are required from the following courses. At least 2 of the courses must be from different disciplines.

Note: FRCH 391: Special Topics must be African-American Literature. Students can also take HSTR 388 and HSTR 409.

	Course	**Credits**
	ANTY 122S - Race and Minorities Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.	3 Credits
	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	ANTY 349 - Social Change in NnWstrn Socts Offered autumn, odd-numbered years. Study of the processes of change, modernization and development.	3 Credits
	ECNS 217X - Issues in Economic Development Offered intermittently. Prereq., ECNS 201S. Study of the processes of economic growth and development in the less developed world.	3 Credits

	FRCH 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	GPHY 243S - Africa Offered autumn even numbered years. A survey of the biophysical and cultural geography of Sub Saharan Africa. Emphasis is on the region's cultural historical development and current ecological, demographic, and economic patterns.	3 Credits
	HSTA 361 - The American South (AM) Social history of the American South with particular attention to race, class, and gender.	3 Credits
	HSTA 382H - History of American Law (AM) Issues in the social history of law from the colonial period to the present.	3 Credits
	HSTA 420 - America Divided, 1848-1865 (AM) Offered intermittently. Same as AAS 420. This course explores the period in American history from the close of the Mexican War through the conclusion of the Civil War. Topics include slavery and sectionalism; race and racism; immigration and ethno-religious conflict; military mobilization and wartime dissent; the meaning of freedom in the age of emancipation. This course is intended to hone skills fundamental to the historical discipline: the critical analysis of primary sources; independent primary research and historical writing; engagement with and assessment of historical scholarship; the construction of a historiographical essay. Upper division writing course for the history major.	3 Credits
	HSTR 262H - Islamic Civil: Classical Age (WRLD) A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire.	3 Credits
	LIT 343 - African American Lit Offered intermittently. Prereq., LIT 300 or consent of instr. Selected works by African-American authors. Course may define a narrowed focus such as poetry, women writers, etc.	3 Credits
	LIT 420 - Critical Theory (R-9) Offered autumn or spring. Prereq., LIT 300 and six credits in literature courses numbered 300 or higher or consent of instr. Study and application of one or more theoretical approaches to interpreting texts (e.g., aesthetic post-structural, new historicist, classical, Renaissance, Romantic, narrative, psychoanalytic, formalist, neo-Marxist, feminist, gender, cultural studies and reader-response theory).	3 Credits
	MUSI 130L - History of Jazz Offered autumn. The development of jazz in the 20th century with emphasis on critical listening and the recognition of important trends and people in its history.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits

	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 325 - Social Stratification Offered intermittently. Prereq., SOCI 101S or SOCI 220S or SOCI 275S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.	3 Credits
	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

African-American Studies B.A.

Bachelor of Arts - African-American Studies

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36
Required Cumulative GPA: 2.0

Core Courses

Rule: Students must complete the following courses

	Course	**Credits**
	AAST 141H - Black: Africa to Hip-Hop Offered autumn. Same as HIST 141H. This course introduces students to the primary questions, themes, and approaches to African-American Studies. In addition to examining key historical periods such as Reconstruction, the Harlem Renaissance, and the Civil Rights era, students will encounter Hip-Hop, African-American film, African-American religion, and contemporary identity politics. This course concludes by discussing the reasons for and new directions in African-American studies, including diaspora studies, Pan-Africanism, and post-colonial studies. Overall students will gain new insight into the social, cultural, political, and intellectual, experiences of a diverse people and into the history and contemporary experience of the United States.	3 Credits
	ANTY 122S - Race and Minorities Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.	3 Credits

	HSTA 342H - Afr Amer Hist to 1865 (AM) Offered intermittently. Same as AAS 342H. Survey of the African American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism.	3 Credits
	HSTA 343H - Afr Amer Hist Since 1865 (AM) Same as AAS 343H. Study of the African American experience since the Civil War. Change and continuity in the African American experience, the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 325 - Social Stratification Offered intermittently. Prereq., SOCI 101S or SOCI 220S or SOCI 275S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.	3 Credits
Minimum Required Grade: C-		18 Total Credits Required

Elective Courses

Rule: 15 Credits required, 6 of which must be at the upper division

Note: Capstone:
Each student must also perform a 3-credit capstone project as an independent study in which they conduct a research project, service project, or artistic project focused on an issue pertinent to the African-American community. All projects must be approved by the AAS director.

	Course	**Credits**
	AASC 291 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	AAST 208H - Discovering Africa Offered intermittently. Same as HIST 208H. Interdisciplinary study of the history of pre-colonial Africa, focusing on social, economic, political and cultural institutions and traditions including the wealth, diversity and complexity of ancient and classical African civilizations and cultures.	3 Credits
	AAST 260 - African Amer and Native Amer Offered intermittently. A study of the broad scope of relations between African Americans and Native Americans in colonial and United States history. Topics explored through history, sociology, and cultural anthropology.	3 Credits
	AAST 262 - Abolitionism Offered spring. Same as HIST 262. Interdisciplinary, historical perspective on the early 19th century movement to abolish slavery and racial discrimination in the United States.	3 Credits

	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	ANTY 349 - Social Change in NnWstrn Socts Offered autumn, odd-numbered years. Study of the processes of change, modernization and development.	3 Credits
	CRWR 491 - Special Topics (R-6) Offered Intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	ECNS 217X - Issues in Economic Development Offered intermittently. Prereq., ECNS 201S. Study of the processes of economic growth and development in the less developed world.	3 Credits
	ECNS 312 - Labor Economics Offered intermittently. Prereq., ECNS 201S. Economic analysis of labor markets. Theories of wage determination, discrimination and poverty with implications for manpower policy.	3 Credits
	FILM 484 - Film Directors (R-9) Offered every year. Prereq. FILM 103L. Intensive study of the life and work of one major film director.	3 Credits
	FRCH 339 - Surv African Cinema Offered intermittently. A diachronic survey of African cinema accompanied by interpretation and evaluation of textual dimensions of films through filmic critical theory.	3 Credits
	GPHY 141S - Geography of World Regions Offered autumn and/or spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood.	3 Credits
	GPHY 243 - Africa Offered intermittently. A survey of the biophysical and cultural geography of Sub-Saharan Africa. Emphasis is on the region's cultural-historical development and current ecological, demographic, and economic patterns.	3 Credits
	HSTA 262 - Abolitionism (AM) Same as AAS 262. Interdisciplinary, historical perspective on early 19th century movement to abolish slavery and racial discrimination in the United States.	3 Credits
	HSTA 347 - African American Religious Exp (AM) The African American religious experience encompasses Islam, Christianity, Santeria, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course question, "How did religion shape the experience of the African-American community?" Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history. Same as AAS 347.	3 Credits

	HSTA 361 - The American South (AM) Social history of the American South with particular attention to race, class, and gender.	3 Credits
	HSTA 382H - History of American Law (AM) Issues in the social history of law from the colonial period to the present.	3 Credits
	HSTA 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTA 415 - The Black Radical Tradition Offered intermittently. Same as HSTA 415. Prereq., HSTR 200 and only open to majors and minors in history or consent of instructor. From slave revolts through to the Move rebellion in Philadelphia, this course examines how the African-American community has engaged in radical efforts to change the status quo in the name of seeking justice.	3 Credits
	HSTA 417 - Prayer & Civil Rights (AM) Same as HSTA 417. HSTR 200 and only open to majors and minors in history or consent of instructor. This course explores the meaning of public prayer in the Civil Rights Movement. Built around the question, "Does religion help or hinder the pursuit of social change?" this class combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. By focusing on a particular religious practice - in this case prayer - in a specific, but limited period of time, this course challenges students to consider how meaning is formed through historical action and study the social significance of religious practice. This formed through historical action and study the social significance of religious practice. This course complicates prevailing ideas about the normalcy of African-American religious practitioners' prayer, invites students to examine their assumptions about the nature of prayer, and traces how religion spilled out of sanctuaries into the streets during the civil rights era.	3 Credits
	HSTA 491 - Special topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTR 262H - Islamic Civil: Classical Age (WRLD) A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire.	3 Credits
	LIT 191 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	LIT 291 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits

	LIT 304 - U.S. Writers of Color Offered intermittently. Prereq., LIT 300 or consent of instr. Selected readings from African American, Asian American, Chicano/a, Latino/a, and Native American literatures.	3 Credits
	LIT 343 - African American Lit Offered intermittently. Prereq., LIT 300 or consent of instr. Selected works by African-American authors. Course may define a narrowed focus such as poetry, women writers, etc.	3 Credits
	LIT 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	LIT 420 - Critical Theory (R-9) Offered autumn or spring. Prereq., LIT 300 and six credits in literature courses numbered 300 or higher or consent of instr. Study and application of one or more theoretical approaches to interpreting texts (e.g., aesthetic post-structural, new historicist, classical, Renaissance, Romantic, narrative, psychoanalytic, formalist, neo-Marxist, feminist, gender, cultural studies and reader-response theory).	3 Credits
	LIT 491 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	MUSI 130L - History of Jazz Offered autumn. The development of jazz in the 20th century with emphasis on critical listening and the recognition of important trends and people in its history.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 348 - US Multicultural Politics Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.	3 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits

	SOCI 441 - Capstone: Inequal and Soc Just Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation.	3 Credits
	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
	WGSS 363 - Feminist Theory and Methods Offered spring. In-depth exposure to feminist views and critique of the ethics and methods of scientific, social, and literary inquiry. Includes exposure to primary sources and current societal and global issues and movements, research finding, and literature exemplifying these methods of inquiry and the gendered dimensions of such inquiry.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Sociology Department

Dusten Hollist, Chairs

"Sociology is the study of social life, social change, and the social causes and consequences of human behavior. Sociologists investigate the structure of groups, organizations, and societies, and how people interact within these contexts. Since human behavior is shaped by social factors, the subject matter of sociology ranges from the intimate family to the hostile mob; from organized crime to religious cults; from the divisions of race, gender and social class to the shared beliefs of a common culture" (American Sociological Association 2002:1). The Sociology faculty at UM bring diverse theoretical perspectives to their courses and use a wide array of methodological strategies in their research and teaching. Their interests range from social issues facing our local community and the Northern Rocky Mountain region, to national and global concerns. Faculty research addresses both theoretical issues, such as the causes of criminal behavior, and practical matters, such as the effectiveness of prison rehabilitation programs or the impact of legislation on family policy and poverty programs.

In addition to a general sociology major, students may choose one of three options for structuring their course work. The general Sociology major provides a broad foundation in sociological theory and research, together with exposure to a variety of courses in the main substantive areas of the discipline. Students interested in crime and criminal justice can choose an option in Criminology, while students concerned with the causes and consequences of social inequality can select an option Inequality and Social Justice. Students interested in rural and environmental issues can pursue an option in Rural and Environmental Change. These options allow students to concentrate their studies in a particular area of interest while still acquiring a solid foundation in the discipline of Sociology.

Department Faculty

Professors

Robert Balch, Professor Emeritus
James Burfeind, Professor
Dan Doyle, Professor of Criminology and Sociology
Dusten Hollist, Professor, Chair
Celia Winkler, Professor

Associate Professors

Kathy J. Kuipers, Associate Professor, Director Graduate Studies

Daisy Rooks, Associate Professor
Teresa Sobieszczyk, Associate Professor, Sociology

Assistant Professors

Jackson Bunch, Assistant Professor

Adjunct Faculty

D'Shane Barnett, Adjunct Instructor
Scott Byington, Adjunct Instructor
John Domitrovich, Adjunct Instructor
Katherine Mallon, Adjunct Instructor
Peter Ore, Adjunct Instructor
Stella Phipps, Data Wrangler | Adjunct Instructor
Dustin Satterfield, Adjunct Instructor

Lecturers

Rayna Sage, Adjunct Instructor

Chemical Addiction Studies

Back to Top

- CAS 433 - Adv Addiction Studies
  Credits: 3. Offered spring. Same as PSYX 441 and SW 423. Examination of chemical dependency and behavioral compulsion, including alcohol and other drugs, gambling, eating disorders, sexual addictions. Ecosystems perspective on etiology, treatment, prevention, family dynamics, community response, and societal contributors.

Sociology

Back to Top

- SOCI 101S - Introduction to Sociology
  Credits: 3. Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors. Course Attributes: Social Sciences Course (S)
- SOCI 130S - Soc of Alternative Religions
  Credits: 3. Offered spring. Unconventional religious groups in American society. Topics include recruitment, conversion, commitment, defection, leadership, belief systems, organizational structure and change. Course Attributes: Social Sciences Course (S)
- SOCI 191 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- SOCI 202 - Social Statistics
  Credits: 3. Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.
- SOCI 211S - Introduction to Criminology
  Credits: 3. Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts. Course Attributes: Social Sciences Course (S)
- SOCI 212S - Social Issues Southeast Asia
  Credits: 3. Offered every other year. Introduction to the cultures, societies, and contemporary social problems of Southeast Asia. Course Attributes: Social Sciences Course (S)

- SOCI 220S - Race, Gender & Class

  Credits: 3. Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status. Course Attributes: Social Sciences Course (S)

- SOCI 221 - Criminal Justice System

  Credits: 3. Offered spring. A systematic survey of crime and the administration of justice in the United States, including the organizational structures, processes, and dynamics of law enforcement, criminal adjudication, and corrections.

- SOCI 270 - Intro Development Sociology

  Credits: 3. Offered autumn. Introduction to sociological perspectives on international development, globalization, and sustainability. Rural and environmental issues emphasized.

- SOCI 275S - Gender and Society

  Credits: 3. Offered spring. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S.; gender ideologies affect the social definition and position of gendered individuals in work, family, sexual relationships, gendered divisions of labor, and social movements. Course Attributes: Social Sciences Course (S)

- SOCI 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- SOCI 306 - Sociology of Work

  Credits: 3. Offered intermittently. An introduction to contemporary sociological debates on work including overwork, working poor, housework, globalization, mechanization, routinization, surveillance, and unions. Special focus on gender and class impacts on working life.

- SOCI 312 - Criminal Adjudication

  Credits: 3. Offered spring odd-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of adjudicatory processes applied to the criminally accused. Includes pretrial, trial, and sentencing practices and procedures. Special attention to the sociological dimensions of criminal adjudication: its cultural underpinnings, structural characteristics and interactional dynamics.

- SOCI 314 - Extraordinary Group Behavior

  Credits: 3. Offered intermittently. Prereq., SOCI 101S. The study of emergent social behavior including rumors, crowds, crazes, riots, panics, terrorism, revolutions and social movements.

- SOCI 318 - Sociological Research Methods

  Credits: 3. Offered every term. Prereq., SOCI 101S, Sociology majors only, or consent of instr. Methods of research in the social sciences including naturalistic observation, interviewing, measurement, experiments, surveys, content analysis, and basic data analysis. Required of all majors.

- SOCI 325 - Social Stratification

  Credits: 3. Offered intermittently. Prereq., SOCI 101S or SOCI 220S or SOCI 275S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.

- SOCI 330 - Juvenile Delinquency

  Credits: 3. Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.

- SOCI 332 - Sociology of the Family

  Credits: 3. Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.

- SOCI 335 - Juvenile Justice System

  Credits: 3. Offered autumn. Prereq., SOCI 101S and 211S or 330. An analysis of the juvenile justice system in the United States, including the historical development of policies and practices. The role of various social agencies in defining, preventing, and responding to delinquency.

- SOCI 345 - Sociology of Organizations

  Credits: 3. Offered intermittently. Prereq., SOCI 101S. Historical and analytical study of organizations as social systems, with an emphasis on applying theoretical models to analyzing organizational behavior and change.

- SOCI 346 - Rural Sociology

  Credits: 3. Offered intermittently. Prereq., SOCI 101S recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.

- SOCI 350 - The Community

  Credits: 3. Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.

- SOCI 355 - Population and Society

  Credits: 3. Offered spring. Prereq., SOCI 101S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment. Emphasizes gender issues in international context.

- SOCI 362 - Sociology of Law Enforcement

  Credits: 3. Offered autumn even-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of policing in society, with emphasis on the cultural context in which it occurs, its structural characteristics, and social psychological processes.

- SOCI 382 - Soc Psych and Social Structure

  Credits: 3. Offered autumn. Prereq., SOCI 101S. The study of the behavior of individuals in social contexts ranging from small groups to societies. Topics include attitude change, conformity, power, status, self-concept formation, and decision-making.

- SOCI 386 - Preceptorship in Sociology

  Credits: 2 TO 3. Offered autumn and spring. Prereq., SOCI 101S and consent of instr. Assisting a faculty member by tutoring, conducting review sessions, helping students with research projects, and carrying out other class-related responsibilities. Open to juniors and seniors with instructor's consent. Proposals must be approved by department chair. Course Attributes: Internships/Practicums

- SOCI 391 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of new courses or one time offerings of current topics.

- SOCI 398 - Internship

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- SOCI 423 - Sociology of Corrections

  Credits: 3. Offered spring. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of the purposes, structures, and processes of jails, prisons, and community corrections, including probation and parole. Emphasis on historical development and current trends and issues in corrections.

- SOCI 435 - Law and Society

  Credits: 3. Offered spring even-numbered years. Prereq., SOCI 101S. The study of the law and society, including the origin, institutionalization, and impact of law and legal systems.

- SOCI 438 - Seminar in Crime & Deviance

  Credits: 3. Offered every term. Consent of instructor. Advanced studies in criminology theory, research, and practice. This course will meet the upper-division writing expectation for sociology majors only. Course Attributes: Writing Course-Advanced

- SOCI 441 - Capstone: Inequal and Soc Just

Credits: 3. Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation. Course Attributes: Writing Course-Advanced

- SOCI 442 - ISJ Service Learning

  Credits: 3 TO 4. Prereq, consent of instr. Supervised fieldwork and research in settings relevant to Inequality and Social Justice, building participatory research and critical thinking skills; relationships with people in groups marginalized by systems of inequality; citizenship awareness. Course Attributes: Service Learning

- SOCI 443 - Sociology of Poverty

  Credits: 3. Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.

- SOCI 446 - Prost & Human Trafficking

  Credits: 3. Offered every other year. Exploration of prostitution and human trafficking, their incidence, causes, implications for individuals and society, and responses from non-governmental organizations and governments. Highlights various feminist and human rights approaches to these phenomena.

- SOCI 455 - Classical Sociological Theory

  Credits: 3. Offered autumn and spring. Prereq., SOCI 101S, or consent of instr. Exploration of the classical foundations of sociological theories, emphasizing Marx, Durkheim, and Weber. Required of all sociology majors.

- SOCI 460 - Capstone: Rural and Env Change

  Credits: 3. Offered spring. Prereq., SOCI 101S and consent of instr. Advanced study of issues in rural, environmental, and development sociology with an emphasis on theoretical perspectives and applications. Meets upper-division writing expectation for sociology majors only. Course Attributes: Writing Course-Advanced

- SOCI 470 - Environmental Sociology

  Credits: 3. Offered autumn. Introduction to environmental sociology and the social dimensions of environmental change. Case studies of major environmental problems as applications of environmental sociological perspectives.

- SOCI 471 - Gender and Global Development

  Credits: 3. Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.

- SOCI 485 - Political Sociology

  Credits: 3. Offered spring odd-numbered years. Prereq., junior or senior standing. Analysis of power; states; institutional interrelationships; production and transmisison of ideologies; political participation and membership; social movements.

- SOCI 488 - Writing for Sociology

  Credits: 3. Offered autumn and spring. Consent of instr. Advanced study of variable topics or issues in sociology, with emphasis on writing for the discipline. This course satisfies the upper-division writing expectation for sociology majors only. Course Attributes: Writing Course-Advanced

- SOCI 491 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., SOCI 101S. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- SOCI 492 - Independent Study

  Credits: 1 TO 3. (R-9) Offered every term. Prereq., SOCI 101S and consent of instr. Individual work with a faculty supervisor in an area of special interest. Proposals must be approved by department chair. Course Attributes: Independent Study

- SOCI 494 - Seminar/Workshop

Credits: 2 TO 3. Offered intermittently. Prereq., SOCI 101S and at least junior standing. Selected sociological topics.

- SOCI 498 - Internship

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., SOCI 101S, 318 and 202; 2.75 GPA; junior standing and consent of instr. Supervised placement in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice. Course Attributes: Internships/Practicums Service Learning/Volunteer Service Learning

- SOCI 520 - Contemp Social Theory

  Credits: 3. Offered autumn. Sociology Graduate Student or consent of instr. The major sociological theories developed since World War I, including an examination of the critical issues under debate. Level: Graduate

- SOCI 530 - Criminological Theory

  Credits: 3. Offered autumn. Consent of instr. Advanced study of the major theories of crime and criminality; includes the concepts, propositions, and causal logic, together with relevant research findings. Level: Graduate

- SOCI 538 - Sem in Crime & Deviance

  Credits: 3. Offered intermittently. Consent of instructor. Graduate-level studies of a specific criminological topic or issue with special emphasis on theory, research, policy, and practice. Level: Graduate

- SOCI 545 - Sem in Inequality & Soc Justic

  Credits: 3. Offered spring. Graduate student in Sociology or consent of instr. Advanced study of variable topics in inequality and social justice held in a small group setting that maximizes opportunities for graduate student research, discussion, and writing. Level: Graduate

- SOCI 561 - Qualitative Methods

  Credits: 3. Offered spring. Consent of instr. Introduction to the basic methods used to conduct qualitative studies including ethnography, interviewing, observation and/or focus group. Includes hands-on fieldwork projects, data coding and analysis, and research ethics. Draws on examples and literature from sociology. Students should have had undergraduate research methods training. Level: Graduate

- SOCI 562 - Quantitative Methods

  Credits: 3. Offered autumn. Prereq., SOCI 101S, 318 and 202. Introduction to the basic methods used to conduct quantitative sociological research and program evaluation including proposal development, survey design, sampling techniques, data analysis, and dissemination of findings. Level: Graduate

- SOCI 563 - Social Data Analysis

  Credits: 3. Offered spring. Consent of instr. A hands-on introduction to preparing sociological reports and documents, performing research and statistical tasks common to the field. Presumes no previous knowledge of microcomputers. Level: Graduate

- SOCI 590 - Sociology Internship

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Supervised placement for graduate students in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice.. Level: Graduate Course Attributes: Internships/Practicums Research & Creative Schlrshp

- SOCI 594 - Graduate Seminar

  Credits: 3. (R-9) Offered intermittently. Selected sociological topics. Level: Graduate

- SOCI 595 - Special Topics

  Credits: 1 TO 12. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate Course Attributes: Internships/Practicums

- SOCI 596 - Independent Study

  Credits: 1 TO 6. (R-6)Offered every term. Prereq., consent of instr. Work with a faculty supervisor in an area of special interest. Level: Graduate Course Attributes: Independent Study

- SOCI 597 - Graduate Research

Credits: 2 TO 3. (R-9) Offered every term. Directed research. Student must develop a specific research or evaluation proposal which is approved by the instructor prior to registration. Those students electing the professional paper option may apply three credits of 597 toward graduation. Level: Graduate

- SOCI 598 - Internship
  Credits: 1 TO 6. (R-6) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Level: Graduate Course Attributes: Internships/Practicums
- SOCI 599 - Thesis/Professional Paper
  Credits: 1 TO 6. (R-6) Offered every term. Students may apply six credits of 599 toward graduation. Level: Graduate

Sociology B.A.

General Sociology Major:

Students whose primary interest is in a general sociology major are urged to develop a plan of study with their advisor; they must take three electives in addition to the core courses and major content requirements listed above. Any sociology course, including courses from any of the three options, may be included in your study plan. The general sociology major prepares students for positions which require a bachelor's degree in one of the social science disciplines, including employment in a variety of government and private-sector agencies, or for a graduate program in sociology. It also provides valuable preparation for related fields such as law, social work, education, counseling, politics, and public administration.

Bachelor of Arts - Sociology

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 39

Required Cumulative GPA: 2.0

Note: No more than 60 sociology credits may count toward graduation.

Lower Division Core Courses

Rule: All courses listed are required

	Course	**Credits**
	SOCI 101S - Introduction to Sociology Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Core Courses

Rule: All courses listed are required

	Course	Credits
	SOCI 318 - Sociological Research Methods Offered every term. Prereq., SOCI 101S, Sociology majors only, or consent of instr. Methods of research in the social sciences including naturalistic observation, interviewing, measurement, experiments, surveys, content analysis, and basic data analysis. Required of all majors.	3 Credits
	SOCI 455 - Classical Sociological Theory Offered autumn and spring. Prereq., SOCI 101S, or consent of instr. Exploration of the classical foundations of sociological theories, emphasizing Marx, Durkheim, and Weber. Required of all sociology majors.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Major Content Elective Courses

Rule: Choose 4 courses from those listed. 2 must be numbered 300 or above.
Note: SOCI 211S or SOCI 330 will count towards the 12 credits but not both.

	Course	Credits
	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 270 - Intro Development Sociology Offered autumn. Introduction to sociological perspectives on international development, globalization, and sustainability. Rural and environmental issues emphasized.	3 Credits
	SOCI 275S - Gender and Society Offered spring. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S.; gender ideologies affect the social definition and position of gendered individuals in work, family, sexual relationships, gendered divisions of labor, and social movements.	3 Credits
	SOCI 306 - Sociology of Work Offered intermittently. An introduction to contemporary sociological debates on work including overwork, working poor, housework, globalization, mechanization, routinization, surveillance, and unions. Special focus on gender and class impacts on working life.	3 Credits
	SOCI 308 - Soc of Education Offered intermittently. Prereq., SOCI 101S. The structure and operation of the educational system in the United States, with special attention to the organization and effectiveness of schools.	3 Credits

	SOCI 325 - Social Stratification Offered intermittently. Prereq., SOCI 101S or SOCI 220S or SOCI 275S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.	3 Credits
	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
	SOCI 345 - Sociology of Organizations Offered intermittently. Prereq., SOCI 101S. Historical and analytical study of organizations as social systems, with an emphasis on applying theoretical models to analyzing organizational behavior and change.	3 Credits
	SOCI 346 - Rural Sociology Offered intermittently. Prereq., SOCI 101S recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.	3 Credits
	SOCI 350 - The Community Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.	3 Credits
	SOCI 355 - Population and Society Offered spring. Prereq., SOCI 101S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment. Emphasizes gender issues in international context.	3 Credits
	SOCI 382 - Soc Psych and Social Structure Offered autumn. Prereq., SOCI 101S. The study of the behavior of individuals in social contexts ranging from small groups to societies. Topics include attitude change, conformity, power, status, self-concept formation, and decision-making.	3 Credits
	SOCI 470 - Environmental Sociology Offered autumn. Introduction to environmental sociology and the social dimensions of environmental change. Case studies of major environmental problems as applications of environmental sociological perspectives.	3 Credits
	SOCI 485 - Political Sociology Offered spring odd-numbered years. Prereq., junior or senior standing. Analysis of power; states; institutional interrelationships; production and transmisison of ideologies; political participation and membership; social movements.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper Division Writing Course

Rule: Must complete 1 of the following courses

Note: A non-sociology upper division writing course from another department may be substituted for this requirement with departmental consent.

	Course	Credits
	SOCI 438 - Seminar in Crime & Deviance Offered every term. Consent of instructor. Advanced studies in criminology theory, research, and practice. This course will meet the upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 441 - Capstone: Inequal and Soc Just Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation.	3 Credits
	SOCI 460 - Capstone: Rural and Env Change Offered spring. Prereq., SOCI 101S and consent of instr. Advanced study of issues in rural, environmental, and development sociology with an emphasis on theoretical perspectives and applications. Meets upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 488 - Writing for Sociology Offered autumn and spring. Consent of instr. Advanced study of variable topics or issues in sociology, with emphasis on writing for the discipline. This course satisfies the upper-division writing expectation for sociology majors only.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

General Sociology Electives

Rule: Choose 5 of the following courses:

	Course	Credits
	ENST 225 - Community & Enviornment Offered autumn. Same as SOCI 225. Exploration of the ways that communities address their environmental concerns. Introduction of relevant social science concepts.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	SOCI 130S - Soc of Alternative Religions Offered spring. Unconventional religious groups in American society. Topics include recruitment, conversion, commitment, defection, leadership, belief systems, organizational structure and change.	3 Credits

	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits
	SOCI 221 - Criminal Justice System Offered spring. A systematic survey of crime and the administration of justice in the United States, including the organizational structures, processes, and dynamics of law enforcement, criminal adjudication, and corrections.	3 Credits
	SOCI 312 - Criminal Adjudication Offered spring odd-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of adjudicatory processes applied to the criminally accused. Includes pretrial, trial, and sentencing practices and procedures. Special attention to the sociological dimensions of criminal adjudication: its cultural underpinnings, structural characteristics and interactional dynamics.	3 Credits
	SOCI 314 - Extraordinary Group Behavior Offered intermittently. Prereq., SOCI 101S. The study of emergent social behavior including rumors, crowds, crazes, riots, panics, terrorism, revolutions and social movements.	3 Credits
	SOCI 335 - Juvenile Justice System Offered autumn. Prereq., SOCI 101S and 211S or 330. An analysis of the juvenile justice system in the United States, including the historical development of policies and practices. The role of various social agencies in defining, preventing, and responding to delinquency.	3 Credits
	SOCI 362 - Sociology of Law Enforcement Offered autumn even-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of policing in society, with emphasis on the cultural context in which it occurs, its structural characteristics, and social psychological processes.	3 Credits
	SOCI 386 - Preceptorship in Sociology Offered autumn and spring. Prereq., SOCI 101S and consent of instr. Assisting a faculty member by tutoring, conducting review sessions, helping students with research projects, and carrying out other class-related responsibilities. Open to juniors and seniors with instructor's consent. Proposals must be approved by department chair.	2 To 3 Credits
	SOCI 423 - Sociology of Corrections Offered spring. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of the purposes, structures, and processes of jails, prisons, and community corrections, including probation and parole. Emphasis on historical development and current trends and issues in corrections.	3 Credits
	SOCI 435 - Law and Society Offered spring even-numbered years. Prereq., SOCI 101S. The study of the law and society, including the origin, institutionalization, and impact of law and legal systems.	3 Credits
	SOCI 438 - Seminar in Crime & Deviance Offered every term. Consent of instructor. Advanced studies in criminology theory, research, and practice. This course will meet the upper-division writing expectation for sociology majors only.	3 Credits

	SOCI 441 - Capstone: Inequal and Soc Just Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation.	3 Credits
	SOCI 442 - ISJ Service Learning Prereq, consent of instr. Supervised fieldwork and research in settings relevant to Inequality and Social Justice, building participatory research and critical thinking skills; relationships with people in groups marginalized by systems of inequality; citizenship awareness.	3 To 4 Credits
	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
	SOCI 444 - Issues in Inequality Offered intermittently. Consent of instr. Analysis of selected topics in inequality and social justice. Possible topics include Native Americans, disabilities, age, sexual orientation, and gender.	3 Credits
	SOCI 460 - Capstone: Rural and Env Change Offered spring. Prereq., SOCI 101S and consent of instr. Advanced study of issues in rural, environmental, and development sociology with an emphasis on theoretical perspectives and applications. Meets upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
	SOCI 488 - Writing for Sociology Offered autumn and spring. Consent of instr. Advanced study of variable topics or issues in sociology, with emphasis on writing for the discipline. This course satisfies the upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 492 - Independent Study (R-9) Offered every term. Prereq., SOCI 101S and consent of instr. Individual work with a faculty supervisor in an area of special interest. Proposals must be approved by department chair.	1 To 3 Credits
	SOCI 494 - Seminar/Workshop Offered intermittently. Prereq., SOCI 101S and at least junior standing. Selected sociological topics.	2 To 3 Credits
	SOCI 498 - Internship (R-6) Offered every term. Prereq., SOCI 101S, 318 and 202; 2.75 GPA; junior standing and consent of instr. Supervised placement in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice.	1 To 6 Credits

Minimum Required Grade: C-	15 Total Credits Required

Criminology

Criminology Option:

Criminology has been an area of study within sociology since the inception of the discipline at the turn of the twentieth century. Contemporary criminology examines the making of laws, the nature and extent of crime, the causes of crime, and society's efforts to control crime through the juvenile and criminal justice systems. The option builds upon the required course work in sociology and allows students to pursue extended study of crime and the criminal justice system. In addition, the option provides opportunity for practical experience in juvenile and criminal justice systems through internship placement. The criminology option prepares students for employment in public and private criminal justice agencies, as well as graduate study in sociology, criminal justice, and law.

Bachelor of Arts - Sociology; Criminology Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 39

Required Cumulative GPA: 2.0

Note: No more than 60 sociology credits may count toward graduation.

Lower Core Courses

Rule: All courses are required

	Course	Credits
	SOCI 101S - Introduction to Sociology Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Core Courses

Rule: All courses are required

	Course	Credits

	SOCI 318 - Sociological Research Methods Offered every term. Prereq., SOCI 101S, Sociology majors only, or consent of instr. Methods of research in the social sciences including naturalistic observation, interviewing, measurement, experiments, surveys, content analysis, and basic data analysis. Required of all majors.	3 Credits
	SOCI 455 - Classical Sociological Theory Offered autumn and spring. Prereq., SOCI 101S, or consent of instr. Exploration of the classical foundations of sociological theories, emphasizing Marx, Durkheim, and Weber. Required of all sociology majors.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Major Content Courses

Rule: Choose 4 of the following courses. 2 must be numbered 300 or above.

Note: Students may count only 1 course from their respective option as a major content course.

Note: SOCI 211S or SOCI 330 can count towards the 12 credits but not both.

	Course	**Credits**
	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 270 - Intro Development Sociology Offered autumn. Introduction to sociological perspectives on international development, globalization, and sustainability. Rural and environmental issues emphasized.	3 Credits
	SOCI 275S - Gender and Society Offered spring. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S.; gender ideologies affect the social definition and position of gendered individuals in work, family, sexual relationships, gendered divisions of labor, and social movements.	3 Credits
	SOCI 306 - Sociology of Work Offered intermittently. An introduction to contemporary sociological debates on work including overwork, working poor, housework, globalization, mechanization, routinization, surveillance, and unions. Special focus on gender and class impacts on working life.	3 Credits
	SOCI 308 - Soc of Education Offered intermittently. Prereq., SOCI 101S. The structure and operation of the educational system in the United States, with special attention to the organization and effectiveness of schools.	3 Credits

	SOCI 325 - Social Stratification Offered intermittently. Prereq., SOCI 101S or SOCI 220S or SOCI 275S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.	3 Credits
	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
	SOCI 345 - Sociology of Organizations Offered intermittently. Prereq., SOCI 101S. Historical and analytical study of organizations as social systems, with an emphasis on applying theoretical models to analyzing organizational behavior and change.	3 Credits
	SOCI 346 - Rural Sociology Offered intermittently. Prereq., SOCI 101S recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.	3 Credits
	SOCI 350 - The Community Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.	3 Credits
	SOCI 355 - Population and Society Offered spring. Prereq., SOCI 101S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment. Emphasizes gender issues in international context.	3 Credits
	SOCI 382 - Soc Psych and Social Structure Offered autumn. Prereq., SOCI 101S. The study of the behavior of individuals in social contexts ranging from small groups to societies. Topics include attitude change, conformity, power, status, self-concept formation, and decision-making.	3 Credits
	SOCI 470 - Environmental Sociology Offered autumn. Introduction to environmental sociology and the social dimensions of environmental change. Case studies of major environmental problems as applications of environmental sociological perspectives.	3 Credits
	SOCI 485 - Political Sociology Offered spring odd-numbered years. Prereq., junior or senior standing. Analysis of power; states; institutional interrelationships; production and transmisison of ideologies; political participation and membership; social movements.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper Division Writing Course

Rule: Must complete 1 of the following courses

Note: A non-sociology upper division writing course from another department may be substituted for this requirement with departmental consent.

	Course	Credits
	SOCI 438 - Seminar in Crime & Deviance Offered every term. Consent of instructor. Advanced studies in criminology theory, research, and practice. This course will meet the upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 441 - Capstone: Inequal and Soc Just Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation.	3 Credits
	SOCI 460 - Capstone: Rural and Env Change Offered spring. Prereq., SOCI 101S and consent of instr. Advanced study of issues in rural, environmental, and development sociology with an emphasis on theoretical perspectives and applications. Meets upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 488 - Writing for Sociology Offered autumn and spring. Consent of instr. Advanced study of variable topics or issues in sociology, with emphasis on writing for the discipline. This course satisfies the upper-division writing expectation for sociology majors only.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Criminology Option

Rule: Complete 15 option credits

15 Total Credits Required

Option Core

Rule: Complete SOCI 221 and either SOCI 211 or SOCI 330.

Note: Students should complete this core before taking any Criminology elective courses. The chosen course cannot count towards the major content course requirement.

	Course	Credits
	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits

	SOCI 221 - Criminal Justice System Offered spring. A systematic survey of crime and the administration of justice in the United States, including the organizational structures, processes, and dynamics of law enforcement, criminal adjudication, and corrections.	3 Credits
	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Option Electives

Rule: Choose 3 of the following courses

	Course	Credits
	SOCI 312 - Criminal Adjudication Offered spring odd-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of adjudicatory processes applied to the criminally accused. Includes pretrial, trial, and sentencing practices and procedures. Special attention to the sociological dimensions of criminal adjudication: its cultural underpinnings, structural characteristics and interactional dynamics.	3 Credits
	SOCI 335 - Juvenile Justice System Offered autumn. Prereq., SOCI 101S and 211S or 330. An analysis of the juvenile justice system in the United States, including the historical development of policies and practices. The role of various social agencies in defining, preventing, and responding to delinquency.	3 Credits
	SOCI 362 - Sociology of Law Enforcement Offered autumn even-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of policing in society, with emphasis on the cultural context in which it occurs, its structural characteristics, and social psychological processes.	3 Credits
	SOCI 423 - Sociology of Corrections Offered spring. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of the purposes, structures, and processes of jails, prisons, and community corrections, including probation and parole. Emphasis on historical development and current trends and issues in corrections.	3 Credits
	SOCI 435 - Law and Society Offered spring even-numbered years. Prereq., SOCI 101S. The study of the law and society, including the origin, institutionalization, and impact of law and legal systems.	3 Credits

	SOCI 438 - Seminar in Crime & Deviance Offered every term. Consent of instructor. Advanced studies in criminology theory, research, and practice. This course will meet the upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 498 - Internship (R-6) Offered every term. Prereq., SOCI 101S, 318 and 202; 2.75 GPA; junior standing and consent of instr. Supervised placement in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice.	1 To 6 Credits
Minimum Required Grade: C-		9 Total Credits Required

Inequality and Social Justice

Inequality is at the core of most sociological inquires. The option in inequality and social justice examines the causes and consequences of inequalities based on class, gender, race/ethnicity, disability, age, and sexual orientation. Social inequalities at the local, national, and global levels are studied, as are the political, legal, and social processes that contribute to or reduce inequalities. Ethical elements of social justice are considered with regard to inequality. An option in inequality and social justice prepares students for employment in a variety of government and private-sector agencies, especially in social services, or for graduate school in Sociology. It also provides valuable preparation for related fields such as law, social work, education, counseling, politics, and public administration.

Bachelor of Arts - Sociology; Inequality and Social Justice Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 39

Required Cumulative GPA: 2.0

Note: No more than 60 sociology credits may count toward graduation.

Lower Core Courses

Rule: All courses are required

	Course	**Credits**
	SOCI 101S - Introduction to Sociology Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Core Courses

Rule: All courses are required

	Course	Credits
	SOCI 318 - Sociological Research Methods Offered every term. Prereq., SOCI 101S, Sociology majors only, or consent of instr. Methods of research in the social sciences including naturalistic observation, interviewing, measurement, experiments, surveys, content analysis, and basic data analysis. Required of all majors.	3 Credits
	SOCI 455 - Classical Sociological Theory Offered autumn and spring. Prereq., SOCI 101S, or consent of instr. Exploration of the classical foundations of sociological theories, emphasizing Marx, Durkheim, and Weber. Required of all sociology majors.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Major Content Courses

Rule: Choose 4 courses from those listed. 2 must be numbered 300 or above.

Note: Students may count only 1 course from their respective option as a major content course.

Note: SOCI 211S or SOCI 330 can count towards the 12 credits but not both.

	Course	Credits
	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 270 - Intro Development Sociology Offered autumn. Introduction to sociological perspectives on international development, globalization, and sustainability. Rural and environmental issues emphasized.	3 Credits
	SOCI 275S - Gender and Society Offered spring. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S.; gender ideologies affect the social definition and position of gendered individuals in work, family, sexual relationships, gendered divisions of labor, and social movements.	3 Credits
	SOCI 306 - Sociology of Work Offered intermittently. An introduction to contemporary sociological debates on work including overwork, working poor, housework, globalization, mechanization, routinization, surveillance, and unions. Special focus on gender and class impacts on working life.	3 Credits

	SOCI 308 - Soc of Education Offered intermittently. Prereq., SOCI 101S. The structure and operation of the educational system in the United States, with special attention to the organization and effectiveness of schools.	3 Credits
	SOCI 325 - Social Stratification Offered intermittently. Prereq., SOCI 101S or SOCI 220S or SOCI 275S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.	3 Credits
	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
	SOCI 345 - Sociology of Organizations Offered intermittently. Prereq., SOCI 101S. Historical and analytical study of organizations as social systems, with an emphasis on applying theoretical models to analyzing organizational behavior and change.	3 Credits
	SOCI 346 - Rural Sociology Offered intermittently. Prereq., SOCI 101S recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.	3 Credits
	SOCI 350 - The Community Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.	3 Credits
	SOCI 355 - Population and Society Offered spring. Prereq., SOCI 101S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment. Emphasizes gender issues in international context.	3 Credits
	SOCI 382 - Soc Psych and Social Structure Offered autumn. Prereq., SOCI 101S. The study of the behavior of individuals in social contexts ranging from small groups to societies. Topics include attitude change, conformity, power, status, self-concept formation, and decision-making.	3 Credits
	SOCI 470 - Environmental Sociology Offered autumn. Introduction to environmental sociology and the social dimensions of environmental change. Case studies of major environmental problems as applications of environmental sociological perspectives.	3 Credits

	SOCI 485 - Political Sociology Offered spring odd-numbered years. Prereq., junior or senior standing. Analysis of power; states; institutional interrelationships; production and transmisison of ideologies; political participation and membership; social movements.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper Division Writing Course

Rule: Must complete 1 of the following courses

Note: A non-sociology upper division writing course from another department may be substituted for this requirement with departmental consent.

	Course	Credits
	SOCI 438 - Seminar in Crime & Deviance Offered every term. Consent of instructor. Advanced studies in criminology theory, research, and practice. This course will meet the upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 441 - Capstone: Inequal and Soc Just Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation.	3 Credits
	SOCI 460 - Capstone: Rural and Env Change Offered spring. Prereq., SOCI 101S and consent of instr. Advanced study of issues in rural, environmental, and development sociology with an emphasis on theoretical perspectives and applications. Meets upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 488 - Writing for Sociology Offered autumn and spring. Consent of instr. Advanced study of variable topics or issues in sociology, with emphasis on writing for the discipline. This course satisfies the upper-division writing expectation for sociology majors only.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Inequality and Social Justice Option

Rule: Complete 15 credits in the following categories

Minimum Required Grade: C-

15 Total Credits Required

Option Core

Rule: Complete SOCI 441 and either SOCI 220S or SOCI 275S.

Note: Students should complete SOCI 220S or SOCI 275S first, and complete at least 2 ISJ electives before taking SOCI 441.

	Course	Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 275S - Gender and Society Offered spring. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S.; gender ideologies affect the social definition and position of gendered individuals in work, family, sexual relationships, gendered divisions of labor, and social movements.	3 Credits
	SOCI 441 - Capstone: Inequal and Soc Just Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Option Electives

Rule: Choose 3 of the following courses

Note: It is recommended that students take SOCI 442 or SOCI 498 concurrent with SOCI 441.

	Course	Credits
	SOCI 314 - Extraordinary Group Behavior Offered intermittently. Prereq., SOCI 101S. The study of emergent social behavior including rumors, crowds, crazes, riots, panics, terrorism, revolutions and social movements.	3 Credits
	SOCI 325 - Social Stratification Offered intermittently. Prereq., SOCI 101S or SOCI 220S or SOCI 275S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.	3 Credits
	SOCI 435 - Law and Society Offered spring even-numbered years. Prereq., SOCI 101S. The study of the law and society, including the origin, institutionalization, and impact of law and legal systems.	3 Credits
	SOCI 442 - ISJ Service Learning Prereq, consent of instr. Supervised fieldwork and research in settings relevant to Inequality and Social Justice, building participatory research and critical thinking skills; relationships with people in groups marginalized by systems of inequality; citizenship awareness.	3 To 4 Credits

	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
	SOCI 485 - Political Sociology Offered spring odd-numbered years. Prereq., junior or senior standing. Analysis of power; states; institutional interrelationships; production and transmisison of ideologies; political participation and membership; social movements.	3 Credits
	SOCI 498 - Internship (R-6) Offered every term. Prereq., SOCI 101S, 318 and 202; 2.75 GPA; junior standing and consent of instr. Supervised placement in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice.	1 To 6 Credits
Minimum Required Grade: C-		9 Total Credits Required

Rural and Environmental Change

Rural environments, residents and agencies are facing rapid social, economic, demographic and political change. This option develops analytical and practical skills for understanding rural and environmental change globally and in the American West, and its policy implications in such areas as rural health, welfare and work; community development and assessment; native peoples and natural resource management. An option in rural and environmental change prepares students for employment with either a government, private, or non-profit agency concerned with the above topics or for pursuing an advanced degree in sociology.

Requirements, in addition to courses in the core and content areas, include:

Bachelor of Arts - Sociology; Rural and Environmental Change Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 39

Required Cumulative GPA: 2.0

Note: No more than 60 sociology credits may count toward graduation.

Lower Core Courses

Rule: All courses are required

	Course	**Credits**

	SOCI 101S - Introduction to Sociology Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Core Courses

Rule: All courses are required

	Course	Credits
	SOCI 318 - Sociological Research Methods Offered every term. Prereq., SOCI 101S, Sociology majors only, or consent of instr. Methods of research in the social sciences including naturalistic observation, interviewing, measurement, experiments, surveys, content analysis, and basic data analysis. Required of all majors.	3 Credits
	SOCI 455 - Classical Sociological Theory Offered autumn and spring. Prereq., SOCI 101S, or consent of instr. Exploration of the classical foundations of sociological theories, emphasizing Marx, Durkheim, and Weber. Required of all sociology majors.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Major Content Courses

Rule: Choose 4 courses from those listed. 2 must be numbered 300 or above.

Note: Students may count only 1 course from their respective option as a major content course.

Note: SOCI 211S or SOCI 330 can count towards the 12 credits but not both.

	Course	Credits
	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits

	SOCI 270 - Intro Development Sociology Offered autumn. Introduction to sociological perspectives on international development, globalization, and sustainability. Rural and environmental issues emphasized.	3 Credits
	SOCI 275S - Gender and Society Offered spring. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S.; gender ideologies affect the social definition and position of gendered individuals in work, family, sexual relationships, gendered divisions of labor, and social movements.	3 Credits
	SOCI 306 - Sociology of Work Offered intermittently. An introduction to contemporary sociological debates on work including overwork, working poor, housework, globalization, mechanization, routinization, surveillance, and unions. Special focus on gender and class impacts on working life.	3 Credits
	SOCI 308 - Soc of Education Offered intermittently. Prereq., SOCI 101S. The structure and operation of the educational system in the United States, with special attention to the organization and effectiveness of schools.	3 Credits
	SOCI 325 - Social Stratification Offered intermittently. Prereq., SOCI 101S or SOCI 220S or SOCI 275S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.	3 Credits
	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
	SOCI 345 - Sociology of Organizations Offered intermittently. Prereq., SOCI 101S. Historical and analytical study of organizations as social systems, with an emphasis on applying theoretical models to analyzing organizational behavior and change.	3 Credits
	SOCI 346 - Rural Sociology Offered intermittently. Prereq., SOCI 101S recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.	3 Credits
	SOCI 350 - The Community Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.	3 Credits

	SOCI 355 - Population and Society Offered spring. Prereq., SOCI 101S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment. Emphasizes gender issues in international context.	3 Credits
	SOCI 382 - Soc Psych and Social Structure Offered autumn. Prereq., SOCI 101S. The study of the behavior of individuals in social contexts ranging from small groups to societies. Topics include attitude change, conformity, power, status, self-concept formation, and decision-making.	3 Credits
	SOCI 470 - Environmental Sociology Offered autumn. Introduction to environmental sociology and the social dimensions of environmental change. Case studies of major environmental problems as applications of environmental sociological perspectives.	3 Credits
	SOCI 485 - Political Sociology Offered spring odd-numbered years. Prereq., junior or senior standing. Analysis of power; states; institutional interrelationships; production and transmisison of ideologies; political participation and membership; social movements.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper Division Writing Course

Rule: Must complete 1 of the following courses

Note: A non-sociology upper division writing course from another department may be substituted for this requirement with departmental consent.

	Course	**Credits**
	SOCI 438 - Seminar in Crime & Deviance Offered every term. Consent of instructor. Advanced studies in criminology theory, research, and practice. This course will meet the upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 441 - Capstone: Inequal and Soc Just Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation.	3 Credits
	SOCI 460 - Capstone: Rural and Env Change Offered spring. Prereq., SOCI 101S and consent of instr. Advanced study of issues in rural, environmental, and development sociology with an emphasis on theoretical perspectives and applications. Meets upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 488 - Writing for Sociology Offered autumn and spring. Consent of instr. Advanced study of variable topics or issues in sociology, with emphasis on writing for the discipline. This course satisfies the upper-division writing expectation for sociology majors only.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Rural and Environmental Change Option

Rule: Complete 15 Option Credits
Minimum Required Grade: C-
15 Total Credits Required

Option Core

Rule: The following courses are required

Note: Students should take SOCI 270 first and complete at least 2 Rural and Environmental Change electives prior to taking SOCI 460.

	Course	Credits
	SOCI 270 - Intro Development Sociology Offered autumn. Introduction to sociological perspectives on international development, globalization, and sustainability. Rural and environmental issues emphasized.	3 Credits
	SOCI 460 - Capstone: Rural and Env Change Offered spring. Prereq., SOCI 101S and consent of instr. Advanced study of issues in rural, environmental, and development sociology with an emphasis on theoretical perspectives and applications. Meets upper-division writing expectation for sociology majors only.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Option Electives

Rule: Choose 3 of the following courses

	Course	Credits
	SOCI 346 - Rural Sociology Offered intermittently. Prereq., SOCI 101S recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.	3 Credits
	SOCI 350 - The Community Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.	3 Credits

	SOCI 355 - Population and Society Offered spring. Prereq., SOCI 101S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment. Emphasizes gender issues in international context.	3 Credits
	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
	SOCI 470 - Environmental Sociology Offered autumn. Introduction to environmental sociology and the social dimensions of environmental change. Case studies of major environmental problems as applications of environmental sociological perspectives.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
	SOCI 498 - Internship (R-6) Offered every term. Prereq., SOCI 101S, 318 and 202; 2.75 GPA; junior standing and consent of instr. Supervised placement in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice.	1 To 6 Credits
Minimum Required Grade: C-		9 Total Credits Required

Teaching Sociology

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Teacher Preparation in Sociology

Students who want to be licensed to teach sociology at the high school level must complete the BA degree requirements in sociology (general sociology, no option required). They also must complete a teaching major or minor in a second field of their choice and the professional licensure program in the College of Education. Students may also earn a teaching minor in sociology. See the Department of Curriculum & Instruction for information about admission to the Teacher Education Program and completion of these licensure programs.

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 42

Required Cumulative GPA: 2.0

Note: No more than 60 sociology credits may count toward graduation. Students who want to be licensed to teach sociology at the high school level must complete the BA degree requirements in sociology (general sociology, no option required). They also must complete a teaching major or minor in a second field of their choice and the professional licensure program in the College of Education.

Lower Core Courses

Rule: All courses are required

	Course	Credits
	SOCI 101S - Introduction to Sociology Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Core Courses

Rule: All courses are required

	Course	Credits
	SOCI 318 - Sociological Research Methods Offered every term. Prereq., SOCI 101S, Sociology majors only, or consent of instr. Methods of research in the social sciences including naturalistic observation, interviewing, measurement, experiments, surveys, content analysis, and basic data analysis. Required of all majors.	3 Credits
	SOCI 455 - Classical Sociological Theory Offered autumn and spring. Prereq., SOCI 101S, or consent of instr. Exploration of the classical foundations of sociological theories, emphasizing Marx, Durkheim, and Weber. Required of all sociology majors.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Major Content Courses

Rule: Choose 4 courses from those listed. 2 must be numbered 300 or above.

Note: SOCI 211S or SOCI 330 will count towards the 12 credits but not both.

	Course	Credits
	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 270 - Intro Development Sociology Offered autumn. Introduction to sociological perspectives on international development, globalization, and sustainability. Rural and environmental issues emphasized.	3 Credits
	SOCI 275S - Gender and Society Offered spring. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S.; gender ideologies affect the social definition and position of gendered individuals in work, family, sexual relationships, gendered divisions of labor, and social movements.	3 Credits
	SOCI 306 - Sociology of Work Offered intermittently. An introduction to contemporary sociological debates on work including overwork, working poor, housework, globalization, mechanization, routinization, surveillance, and unions. Special focus on gender and class impacts on working life.	3 Credits
	SOCI 308 - Soc of Education Offered intermittently. Prereq., SOCI 101S. The structure and operation of the educational system in the United States, with special attention to the organization and effectiveness of schools.	3 Credits
	SOCI 325 - Social Stratification Offered intermittently. Prereq., SOCI 101S or SOCI 220S or SOCI 275S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.	3 Credits
	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
	SOCI 345 - Sociology of Organizations Offered intermittently. Prereq., SOCI 101S. Historical and analytical study of organizations as social systems, with an emphasis on applying theoretical models to analyzing organizational behavior and change.	3 Credits

	SOCI 346 - Rural Sociology Offered intermittently. Prereq., SOCI 101S recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.	3 Credits
	SOCI 350 - The Community Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.	3 Credits
	SOCI 355 - Population and Society Offered spring. Prereq., SOCI 101S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment. Emphasizes gender issues in international context.	3 Credits
	SOCI 382 - Soc Psych and Social Structure Offered autumn. Prereq., SOCI 101S. The study of the behavior of individuals in social contexts ranging from small groups to societies. Topics include attitude change, conformity, power, status, self-concept formation, and decision-making.	3 Credits
	SOCI 470 - Environmental Sociology Offered autumn. Introduction to environmental sociology and the social dimensions of environmental change. Case studies of major environmental problems as applications of environmental sociological perspectives.	3 Credits
	SOCI 485 - Political Sociology Offered spring odd-numbered years. Prereq., junior or senior standing. Analysis of power; states; institutional interrelationships; production and transmisison of ideologies; political participation and membership; social movements.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

General Sociology Requirements

Rule: Choose 5 of the following courses:

	Course	Credits
	ENST 225 - Community & Enviornment Offered autumn. Same as SOCI 225. Exploration of the ways that communities address their environmental concerns. Introduction of relevant social science concepts.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	SOCI 130S - Soc of Alternative Religions Offered spring. Unconventional religious groups in American society. Topics include recruitment, conversion, commitment, defection, leadership, belief systems, organizational structure and change.	3 Credits

	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits
	SOCI 221 - Criminal Justice System Offered spring. A systematic survey of crime and the administration of justice in the United States, including the organizational structures, processes, and dynamics of law enforcement, criminal adjudication, and corrections.	3 Credits
	SOCI 312 - Criminal Adjudication Offered spring odd-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of adjudicatory processes applied to the criminally accused. Includes pretrial, trial, and sentencing practices and procedures. Special attention to the sociological dimensions of criminal adjudication: its cultural underpinnings, structural characteristics and interactional dynamics.	3 Credits
	SOCI 314 - Extraordinary Group Behavior Offered intermittently. Prereq., SOCI 101S. The study of emergent social behavior including rumors, crowds, crazes, riots, panics, terrorism, revolutions and social movements.	3 Credits
	SOCI 335 - Juvenile Justice System Offered autumn. Prereq., SOCI 101S and 211S or 330. An analysis of the juvenile justice system in the United States, including the historical development of policies and practices. The role of various social agencies in defining, preventing, and responding to delinquency.	3 Credits
	SOCI 362 - Sociology of Law Enforcement Offered autumn even-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of policing in society, with emphasis on the cultural context in which it occurs, its structural characteristics, and social psychological processes.	3 Credits
	SOCI 386 - Preceptorship in Sociology Offered autumn and spring. Prereq., SOCI 101S and consent of instr. Assisting a faculty member by tutoring, conducting review sessions, helping students with research projects, and carrying out other class-related responsibilities. Open to juniors and seniors with instructor's consent. Proposals must be approved by department chair.	2 To 3 Credits
	SOCI 423 - Sociology of Corrections Offered spring. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of the purposes, structures, and processes of jails, prisons, and community corrections, including probation and parole. Emphasis on historical development and current trends and issues in corrections.	3 Credits
	SOCI 435 - Law and Society Offered spring even-numbered years. Prereq., SOCI 101S. The study of the law and society, including the origin, institutionalization, and impact of law and legal systems.	3 Credits

	SOCI 438 - Seminar in Crime & Deviance Offered every term. Consent of instructor. Advanced studies in criminology theory, research, and practice. This course will meet the upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 441 - Capstone: Inequal and Soc Just Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation.	3 Credits
	SOCI 442 - ISJ Service Learning Prereq, consent of instr. Supervised fieldwork and research in settings relevant to Inequality and Social Justice, building participatory research and critical thinking skills; relationships with people in groups marginalized by systems of inequality; citizenship awareness.	3 To 4 Credits
	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
	SOCI 444 - Issues in Inequality Offered intermittently. Consent of instr. Analysis of selected topics in inequality and social justice. Possible topics include Native Americans, disabilities, age, sexual orientation, and gender.	3 Credits
	SOCI 460 - Capstone: Rural and Env Change Offered spring. Prereq., SOCI 101S and consent of instr. Advanced study of issues in rural, environmental, and development sociology with an emphasis on theoretical perspectives and applications. Meets upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
	SOCI 488 - Writing for Sociology Offered autumn and spring. Consent of instr. Advanced study of variable topics or issues in sociology, with emphasis on writing for the discipline. This course satisfies the upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 492 - Independent Study (R-9) Offered every term. Prereq., SOCI 101S and consent of instr. Individual work with a faculty supervisor in an area of special interest. Proposals must be approved by department chair.	1 To 3 Credits
	SOCI 494 - Seminar/Workshop Offered intermittently. Prereq., SOCI 101S and at least junior standing. Selected sociological topics.	2 To 3 Credits

	SOCI 498 - Internship (R-6) Offered every term. Prereq., SOCI 101S, 318 and 202; 2.75 GPA; junior standing and consent of instr. Supervised placement in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice.	1 To 6 Credits
Minimum Required Grade: C-		15 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching. This major does not qualify as a single field endorsement. Individuals must complete a second teaching major or minor in another content area.

Teaching Methods Course

Rule: Complete the following course.

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Social Studies.

	Course	**Credits**

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Minor - Sociology (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 21

Required Cumulative GPA: 1.7

Note: To earn a minor in sociology the student must complete a minimum of 21 credits in sociology with at least 9 of these credits at the upper-division level.

Lower Division Core Courses

Rule: All courses are required

	Course	Credits
	SOCI 101S - Introduction to Sociology Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core Courses

Rule: All courses are required

	Course	Credits
	SOCI 318 - Sociological Research Methods Offered every term. Prereq., SOCI 101S, Sociology majors only, or consent of instr. Methods of research in the social sciences including naturalistic observation, interviewing, measurement, experiments, surveys, content analysis, and basic data analysis. Required of all majors.	3 Credits
	SOCI 455 - Classical Sociological Theory Offered autumn and spring. Prereq., SOCI 101S, or consent of instr. Exploration of the classical foundations of sociological theories, emphasizing Marx, Durkheim, and Weber. Required of all sociology majors.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Minor Content Courses

Rule: Choose 2 of the following courses

	Course	Credits

	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 270 - Intro Development Sociology Offered autumn. Introduction to sociological perspectives on international development, globalization, and sustainability. Rural and environmental issues emphasized.	3 Credits
	SOCI 275S - Gender and Society Offered spring. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S.; gender ideologies affect the social definition and position of gendered individuals in work, family, sexual relationships, gendered divisions of labor, and social movements.	3 Credits
	SOCI 306 - Sociology of Work Offered intermittently. An introduction to contemporary sociological debates on work including overwork, working poor, housework, globalization, mechanization, routinization, surveillance, and unions. Special focus on gender and class impacts on working life.	3 Credits
	SOCI 308 - Soc of Education Offered intermittently. Prereq., SOCI 101S. The structure and operation of the educational system in the United States, with special attention to the organization and effectiveness of schools.	3 Credits
	SOCI 325 - Social Stratification Offered intermittently. Prereq., SOCI 101S or SOCI 220S or SOCI 275S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
	SOCI 345 - Sociology of Organizations Offered intermittently. Prereq., SOCI 101S. Historical and analytical study of organizations as social systems, with an emphasis on applying theoretical models to analyzing organizational behavior and change.	3 Credits
	SOCI 346 - Rural Sociology Offered intermittently. Prereq., SOCI 101S recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.	3 Credits
	SOCI 350 - The Community Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.	3 Credits

	SOCI 355 - Population and Society Offered spring. Prereq., SOCI 101S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment. Emphasizes gender issues in international context.	3 Credits
	SOCI 382 - Soc Psych and Social Structure Offered autumn. Prereq., SOCI 101S. The study of the behavior of individuals in social contexts ranging from small groups to societies. Topics include attitude change, conformity, power, status, self-concept formation, and decision-making.	3 Credits
	SOCI 470 - Environmental Sociology Offered autumn. Introduction to environmental sociology and the social dimensions of environmental change. Case studies of major environmental problems as applications of environmental sociological perspectives.	3 Credits
	SOCI 485 - Political Sociology Offered spring odd-numbered years. Prereq., junior or senior standing. Analysis of power; states; institutional interrelationships; production and transmisison of ideologies; political participation and membership; social movements.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

General Sociology Electives

Rule: Choose 2 of the following courses

	Course	Credits
	ENST 225 - Community & Enviornment Offered autumn. Same as SOCI 225. Exploration of the ways that communities address their environmental concerns. Introduction of relevant social science concepts.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	SOCI 130S - Soc of Alternative Religions Offered spring. Unconventional religious groups in American society. Topics include recruitment, conversion, commitment, defection, leadership, belief systems, organizational structure and change.	3 Credits
	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits
	SOCI 221 - Criminal Justice System Offered spring. A systematic survey of crime and the administration of justice in the United States, including the organizational structures, processes, and dynamics of law enforcement, criminal adjudication, and corrections.	3 Credits

	SOCI 312 - Criminal Adjudication Offered spring odd-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of adjudicatory processes applied to the criminally accused. Includes pretrial, trial, and sentencing practices and procedures. Special attention to the sociological dimensions of criminal adjudication: its cultural underpinnings, structural characteristics and interactional dynamics.	3 Credits
	SOCI 314 - Extraordinary Group Behavior Offered intermittently. Prereq., SOCI 101S. The study of emergent social behavior including rumors, crowds, crazes, riots, panics, terrorism, revolutions and social movements.	3 Credits
	SOCI 335 - Juvenile Justice System Offered autumn. Prereq., SOCI 101S and 211S or 330. An analysis of the juvenile justice system in the United States, including the historical development of policies and practices. The role of various social agencies in defining, preventing, and responding to delinquency.	3 Credits
	SOCI 362 - Sociology of Law Enforcement Offered autumn even-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of policing in society, with emphasis on the cultural context in which it occurs, its structural characteristics, and social psychological processes.	3 Credits
	SOCI 386 - Preceptorship in Sociology Offered autumn and spring. Prereq., SOCI 101S and consent of instr. Assisting a faculty member by tutoring, conducting review sessions, helping students with research projects, and carrying out other class-related responsibilities. Open to juniors and seniors with instructor's consent. Proposals must be approved by department chair.	2 To 3 Credits
	SOCI 423 - Sociology of Corrections Offered spring. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of the purposes, structures, and processes of jails, prisons, and community corrections, including probation and parole. Emphasis on historical development and current trends and issues in corrections.	3 Credits
	SOCI 435 - Law and Society Offered spring even-numbered years. Prereq., SOCI 101S. The study of the law and society, including the origin, institutionalization, and impact of law and legal systems.	3 Credits
	SOCI 438 - Seminar in Crime & Deviance Offered every term. Consent of instructor. Advanced studies in criminology theory, research, and practice. This course will meet the upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 441 - Capstone: Inequal and Soc Just Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation.	3 Credits

	SOCI 442 - ISJ Service Learning Prereq, consent of instr. Supervised fieldwork and research in settings relevant to Inequality and Social Justice, building participatory research and critical thinking skills; relationships with people in groups marginalized by systems of inequality; citizenship awareness.	3 To 4 Credits
	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
	SOCI 444 - Issues in Inequality Offered intermittently. Consent of instr. Analysis of selected topics in inequality and social justice. Possible topics include Native Americans, disabilities, age, sexual orientation, and gender.	3 Credits
	SOCI 460 - Capstone: Rural and Env Change Offered spring. Prereq., SOCI 101S and consent of instr. Advanced study of issues in rural, environmental, and development sociology with an emphasis on theoretical perspectives and applications. Meets upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
	SOCI 488 - Writing for Sociology Offered autumn and spring. Consent of instr. Advanced study of variable topics or issues in sociology, with emphasis on writing for the discipline. This course satisfies the upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 492 - Independent Study (R-9) Offered every term. Prereq., SOCI 101S and consent of instr. Individual work with a faculty supervisor in an area of special interest. Proposals must be approved by department chair.	1 To 3 Credits
	SOCI 494 - Seminar/Workshop Offered intermittently. Prereq., SOCI 101S and at least junior standing. Selected sociological topics.	2 To 3 Credits
	SOCI 498 - Internship (R-6) Offered every term. Prereq., SOCI 101S, 318 and 202; 2.75 GPA; junior standing and consent of instr. Supervised placement in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice.	1 To 6 Credits
Minimum Required Grade: C-		6 Total Credits Required

Teaching Sociology Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching

areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - Sociology (Minor); Track: Teaching Sociology

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 24

Required Cumulative GPA: 2.0

Note: To earn a minor in sociology the student must complete a minimum of 21 credits in sociology with at least 9 of these credits at the upper-division level.

Lower Division Core Courses

Rule: All courses are required

	Course	Credits
	SOCI 101S - Introduction to Sociology Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core Courses

Rule: All courses are required

	Course	Credits
	SOCI 318 - Sociological Research Methods Offered every term. Prereq., SOCI 101S, Sociology majors only, or consent of instr. Methods of research in the social sciences including naturalistic observation, interviewing, measurement, experiments, surveys, content analysis, and basic data analysis. Required of all majors.	3 Credits
	SOCI 455 - Classical Sociological Theory Offered autumn and spring. Prereq., SOCI 101S, or consent of instr. Exploration of the classical foundations of sociological theories, emphasizing Marx, Durkheim, and Weber. Required of all sociology majors.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Minor Content Courses

Rule: Choose 2 of the following courses

	Course	Credits
	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 270 - Intro Development Sociology Offered autumn. Introduction to sociological perspectives on international development, globalization, and sustainability. Rural and environmental issues emphasized.	3 Credits
	SOCI 275S - Gender and Society Offered spring. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S.; gender ideologies affect the social definition and position of gendered individuals in work, family, sexual relationships, gendered divisions of labor, and social movements.	3 Credits
	SOCI 306 - Sociology of Work Offered intermittently. An introduction to contemporary sociological debates on work including overwork, working poor, housework, globalization, mechanization, routinization, surveillance, and unions. Special focus on gender and class impacts on working life.	3 Credits
	SOCI 308 - Soc of Education Offered intermittently. Prereq., SOCI 101S. The structure and operation of the educational system in the United States, with special attention to the organization and effectiveness of schools.	3 Credits
	SOCI 325 - Social Stratification Offered intermittently. Prereq., SOCI 101S or SOCI 220S or SOCI 275S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
	SOCI 345 - Sociology of Organizations Offered intermittently. Prereq., SOCI 101S. Historical and analytical study of organizations as social systems, with an emphasis on applying theoretical models to analyzing organizational behavior and change.	3 Credits
	SOCI 346 - Rural Sociology Offered intermittently. Prereq., SOCI 101S recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.	3 Credits

	SOCI 350 - The Community Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.	3 Credits
	SOCI 355 - Population and Society Offered spring. Prereq., SOCI 101S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment. Emphasizes gender issues in international context.	3 Credits
	SOCI 382 - Soc Psych and Social Structure Offered autumn. Prereq., SOCI 101S. The study of the behavior of individuals in social contexts ranging from small groups to societies. Topics include attitude change, conformity, power, status, self-concept formation, and decision-making.	3 Credits
	SOCI 470 - Environmental Sociology Offered autumn. Introduction to environmental sociology and the social dimensions of environmental change. Case studies of major environmental problems as applications of environmental sociological perspectives.	3 Credits
	SOCI 485 - Political Sociology Offered spring odd-numbered years. Prereq., junior or senior standing. Analysis of power; states; institutional interrelationships; production and transmisison of ideologies; political participation and membership; social movements.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

General Sociology Electives

Rule: Choose 2 of the following courses

	Course	Credits
	ENST 225 - Community & Enviornment Offered autumn. Same as SOCI 225. Exploration of the ways that communities address their environmental concerns. Introduction of relevant social science concepts.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	SOCI 130S - Soc of Alternative Religions Offered spring. Unconventional religious groups in American society. Topics include recruitment, conversion, commitment, defection, leadership, belief systems, organizational structure and change.	3 Credits
	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits

	SOCI 221 - Criminal Justice System Offered spring. A systematic survey of crime and the administration of justice in the United States, including the organizational structures, processes, and dynamics of law enforcement, criminal adjudication, and corrections.	3 Credits
	SOCI 312 - Criminal Adjudication Offered spring odd-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of adjudicatory processes applied to the criminally accused. Includes pretrial, trial, and sentencing practices and procedures. Special attention to the sociological dimensions of criminal adjudication: its cultural underpinnings, structural characteristics and interactional dynamics.	3 Credits
	SOCI 314 - Extraordinary Group Behavior Offered intermittently. Prereq., SOCI 101S. The study of emergent social behavior including rumors, crowds, crazes, riots, panics, terrorism, revolutions and social movements.	3 Credits
	SOCI 335 - Juvenile Justice System Offered autumn. Prereq., SOCI 101S and 211S or 330. An analysis of the juvenile justice system in the United States, including the historical development of policies and practices. The role of various social agencies in defining, preventing, and responding to delinquency.	3 Credits
	SOCI 362 - Sociology of Law Enforcement Offered autumn even-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of policing in society, with emphasis on the cultural context in which it occurs, its structural characteristics, and social psychological processes.	3 Credits
	SOCI 386 - Preceptorship in Sociology Offered autumn and spring. Prereq., SOCI 101S and consent of instr. Assisting a faculty member by tutoring, conducting review sessions, helping students with research projects, and carrying out other class-related responsibilities. Open to juniors and seniors with instructor's consent. Proposals must be approved by department chair.	2 To 3 Credits
	SOCI 423 - Sociology of Corrections Offered spring. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of the purposes, structures, and processes of jails, prisons, and community corrections, including probation and parole. Emphasis on historical development and current trends and issues in corrections.	3 Credits
	SOCI 435 - Law and Society Offered spring even-numbered years. Prereq., SOCI 101S. The study of the law and society, including the origin, institutionalization, and impact of law and legal systems.	3 Credits
	SOCI 438 - Seminar in Crime & Deviance Offered every term. Consent of instructor. Advanced studies in criminology theory, research, and practice. This course will meet the upper-division writing expectation for sociology majors only.	3 Credits

	SOCI 441 - Capstone: Inequal and Soc Just Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation.	3 Credits
	SOCI 442 - ISJ Service Learning Prereq, consent of instr. Supervised fieldwork and research in settings relevant to Inequality and Social Justice, building participatory research and critical thinking skills; relationships with people in groups marginalized by systems of inequality; citizenship awareness.	3 To 4 Credits
	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
	SOCI 444 - Issues in Inequality Offered intermittently. Consent of instr. Analysis of selected topics in inequality and social justice. Possible topics include Native Americans, disabilities, age, sexual orientation, and gender.	3 Credits
	SOCI 460 - Capstone: Rural and Env Change Offered spring. Prereq., SOCI 101S and consent of instr. Advanced study of issues in rural, environmental, and development sociology with an emphasis on theoretical perspectives and applications. Meets upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
	SOCI 488 - Writing for Sociology Offered autumn and spring. Consent of instr. Advanced study of variable topics or issues in sociology, with emphasis on writing for the discipline. This course satisfies the upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 492 - Independent Study (R-9) Offered every term. Prereq., SOCI 101S and consent of instr. Individual work with a faculty supervisor in an area of special interest. Proposals must be approved by department chair.	1 To 3 Credits
	SOCI 494 - Seminar/Workshop Offered intermittently. Prereq., SOCI 101S and at least junior standing. Selected sociological topics.	2 To 3 Credits
	SOCI 498 - Internship (R-6) Offered every term. Prereq., SOCI 101S, 318 and 202; 2.75 GPA; junior standing and consent of instr. Supervised placement in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice.	1 To 6 Credits

Minimum Required Grade: C-	6 Total Credits Required

Teaching Licensure Requirements

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Teaching Methods Course

Rule: Complete the following course.

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Social Studies.

	Course	Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Minor - International Development Stds (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 21

Required Cumulative GPA: 2.5

Note: The IDS minor requires 21 credits. At least twelve of these credits must come from the CORE IDS courses and as many as nine credits can come from CONTENT courses. At least seven credits must be upper division credits.

Core Courses

Rule: Must complete at least 12 credits from the following courses:

	Course	Credits
	ANTY 349 - Social Change in NnWstrn Socts Offered autumn, odd-numbered years. Study of the processes of change, modernization and development.	3 Credits
	COMX 204X - International & Dvlpmnt Comm Offered yearly. International Communication is concerned with information exchange across national borders while Development Communication focuses on the historical, current, and prospective role of communication technologies in social change, improving living conditions, and enhancing life prospects - mainly in developing countries.	3 Credits
	ECNS 217X - Issues in Economic Development Offered intermittently. Prereq., ECNS 201S. Study of the processes of economic growth and development in the less developed world.	3 Credits
	ECNS 450 - Adv. Topics in Economic Dev. Offered intermittently. Prereq., ECNS 201S and ECNS 202S, or consent of instructor. Advanced treatment of the processes of economic growth and development in the less developed world.	3 Credits
	ENST 487 - Globalization, Justice & Envir Offered autumn. Study of current trends in economic globalization and its effects on efforts to work for social justice and environmental sustainability, particularly in the Global South. Examination of different models and theories of globalization, analysis of ethical issues raised, and assessment of alternatives proposed.	3 Credits
	GPHY 141S - Geography of World Regions Offered autumn and/or spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood.	3 Credits

	NRSM 170 - International Envir. Change Offered spring. An introduction to natural and anthropogenic environmental change from ancient to contemporary times. Exploration of the historical role and importance of ecological disturbance on the development and maintenance of terrestrial ecosystems around the world. Introduction to fields of study available in the College of Forestry and Conservation.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	PSCI 431 - Politics of Global Migration Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
	PTRM 451 - Tourism & Sustainability Offered spring. Prereq., PTRM 210, or consent of instructor. Theories and conceptual models are applied to analyzing relationships between the integration of planning theories to sustainability concepts.	3 Credits
	S W 323 - Women & Soc Action Amer Offered intermittently. Prereq., one of SW 100, SOCI 101S, or ANTY 101H or consent of instr. Same as WS 323. Focus on women's experiences of and contributions to social change in North, South and Central America in the mid to late-20th century. Through case studies, testimonials, discussions with activists and Internet connections examine social constructions of gender, compare forms of social action in diverse cultural, political and historical contexts, link practice to theories of social participation, and reflect on lessons learned from women's experiences.	3 Credits
	S W 465 - Social Work Global Context Offered spring even-numbered years. Prereq., upper-division or graduate standing. Examination of globalization, human rights, poverty, international aid, and gender issues; their relationship to social work and social justice, and strategies for action.	3 Credits

	SOCI 270 - Intro Development Sociology Offered autumn. Introduction to sociological perspectives on international development, globalization, and sustainability. Rural and environmental issues emphasized.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Content Courses

Rule: Must complete up to 9 credits from the following courses

Note: Under MANS 495 'Special Topics' please select the section 'Transitions from War to Peace'.

	Course	Credits
	ANTY 326E - Indigenous Peoples & Globl Dev Offered spring odd-numbered years. This class will examine the impact of global development on tribal and Indigenous peoples. Topics will include land issues, health, employment, and cultural change caused by global development and explore how these societies are resisting and adapting to their changing world.	3 Credits
	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	ANTY 333 - Culture and Population Offered autumn, even-numbered years. The relationship between population processes and culture to the human condition; survey data, methodologies, theories of demographic and culture change.	3 Credits
	BGEN 160S - Issues in Sustainability Offered every term. Same as CCN 160S. This literature-intensive course is intended to expose the student to a variety of essays addressing the balance of economic development with the principles of sustainability and social equity. The student is offered an introduction to sustainability concepts, natural systems/cycles and environmental economics. Natural capitalism and triple bottom line maximization is explored, along with the role of corporations and small businesses in sustainable development. A survey of issues surrounding corporate social responsibility and sustainability-driven innovation will be conducted.	3 Credits
	COMX 415 - Intercultural Communication Offered autumn and spring. Communication principles and processes in cross-cultural environments. Non-Western cultures are emphasized by contrasting them to Western communication norms.	3 Credits

	COMX 421 - Comm in Non-Profit Organizatns Offered yearly. Focuses on issues in nonprofit organizational communication at macro and micro levels. Topics include: organizational identity, change processes, public relations, fund-raising, advocacy, socialization, stress and burnout, board management and professionalization.	3 Credits
	ECNS 101S - Economic Way of Thinking Offered autumn and spring. A critical examination of the market mechanism as a social decision-making device to guide the use of a nation's resources. The limitations of these processes in light of current economic problems such as the rise of the large corporation, monopoly, environmental degradation, economic discrimination and the increasing role of the government.	3 Credits
	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	ECNS 445 - Int Env Econ & Clim Change Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.	3 Credits
	ENST 493 - Study Abroad: Envir Justice LA Offered intermittently. Two week travel seminar to one or more Latin American countries to examine Latin American perspectives on environmental justice and efforts toward sustainable development within the context of the global economy and U. S. foreign policy. Required one-credit seminar offered spring semester to provide background readings.	3 Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits
	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
	GPHY 243S - Africa Offered autumn even numbered years. A survey of the biophysical and cultural geography of Sub Saharan Africa. Emphasis is on the region's cultural historical development and current ecological, demographic, and economic patterns.	3 Credits

	GPHY 245X - The Middle East Offered intermittently. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change; prehistory; patterns of cultural and historical change; issues of socio-economic, religious, and political diversity; and the broader political significance of the region.	3 Credits
	GPHY 432 - Human Role Environ Change Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.	3 Credits
	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
	GPHY 434 - Food and Famine Offered intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.	3 Credits
	GPHY 444 - High Asia Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.	3 Credits
	HSTR 231H - Modern Latin America (WRLD) Offered spring. Latin America from wars of independence to the present. Focus on social relations, development models, politics, and popular movements.	3 Credits
	HSTR 241H - Central Asian Cult & Civ (WRLD) Same as ANTY 241H. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits
	HSTR 384 - Hist Internat Human Rights (WRLD) Offered intermittently. A treatment of the powerful global influence of visions of human rights upon the historical and contemporary world in which movements such as abolitionism, women's rights, humanitarian law, racial equality, decolonization and democratization, and the impact of the Universal Declaration of Human Rights.	3 Credits
	MANS 495 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits

	NASX 475 - Tribal Sovereignty Offered Spring. An examination of the evolution of tribal governments from a historical and political perspective. Particular attention is devoted to the issues of tribal sovereignty and tribal-state conflicts.	3 Credits
	NRSM 352 - Mountain Environment and Dev Offered summer only. Coreq., PTRM 353. This course covers the contentious issues surrounding environment and development in the Himalaya using the Garhwal region of India as the example.	3 Credits
	PSCI 220S - Intro to Comparative Govt Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures.	3 Credits
	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
	PSCI 325 - Politics of Latin America Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 327 - Politics of Mexico Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.	3 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
	PTRM 353 - Tourism & Sustnbility Himalaya Offered summer only. Coreq. NRSM 352. In this course we will explore the opportunities and challenges of development with particular reference to nature-based tourism and sustainability in an isolated but rapidly globalizing region of the Himalaya. Students will learn through extensive readings, class discussions, direct field experience (including living in a remote mountain village), meetings with development officials, sustainability activists and stakeholders in the region.	3 Credits

	S W 324 - Gender and Welfare Offered intermittently. Prereq., SW 100 or consent of instr. Same as WGS 324. Exploration of the relationship between gender ideologies and the development of social welfare policies. Examination of historic and contemporary social welfare policies, practices and debates in the United States through a gender lens.	3 Credits
	SOCI 212S - Social Issues Southeast Asia Offered every other year. Introduction to the cultures, societies, and contemporary social problems of Southeast Asia.	3 Credits
	SOCI 346 - Rural Sociology Offered intermittently. Prereq., SOCI 101S recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.	3 Credits
	SOCI 355 - Population and Society Offered spring. Prereq., SOCI 101S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment. Emphasizes gender issues in international context.	3 Credits
	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Psychology Department

Christine Fiore, Chair

Psychology is the science of the behavior of humans and other animals. The psychologist, using scientific methods, seeks to understand the causes and purposes of behavior. Psychologists pursue their research and its application in academia, business, government, health, military and social service. The department offers training that leads to the Bachelor of Arts, Master of Arts, Educational Specialist, and Doctor of Philosophy degrees.

Department Faculty

Professors

Bryan Cochran, Professor of Psychology and Director of Clinical Training
Lucian Conway, Professor Social Psychology
Christine Fiore, Ph.D., Professor and Department Chair
Stuart Hall, Professor Physiological Psychology and Clinical Neuropsychology
Lois Muir, Professor Developmental Psychology
David Schuldberg, Professor / Grant Evaluator
Tom Seekins, Professor Developmental Psychology
Paul Silverman, Professor Developmental Psychology; Chair, Interdisciplinary Minor in Human and Family Development
Allen Szalda-Petree, Professor, Experimental Psychology
Jennifer Waltz, Professor Clinical Psychology

Associate Professors

Duncan G Campbell, Associate Professor Clinical Psychology
Daniel J. Denis, Associate Professor of Quantitative Psychology
Greg Machek, Associate Professor of School Psychology
Gyda Swaney, Associate Professor Clinical Psychology

Assistant Professors

Jacqueline Brown, Ph.D. Assistant Professor of School Psychology
Anisa Goforth, Assistant Professor of Psychology and Director of the School Psychology Graduate Training Program
Nathan Insel, Assistant Professor, Behavioral & Systems Neuroscience
Yoonhee Jang, Assistant Professor
Craig McFarland, Assistant Professor, Clinical Neuropsychology
Rachel Severson, Assistant Professor, Developmental Psychology

Adjunct Faculty

Raurie Birch, Director, Clinical Psychology Center
Laura Kirsch, Adjunct Instructor
Nicole McCray, Adjunct Instructor

Research Faculty

Ann Cook, Research Professor Bioethics
Rosemary Hughes, Research Professor
Craig Ravesloot, Research Associate Professor Clinical Psychology

Affiliates

Janet Allison
Diana Bjorgen
Thomas Buchholz
Timothy Casey
J. William Cook
Scott Cramton
Dudley Dana
Patrick Davis
Susan Day
Kevin Dohr
Blaise Favara
Gordon Gerrish
Shan Guisinger
M. Joan Hess-Homeier
Joyce Hocker
Mary Jenni
Stephen Langer
Joanna Legerski
Melissa Neff
Theresa Reed
Brenda Roche
Elizabeth Schaughency
Michael Scolatti
Wendy Shields
Marianne Spitzform
Cameo Stanick
Linda Thomas, Professor
Kathryn Whipple-Kilmer
Nadine Wisniewski
Danette Wollersheim
Yemataw Yehualashet

Emeritus Professors

Charles Allen
Margaret Beebe-Frankenberger, Associate Professor of Psychology

Laurence Berger
George Camp
Nabil Haddad, Emeritus
Frances Hill
Lynne Koester, Professor Developmental Psychology
John Means
David Strobel
Arlene Walker-Andrews, Associate Provost and Emeritus Professor of Psychology
James Walsh
Herman Walters
Janet Wollersheim

Biology-Human

Back to Top

- BIOH 380 - Cellular and Molecular Neuroscience

  Credits: 3. Prereq., BIOB 260 and BIOH 280. The material covered will give students a practical knowledge of the subcellular organization and function of the nervous system. Students will learn how brain energy metabolism is a dynamic, and highly regulated process. We will explore the variety forms of neuronal chemical communication that may not conform to basic concepts of synaptic signaling. We will study processes that are involved in the growth and guidance of axons leading to the formation as well as the elimination of synapses. We will learn about the processes that are involved in the regulation of sexual differentiation of the nervous system. We will explore the basic mechanisms involved in learning and memory. Finally, Students will learn about the molecular and cellular mechanisms associated with neurodegenerative disease.

- BIOH 441 - CNS Diseases

  Credits: 3. This course is designed as a special topics course within the new neuroscience major that focuses on developing an understanding of common diseases affecting the Central Nervous System (CNS), such as stroke, traumatic brain injury, Alzheimer disease, Parkinson's disease, schizophrenia, amyotrophic lateral sclerosis, epilepsy, etc.) For each of the CNS disorders surveyed (which will vary from year to year), an emphasis will be placed on framing the symptoms and etiology of the disease within the context of the normal neuronal function at the anatomical, cellular and molecular levels. Where feasible, lectures will be supplemented with presentations by clinicians with expertise in the field. Students will also develop an appreciation for the linkages between basic and translational research in neurological diseases as well as the importance of disease models in the development of new therapies.

Psychology

Back to Top

- PSYX 100S - Intro to Psychology

  Credits: 4. Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S. Course Attributes:
  Social Sciences Course (S)

- PSYX 105 - Careers in Psychology

  Credits: 1. Offered intermittently. Exploration of the various careers available in the general area of mental health research and practice.

- PSYX 120 - Research Methods I

  Credits: 3. Offered every term. Prereq., PSYX 100S. Experimental and other quantitative methods employed in the scientific study of behavior.

- PSYX 191 - Special Topics

  Credits: 1 TO 6. (R 6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.

- PSYX 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

- PSYX 222 - Psychological Statistics

Credits: 3. Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.

- PSYX 233 - Fund of Psychology of Aging

  Credits: 3. Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.

- PSYX 250N - Fund of Biological Psychology

  Credits: 3. Offered every term. Prereq., PSYX 100S. Introduction to the study of how psychological processes are supported by biological processes. Mechanisms across levels of analysis, from cells to individuals, are addressed. Course Attributes: Natural Science Course (N)

- PSYX 270 - Fund Psychology of Learning

  Credits: 3. Offered autumn. Prereq., PSYX 100S. Basic theory and research on the nature of animal learning and behavior.

- PSYX 280 - Fund of Memory and Cognition

  Credits: 3. Offered intermittently. Prereq., PSYX 100S. The acquisition and uses of knowledge. An examination of research and theories of human learning, memory, and thinking.

- PSYX 290 - Supervised Research

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Course Attributes: Research & Creative Schlrshp

- PSYX 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Internships/Practicums

- PSYX 292 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr.

- PSYX 294 - Seminar/Workshop

  Credits: 1. (R 3) Offered intermittently. Prereq., consent of instr.; coreq., another psychology course. Taken in conjunction with another psychology course to provide additional content and discussion for honors students. Consent of the corequisite course instructor is required for this course.

- PSYX 298 - Internship

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instructor. Extended classroom experience which provides practical application of classroom learning during placements off-campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums Service Learning/Volunteer Internship graduation limit 6 Service Learning

- PSYX 320 - Research Methods III

  Credits: 3. Offered every term. Prereq., PSYX 222. An appreciation of the experimental approach to the scientific study of behavior through student-conducted experiments. Course Attributes: Writing Course-Advanced

- PSYX 340 - Abnormal Psychology

  Credits: 3. Offered every term. Prereq., PSYX 100S. Description and classification of abnormal behavior.

- PSYX 345 - Child & Adolescent Psych Dis

  Credits: 3. Offered intermittently. Prereq., PSYX 100S and 230. Study of causes, characteristics, assessment and treatment of emotional, social and intellectual disorders. The age span studied will range from infancy through adolescence.

- PSYX 348 - Psychology of Family Violence

  Credits: 3. Offered spring. Prereq., PSYX 100S. Same as WGS 385. Exploration of theoretical explanations for the presence of violence in American families; research and interventions in such areas as child physical and sexual abuse, battering of women, marital rape, spousal homicide, etc.

- PSYX 352 - Comparative Psychology

Credits: 3. Offered autumn. Prereq., PSYX 250N. Advanced evaluation and analysis of animal behavior through the synthesis of theory, research, and methods found in comparative psychology, behavioral biology, ethology, and sociobiology.

- PSYX 356 - Human Neuropsychology

  Credits: 3. Offered spring. Prereq., PSYX 250N. Study of the organization of the nervous system, functional neuroanatomy, neuropathology, neurological disorders, behavioral neurology, and clinical neuropsychology.

- PSYX 360 - Social Psychology

  Credits: 3. Offered every term. Individual behavior as a function of interpersonal interaction.

- PSYX 362 - Multicultural Psychology

  Credits: 3. Offered autumn even-numbered years. Current theories and research on culture, race, and ethnicity, and how the sociocultural context influences psychological processes.

- PSYX 376 - Prin Cognit Behav Mod

  Credits: 3. Offered intermittently. Prereq., PSYX 270S. Study of basic principles, assumptions, methodology and applications of behavior modification. Discussion of current literature relevant to behavioral assessment and treatment of major psychological disorders.

- PSYX 377 - Personalized Student Instr

  Credits: 3. Offered every term. Prereq., consent of instr. Experience with the personalized student instruction method of teaching, gained through participating as a proctor in the introductory psychology course.

- PSYX 378 - Intro to Clinical Psyc

  Credits: 3. Offered intermittently. Prereq., PSYX 340. Clinical psychology as a science and a profession. Theoretical models and techniques of assessment and intervention. Case illustrations.

- PSYX 383 - Health Psychology

  Credits: 3. Prereq., PSYX 100S and PSYX 250N. This course will provide an overview of the growing field of health psychology, with particular attention to the biological, psychological, and social determinants of health. The course will also provide overviews of major illnesses for which psychologists can and do play a major role and will examine the tools and techniques that clinical health psychologists employ in medical settings.

- PSYX 385 - Psychology of Personality

  Credits: 3. Offered intermittently Prereq., PSYX 100S. Introduction to theories and research in personality. Intensive survey of theoretical concepts and a detailed examination of experimental methods and experiments in the field of personality.

- PSYX 390 - Adv Supervised Research

  Credits: 1 TO 3. (R-3) Offered every term. Prereq., 12 credits in psychology including PSYX 290 and consent of instr. Course Attributes: Research & Creative Schlrshp

- PSYX 391 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., nine credits in psychology and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- PSYX 392 - Independent Study

  Credits: 1 TO 3. (R-3) Offered every term. Prereq., consent of instr.

- PSYX 398 - Internship

  Credits: 1 TO 3. (R-3) Offered every term. Prereq., consent of instructor. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums Service Learning/Volunteer Service Learning

- PSYX 400 - History & System in Psychology

  Credits: 3. Offered every term. Prereq., 15 credits in psychology. Origin and development of basic concepts and methods in scientific psychology. Course Attributes: Writing Course-Advanced

- PSYX 442 - Counseling Theories in Context

Credits: 3. Offered autumn. Prereq., PSYX 100S. Same as COUN 485 and SW 485. This course introduces students to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies and diversity issues.

- PSYX 491 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq.,12 credits in psychology and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- PSYX 494 - Seminar/Workshop

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., nine credits in psychology and consent of instr. Topics of current interest with critical examination of the literature. Course Attributes: Omnibus Course

- PSYX 499 - Senior Thesis

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Prereq., junior or senior standing and consent of instr. Preparation of a thesis or manuscript based on research for presentation and/or publication.

- PSYX 501 - Teaching of Psychology

  Credits: 3. Offered autumn. Prereq., graduate standing in psychology and consent of instr. Exploration and practice of effective teaching techniques. Level: Graduate

- PSYX 511 - Professional Issues

  Credits: 1. Offered autumn. Prereq., graduate standing in clinical psychology. Introduction to the professional role and skills in the clinical psychology field. Level: Graduate

- PSYX 512 - Field Placement-Clinical

  Credits: 1 TO 12. (R-12) Offered every term. Prereq., graduate standing in psychology and consent of instr. Supervised assessment and intervention experience in applied clinical settings. Level: Graduate

- PSYX 520 - Adv Psyc Stat I

  Credits: 3. Offered autumn. Prereq., undergraduate statistics and consent of instr. Introduction to descriptive and inferential statistics, probability distributions, null hypothesis significance testing, one and two sample techniques, analysis of variance and the general linear model. Level: Graduate

- PSYX 521 - Adv Psyc Stat II

  Credits: 4. Offered spring. Prereq., PSYX 520 or consent of instr. Multiple comparisons among means, factorial ANOVA, random effects and mixed models, correlation, simple and multiple regression, analysis of covariance. Level: Graduate

- PSYX 522 - Multivariate Statistics

  Credits: 3. Offered autumn. Prereq., PSYX 520 and 521. Introduction to matrix algebra, multivariate analysis of variance, multivariate analysis of covariance, simple slopes in multiple regression, discriminant analysis, canonical correlation, principal components analysis, factor analysis, cluster analysis. Level: Graduate

- PSYX 523 - Research Design

  Credits: 3. Offered spring. Prereq., graduate standing in psychology. The examination and application of the principles and methods of experimental and quasi-experimental research design in psychology. Level: Graduate

- PSYX 524 - Tests & Measurement

  Credits: 3. Offered autumn. Prereq., graduate standing in psychology or education. Introduction to measurement emphasizing correspondence between research and practice. Provides a theoretical and practical basis for evaluating and using measurement data. Level: Graduate

- PSYX 525 - Psyc Evaluation I

  Credits: 3. Offered autumn. Prereq., undergraduate statistics and consent of instr. Introduction to the study of how psychological processes are supported by biological processes. Mechanisms across levels of analysis, from cells to individuals, are addressed. Individual tests of aptitudes and intellectual abilities; psychometric considerations in clinical assessment; objective personality assessment. Level: Graduate

- PSYX 526 - Psyc Eval II:App and Obj

Credits: 3. Offered spring. Prereq., enrollment in doctoral program in psychology and consent of instr. Objective methods in psychological assessment; psychological evaluation techniques in the clinical context. Level: Graduate

- PSYX 530 - Clin and Diag Interviewing

  Credits: 3. Offered autumn. Prereq., graduate standing in clinical psychology, school psychology, or counseling. Microcounseling skills development through interactive practice and feedback. Level: Graduate

- PSYX 531 - Prin of Psychotherapy

  Credits: 3. Offered autumn. Prereq., enrollment in doctoral program in clinical psychology. The philosophical and scientific bases of major systems of psychotherapy are reviewed. Psychotherapy research methods, issues, and findings are introduced. Level: Graduate

- PSYX 532 - Adv Psychopathology

  Credits: 3. Offered autumn. Prereq., graduate standing in psychology or consent of instr. Symptoms, etiology, diagnostic criteria and treatment of the major psychological disorders, with an emphasis on current research findings. Level: Graduate

- PSYX 534 - Applied Clinical Methods

  Credits: 1 TO 4. (R-24) Offered every term. Prereq., graduate standing in the clinical program and consent of instr. Theoretical and applied work in a supervised clinical setting. Level: Graduate

- PSYX 535 - Child Interventions

  Credits: 3. (R-12) Offered spring. Prereq., graduate standing in the clinical or school psychology program and consent of instructor. Review of clinical research and methodology in youth mental health. Specific treatment interventions are explored for the practitioner and also may serve as a valuable base for engaging in psychological consultation with youth and families. Level: Graduate

- PSYX 536 - AdvcdChld/Adol Psychopathology

  Credits: 3. Offered spring. Prereq., graduate standing in psychology or consent of instr. Advanced study of the characteristics, etiology, assessment, and treatment of the emotional, social, and intellectual problems covering the span from infancy through adolescence. DSM and Education Code criteria will be compared. Level: Graduate

- PSYX 537 - Child Assessment

  Credits: 3. Offered every other year spring semester. Provides an intensive introduction to diagnostic, behavioral, and personality assessment of children and adolescents. Level: Graduate

- PSYX 540 - Adv Development Psyc

  Credits: 3. Offered intermittently. Prereq., undergraduate course in developmental psychology or consent of instr. Psychological and behavioral development through the life span. Level: Graduate

- PSYX 545 - Field Placement Humn Devel

  Credits: 1 TO 6. (R-9) Offered autumn and spring. Prereq., PSYX 540 or equiv. Individualized, applied experience working with and/or observing a particular population of interest, including children, adolescents, or older adults. Involves the completion of an independent project, which may comprise program assessment, research proposal development, etc. Level: Graduate

- PSYX 550 - Ad Social Psychology

  Credits: 3. Offered every other year. Prereq., consent of instr. Theory and experiment in the analysis of individual behavior in relation to social stimuli. Level: Graduate

- PSYX 551 - Advanced Personality

  Credits: 3. Offered autumn odd-numbered years. Prereq., graduate standing in psychology or consent of instr. Theory and research on human personality and behavior. Emphasis on issues and topics of historical and contemporary importance. Level: Graduate

- PSYX 560 - Advanced Learning & Cognition

  Credits: 3. Offered spring odd-numbered years. Prereq., undergraduate course in perception, cognition, or learning, or consent of instr. A survey of principles, theories, and methods pertaining to how humans and animals learn and represent the world. Level: Graduate

- PSYX 565 - Advanced Cognition

  Credits: 3. Offered autumn odd-numbered years. Prereq., undergraduate course in perception, cognition, or learning, or consent of instr. Examination of the acquisition of knowledge through

perception and learning, the retention of knowledge, and the use of knowledge through thinking and reasoning. Level: Graduate

- PSYX 571 - Adv Physiological Psyc

  Credits: 3. Offered autumn even-numbered years. Prereq., consent of instr. Brain mechanisms and behavior; electrophysiological correlates of behavior. Level: Graduate

- PSYX 580 - Professional School Psych

  Credits: 3. Offered autumn. Prereq., graduate standing in school psychology. The theory, role, and function of school psychology as a profession; includes historical precursors and fit with current systems of psychology. Level: Graduate

- PSYX 582 - Behav Assmnt & Intervention

  Credits: 3. Offered autumn. Prereq., graduate standing in psychology or consent of instr. Covers Schoolwide Positive Behavior Supports in a three-tiered model. Introduces theoretical and practical applications of behavioral assessment and intervention. Students develop skills using behavioral observation, sampling and intervention design/implementation through supervised experience in applied settings. Level: Graduate

- PSYX 583 - Ed Assmnt & Intervention

  Credits: 4. Offered spring. Prereq., graduate standing in psychology or education. Develops educational assessment and intervention skills using problem-solving strategies to make educational decisions. Students develop assessment and intervention design/implementation through supervised experience in applied settings. Level: Graduate

- PSYX 587 - School Psyc Methods

  Credits: 3. (R-9) Offered every term. Prereq., graduate standing in school psychology and consent of instr. Applied school psychology work in a supervised setting. Level: Graduate

- PSYX 588 - School Psyc Internship

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., enrollment in school psychology program or consent of instr. Supervised work experience in the role and functions of school psychologists. Level: Graduate

- PSYX 594 - Seminar

  Credits: 1 TO 12. (R-12) Offered intermittently. A review and discussion of current research. Topics vary. Level: Graduate

- PSYX 595 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
  Course Attributes: Internships/Practicums

- PSYX 596 - Independent Study

  Credits: 1 TO 9. (R-9) Offered autumn and spring Prereq., consent of instr. Assigned readings and other special study projects. Level: Graduate Course Attributes: Independent Study

- PSYX 597 - Research

  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., consent of instr. Independent supervised research projects, other than thesis or dissertation. Level: Graduate

- PSYX 599 - Thesis/Research Project

  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., consent of instr. M.A. thesis or M.A. Research project Level: Graduate

- PSYX 625 - Clinical Assessment

  Credits: 3. Offered annually. Prereq., advanced graduate standing in clinical psychology program and consent of instructor. Students will conduct a variety of clinical assessments, including personality and neuropsychological testing. Students will gain experience with all phases of clinical assessment (e.g., interviewing, test administration, report writing, etc.) Level: Graduate

- PSYX 630 - Ethics, Prof & Cult Iss

  Credits: 3. Offered spring. Occasionally shifted to autumn. Prereq., enrollment in doctoral program in clinical, experimental, or school psychology. Review of ethical principles and professional standards of psychologists. Analysis of the influence of cultural factors upon professional conduct. Level: Graduate

- PSYX 631 - Intervention
  Credits: 3. (R-12) Offered every term. Prereq., graduate standing in the clinical psychology program and consent of instr. Review of clinical research and methodology. Specific treatment interventions are explored for the practitioner and also may serve as a valuable base for engaging in psychological consultation. Each offering will have a unique title. Level: Graduate
- PSYX 632 - Curr Clinical Topics
  Credits: 3. (R-12) Offered intermittently. Prereq., graduate standing in psychology and consent of instr. Current topics in clinical psychology with reviews of theory, research, and methodology. Each offering will have a unique title. Level: Graduate
- PSYX 634 - Adv App Clinical Methods
  Credits: 1 TO 4. (R-6) Offered every term. Prereq., PSYX 534 and consent of instr. Advanced clinical work in a supervised setting. Level: Graduate
- PSYX 638 - Clin Psyc Internship
  Credits: 1 TO 3. (R-6) Offered every term. Prereq., proficiency in clinical techniques. Clinical internship offered by the psychology staff of a hospital, clinic or other approved agency in coordination with The University of Montana Clinical Psychology Program. Level: Graduate Course Attributes: Internships/Practicums
- PSYX 680 - Consultation and Supervision
  Credits: 3 TO 4. Offered spring even-numbered years. Prereq., graduate standing in school psychology. Theoretical background and case conceptualization in academic and behavioral consultation and supervision and how this can be applied in school-based settings. Level: Graduate
- PSYX 694 - Seminar
  Credits: 1 TO 12. (R-12) Offered intermittently. A review and discussion of current research. Topics vary. Level: Graduate
- PSYX 697 - Advanced Research
  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., consent of instr. Independent research projects, other than thesis or dissertation. Level: Graduate
- PSYX 699 - Dissertation
  Credits: 1 TO 18. (R-18) Offered every term. Prereq., consent of instr. Doctoral dissertation research activities. Level: Graduate

Psychology B.A.

Bachelor of Arts - Psychology

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Note: A minimum of 60 credits must be in non-psychology courses. PSYX 290, 292, and 298 are limited to 6 credit hours. PSYX 392 and 398 are limited to 3 credit hours. PSYX 340, 360, and 385 may only count once. PSYX is limited to 3 credit hours.

Lower Core Courses

Rule: Must complete all of the following courses

Note: May substitute SOCI 318 for PSYX 120.

	Course	**Credits**

	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	PSYX 120 - Research Methods I Offered every term. Prereq., PSYX 100S. Experimental and other quantitative methods employed in the scientific study of behavior.	3 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
Minimum Required Grade: C		10 Total Credits Required

Foundation Courses

Rule: Must complete 4 of the following coiurses

	Course	Credits
	PSYX 230 - Developmental Psychology Offered autumn, spring, summer. Prereq., PSYX 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect. Appropriate for Social Work, Nursing, Addiction Studies, Education, and Psychology.	3 Credits
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits
	PSYX 340 - Abnormal Psychology Offered every term. Prereq., PSYX 100S. Description and classification of abnormal behavior.	3 Credits
	PSYX 360 - Social Psychology Offered every term. Individual behavior as a function of interpersonal interaction.	3 Credits
	PSYX 385 - Psychology of Personality Offered intermittently Prereq., PSYX 100S. Introduction to theories and research in personality. Intensive survey of theoretical concepts and a detailed examination of experimental methods and experiments in the field of personality.	3 Credits
Minimum Required Grade: C		12 Total Credits Required

Fundamentals Courses

Rule: Must complete 2 of the following courses

	Course	Credits

	PSYX 250N - Fund of Biological Psychology Offered every term. Prereq., PSYX 100S. Introduction to the study of how psychological processes are supported by biological processes. Mechanisms across levels of analysis, from cells to individuals, are addressed.	3 Credits
	PSYX 270 - Fund Psychology of Learning Offered autumn. Prereq., PSYX 100S. Basic theory and research on the nature of animal learning and behavior.	3 Credits
	PSYX 280 - Fund of Memory and Cognition Offered intermittently. Prereq., PSYX 100S. The acquisition and uses of knowledge. An examination of research and theories of human learning, memory, and thinking.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Upper Division Electives

Rule: Must complete 5 3-credit courses from the following list

Note: May not include PSYX 392, PSYX 398, or PSYX 499.

	Course	**Credits**
	COUN 485 - Counseling Theories Offered autumn. Prereq., PSYX 100S. Same as PSYX 442 and SW 485. Introduction to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies, and diversity issues.	3 Credits
	PSYX 320 - Research Methods III Offered every term. Prereq., PSYX 222. An appreciation of the experimental approach to the scientific study of behavior through student-conducted experiments.	3 Credits
	PSYX 340 - Abnormal Psychology Offered every term. Prereq., PSYX 100S. Description and classification of abnormal behavior.	3 Credits
	PSYX 345 - Child & Adolescent Psych Dis Offered intermittently. Prereq., PSYX 100S and 230. Study of causes, characteristics, assessment and treatment of emotional, social and intellectual disorders. The age span studied will range from infancy through adolescence.	3 Credits
	PSYX 348 - Psychology of Family Violence Offered spring. Prereq., PSYX 100S. Same as WGS 385. Exploration of theoretical explanations for the presence of violence in American families; research and interventions in such areas as child physical and sexual abuse, battering of women, marital rape, spousal homicide, etc.	3 Credits
	PSYX 352 - Comparative Psychology Offered autumn. Prereq., PSYX 250N. Advanced evaluation and analysis of animal behavior through the synthesis of theory, research, and methods found in comparative psychology, behavioral biology, ethology, and sociobiology.	3 Credits

	PSYX 356 - Human Neuropsychology Offered spring. Prereq., PSYX 250N. Study of the organization of the nervous system, functional neuroanatomy, neuropathology, neurological disorders, behavioral neurology, and clinical neuropsychology.	3 Credits
	PSYX 360 - Social Psychology Offered every term. Individual behavior as a function of interpersonal interaction.	3 Credits
	PSYX 362 - Multicultural Psychology Offered autumn even-numbered years. Current theories and research on culture, race, and ethnicity, and how the sociocultural context influences psychological processes.	3 Credits
	PSYX 376 - Prin Cognit Behav Mod Offered intermittently. Prereq., PSYX 270S. Study of basic principles, assumptions, methodology and applications of behavior modification. Discussion of current literature relevant to behavioral assessment and treatment of major psychological disorders.	3 Credits
	PSYX 377 - Personalized Student Instr Offered every term. Prereq., consent of instr. Experience with the personalized student instruction method of teaching, gained through participating as a proctor in the introductory psychology course.	3 Credits
	PSYX 378 - Intro to Clinical Psyc Offered intermittently. Prereq., PSYX 340. Clinical psychology as a science and a profession. Theoretical models and techniques of assessment and intervention. Case illustrations.	3 Credits
	PSYX 383 - Health Psychology Prereq., PSYX 100S and PSYX 250N. This course will provide an overview of the growing field of health psychology, with particular attention to the biological, psychological, and social determinants of health. The course will also provide overviews of major illnesses for which psychologists can and do play a major role and will examine the tools and techniques that clinical health psychologists employ in medical settings.	3 Credits
	PSYX 385 - Psychology of Personality Offered intermittently Prereq., PSYX 100S. Introduction to theories and research in personality. Intensive survey of theoretical concepts and a detailed examination of experimental methods and experiments in the field of personality.	3 Credits
	PSYX 390 - Adv Supervised Research (R-3) Offered every term. Prereq., 12 credits in psychology including PSYX 290 and consent of instr.	1 To 3 Credits
	PSYX 391 - Special Topics (R-6) Offered intermittently. Prereq., nine credits in psychology and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	PSYX 400 - History & System in Psychology Offered every term. Prereq., 15 credits in psychology. Origin and development of basic concepts and methods in scientific psychology.	3 Credits

	PSYX 491 - Special Topics (R-6) Offered intermittently. Prereq.,12 credits in psychology and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	PSYX 494 - Seminar/Workshop (R-6) Offered intermittently. Prereq., nine credits in psychology and consent of instr. Topics of current interest with critical examination of the literature.	1 To 6 Credits
	S W 423 - Addiction Studies Offered spring. Same as PSYX 441 and SOCI 433. Examination of chemical dependency and behavioral compulsions, including alcohol and other drugs, gambling, eating disorders, sexual addictions. Ecosystems perspective on etiology, treatment, prevention, family dynamics, community response, and societal contributors. Students engage in a service learning community project which is integrated into the classroom through initial training, regular reflection, and other activities.	3 Credits
Minimum Required Grade: C		12 Total Credits Required

Math Electives

Rule: Must complete 1 of the following courses

	Course	Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits

	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C		3 Total Credits Required

Teaching Psychology

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Teacher Preparation in Psychology

Students who want to be licensed to teach psychology at the high school level must complete the BA degree requirements in psychology (general option). They also must complete a teaching major or minor in a second field of their choice and the professional licensure program in the College of Education. Students may also earn a teaching minor in psychology. See the Department of Curriculum and Instruction for information about admission to the Teacher Education Program and completion of these licensure programs.

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Human and Family Development Minor

Minor - Human and Family Development (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 24

Required Cumulative GPA: 2.5

Note: To earn a minor the student must complete 24 credits, with 11 at the 300 level or above. All students are required to take a 12-credit core curriculum and, with the help of a faculty advisor, to develop a written statement of goals and interests along with a planned curriculum that includes 12 additional credits of electives consistent with the stated goals and interests. At least 6 credits of electives must be outside of the student's major.

Core Courses

Rule: Must complete the following subcategories

12 Total Credits Required

Subcategory 1

Rule: Must complete 1 of the following courses

	Course	Credits
	PSYX 230 - Developmental Psychology Offered autumn, spring, summer. Prereq., PSYX 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect. Appropriate for Social Work, Nursing, Addiction Studies, Education, and Psychology.	3 Credits
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subcategory 2

Rule: Must complete all of the following courses:

Note: HFD 494 may be taken for 1 credit. HFD 498 must be taken for a minimum of 2 credits. Education majors may take EDEC 396 to fulfill this requirement.

	Course	Credits
	HFD 494 - Seminar in Human Development (R-3) Offered autumn. Discussion of selected problems in human development. Emphasis on integrating theory and practice.	1 To 3 Credits
	HFD 498 - Internship (R-4) Prereq., consent of chair. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 4 Credits
Minimum Required Grade: C		3 Total Credits Required

Subcategory 3

Rule: Must complete 1 of the following courses

	Course	Credits
	COMX 311 - Family Communication Offered yearly. An examination of communication in marriage/romantic partnership, parent-child, and extended family relationships. Topics include intimacy, power, decision-making, problem solving, identity formation, and interpersonal perception.	3 Credits

	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subcategory 4

Rule: Must complete 1 of the following courses

	Course	Credits
	C&I 520 - Educational Research Offered every term. Same as EDLD 520. Open to graduate level students in Education Leadership, Counseling, or Curriculum and Instruction majors. An understanding of basic quantitative and qualitative research methodology and terminology, particularly as they are used in studies presented in the professional literature. Level: Graduate	3 Credits
	COMX 460 - Research Methods Offered autumn and spring. Open only to majors in COMM. Prereq., Grade of C- or better in EDLD 486 or PSYX 222 or SOCI 202 or STAT 216. Introduction to the major types of communication research and the foundations of quantitative research methods.	3 Credits
	PSYX 120 - Research Methods I Offered every term. Prereq., PSYX 100S. Experimental and other quantitative methods employed in the scientific study of behavior.	3 Credits
	PSYX 320 - Research Methods III Offered every term. Prereq., PSYX 222. An appreciation of the experimental approach to the scientific study of behavior through student-conducted experiments.	3 Credits
	S W 400 - Social Work Research Offered autumn and spring. Prereq., SW 360; Social Work major. Utilization of social research findings in social work practice. Techniques for the collection and analysis of clinical data. Special emphasis on research methodology for the assessment of practitioner and program effectiveness.	3 Credits
	SOCI 318 - Sociological Research Methods Offered every term. Prereq., SOCI 101S, Sociology majors only, or consent of instr. Methods of research in the social sciences including naturalistic observation, interviewing, measurement, experiments, surveys, content analysis, and basic data analysis. Required of all majors.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Elective Courses

Rule: Must complete 12 credits from any of the courses listed in the subcategories below; at least 6 credits must be taken outside of the student's major

Note: The list of electives is categorized to assist the student wishing to focus on one of these areas. Students may plan curricula which do not correspond to these categories, but should choose among courses from this list. Occasionally "special topics" courses are offered. Students may use these as electives with the consent of their advisors.
Check with departments regarding variable-credit 395 and 495-Special Topics listings.

12 Total Credits Required

Early Childhood

Rule: May complete any of the following courses

Note: Must complete all course work prior to taking HFD 498

	Course	Credits
	C&I 421 - Issues in Early Intervention Offered autumn odd-numbered years. Issues involved when serving young children with disabilities; family and child advocacy; least restrictive placements in early childhood settings; transitions concerning families, special education service providers and receiving schools; ;case management in rural communities; transdisciplinary teaming process; and preschool individualized education programs. Includes practicum hours in campus-based CO-TEACH preschool.	3 Credits
	CSD 210 - Speech & Lang Devel Offered autumn. Sophomore standing or greater. Topics include typical speech and language development, phonology, semantic, morphological, syntax, and pragmatics, along with individual differences, second language acquisition and literacy.	3 Credits
	EDEC 310 - Child in the Family Offered spring even-numbered years. Prereq., PSYX 100S. Physical, social, emotional and intellectual development, learning theories and child rearing practices related to children 0-6 years of age.	3 Credits
	EDEC 330 - Early Childhood Education Offered spring odd-numbered years. Theory and techniques of teaching in pre-school and primary levels of education. Observation and participation in pre-school programs. Recommended for kindergarten and primary teachers.	3 Credits
	EDEC 396 - EC Fieldwork/Practicum Offered autumn and spring. Practicum experiences including observational assessment of children, study of the planning process, team teaching of a one week unit plan, and planning and directing parent/teacher conferences. Students will complete selected readings and assignments on child development, early childhood ecological arrangements, and classroom management. Weekly seminars include early childhood pedagogy, adapted and regular physical education. Must attend mandatory meeting at 12:00 or 4:00 p.m. on first day of the semester.	3 Credits

	EDSP 403 - Curric/Mthds Early Spec Educ Offered autumn even-numbered years. Principles in selecting and adapting early childhood curriculum materials for young children with disabilities; development, implementation and evaluation of individualized education programs; and appropriate teaching strategies for the early childhood special education classroom. Includes a practicum.	3 Credits
	EDSP 462 - Spec Ed Law, Policy, Practice Offered autumn and even-numbered summers. Historic and current perspectives on laws, policies and practices of the special education and related fields. Coverage of all aspects of the special education process including collaborative practices.	3 Credits
	EDU 345 - Excptnlty & Clsrm Mgmt Offered autumn and spring. Prereq., Admission to the Teacher Education Program in secondary and K-12. Focus on classroom management and the characteristics and instructional adaptations for exceptional students in the regular classroom. Addresses the Individuals with Disabilities Education Act and subsequent reauthorizations, presents practices for working with students who are at-risk and students with disabilities in inclusive settings, and includes technological considerations.	3 Credits
	EDU 491 - Special Topics/Exp Courses (R-6) Offered intermittently. Special courses experimental in nature dealing with a relatively narrow, specialized topic of particular current interest. Credit not allowed toward a graduate degree.	1 To 6 Credits
	EDU 494 - Seminar:Refl Pract & App Rsrch (R-9) Required seminar during student teaching. Prereq., admission to the Teacher Education Program. Focuses on learning to conduct research on P-12 student performance to determine teaching effectiveness. Includes on-campus and/or on-line planning, conducting, and analyzing classroom practice.	1 To 9 Credits
	HFD 498 - Internship (R-4) Prereq., consent of chair. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 4 Credits
	PSYX 290 - Supervised Research (R-6) Offered every term. Prereq., consent of instr.	1 To 6 Credits
	PSYX 378 - Intro to Clinical Psyc Offered intermittently. Prereq., PSYX 340. Clinical psychology as a science and a profession. Theoretical models and techniques of assessment and intervention. Case illustrations.	3 Credits
Minimum Required Grade: C		0-12 Total Credits Required

School-Age

Rule: May complete any of the following courses

	Course	Credits
	EDU 221 - Ed Psych & Measuremnt Offered autumn and spring. Prereq., admission to Teacher Education program in secondary and K-12. Analysis of fundamental psychological concepts underlying classroom teaching and management, learning and evaluation including educational measurement. Emphasis on cognition, developmental, and motivational aspects of learning.	3 Credits
	EDU 345 - Excptnlty & Clsrm Mgmt Offered autumn and spring. Prereq., Admission to the Teacher Education Program in secondary and K-12. Focus on classroom management and the characteristics and instructional adaptations for exceptional students in the regular classroom. Addresses the Individuals with Disabilities Education Act and subsequent reauthorizations, presents practices for working with students who are at-risk and students with disabilities in inclusive settings, and includes technological considerations.	3 Credits
	PHAR 110N - Use & Abuse of Drugs Offered autumn and spring. Drug dependence and abuse.	3 Credits
	PSYX 339 - Curr Tpcs/Development Psyc Offered intermittently. Prereq., PSYC 240S or 245. Topical reviews of theories, research and applications in developmental psychology.	3 Credits
	PSYX 376 - Prin Cognit Behav Mod Offered intermittently. Prereq., PSYX 270S. Study of basic principles, assumptions, methodology and applications of behavior modification. Discussion of current literature relevant to behavioral assessment and treatment of major psychological disorders.	3 Credits
	PSYX 378 - Intro to Clinical Psyc Offered intermittently. Prereq., PSYX 340. Clinical psychology as a science and a profession. Theoretical models and techniques of assessment and intervention. Case illustrations.	3 Credits
	S W 300 - Hum Behav & Soc Environ Offered autumn and spring. Prereq., SW 100 and 200, and junior standing in Social Work. Using the ecological-social systems framework, the integration of knowledge and concepts from the social and behavioral sciences for analysis and assessment of problems and issues relevant to professional social work practice.	3 Credits
	S W 420 - Child Abuse/Child Welfare Offered autumn. Prereq., junior standing or consent of instr. Signs and symptoms of physical and sexual abuse and neglect, family dynamics in abuse and neglect, the legal context, programs of prevention and intervention, foster care, special needs adoptions and related issues in child welfare.	3 Credits

	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
Minimum Required Grade: C		0-12 Total Credits Required

Adolescence

Rule: May complete any of the following courses

	Course	Credits
	EDSP 462 - Spec Ed Law, Policy, Practice Offered autumn and even-numbered summers. Historic and current perspectives on laws, policies and practices of the special education and related fields. Coverage of all aspects of the special education process including collaborative practices.	3 Credits
	EDU 221 - Ed Psych & Measuremnt Offered autumn and spring. Prereq., admission to Teacher Education program in secondary and K-12. Analysis of fundamental psychological concepts underlying classroom teaching and management, learning and evaluation including educational measurement. Emphasis on cognition, developmental, and motivational aspects of learning.	3 Credits
	EDU 345 - Excptnlty & Clsrm Mgmt Offered autumn and spring. Prereq., Admission to the Teacher Education Program in secondary and K-12. Focus on classroom management and the characteristics and instructional adaptations for exceptional students in the regular classroom. Addresses the Individuals with Disabilities Education Act and subsequent reauthorizations, presents practices for working with students who are at-risk and students with disabilities in inclusive settings, and includes technological considerations.	3 Credits
	PHAR 110N - Use & Abuse of Drugs Offered autumn and spring. Drug dependence and abuse.	3 Credits
	PSYX 339 - Curr Tpcs/Development Psyc Offered intermittently. Prereq., PSYC 240S or 245. Topical reviews of theories, research and applications in developmental psychology.	3 Credits

	PSYX 345 - Child & Adolescent Psych Dis Offered intermittently. Prereq., PSYX 100S and 230. Study of causes, characteristics, assessment and treatment of emotional, social and intellectual disorders. The age span studied will range from infancy through adolescence.	3 Credits
	PSYX 376 - Prin Cognit Behav Mod Offered intermittently. Prereq., PSYX 270S. Study of basic principles, assumptions, methodology and applications of behavior modification. Discussion of current literature relevant to behavioral assessment and treatment of major psychological disorders.	3 Credits
	PSYX 378 - Intro to Clinical Psyc Offered intermittently. Prereq., PSYX 340. Clinical psychology as a science and a profession. Theoretical models and techniques of assessment and intervention. Case illustrations.	3 Credits
	S W 300 - Hum Behav & Soc Environ Offered autumn and spring. Prereq., SW 100 and 200, and junior standing in Social Work. Using the ecological-social systems framework, the integration of knowledge and concepts from the social and behavioral sciences for analysis and assessment of problems and issues relevant to professional social work practice.	3 Credits
	S W 450 - Children and Youth at Risk Offered autumn or spring. Focus on the aspects of society that pose a threat to today's youth and the ramification of those threats on youth development and behavior. Resilience and protective factors for youth at risk and strategies to work with those youth. Attention to related systems in Missoula and Montana, including juvenile justice, mental health, child protection, substance abuse, and education.	3 Credits
	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
Minimum Required Grade: C		0-12 Total Credits Required

Gerontology

Rule: May complete any of the following courses

	Course	**Credits**
	AHHS 325 - Introduction to Gerontology Offered spring. Prereq., junior standing or consent of instr. An interdisciplinary discussion of the health and social issues of older persons, utilizing didactic presentations, clinical demonstrations, and curricular modules.	3 Credits

	AHHS 327 - MGS Meeting (R-3) Offered spring. Attendance and participation in the Montana Gerontology Society meeting held annually in April.	1 Credits
	AHHS 430 - Health Aspects of Aging Offered spring. Overview of the health aspects of aging in the United States including biological theories of aging, normal physiological changes associated with aging systems, common pathological problems associated with aging, cultural and ethnic differences in the health of elders, health promotion and healthy aging, and the health care continuum of care for older persons.	3 Credits
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits
	PSYX 339 - Curr Tpcs/Development Psyc Offered intermittently. Prereq., PSYC 240S or 245. Topical reviews of theories, research and applications in developmental psychology.	3 Credits
	S W 455 - Social Gerontology Offered autumn. Examination of the field of social gerontology, including an examination of the major bio/psycho/social/cultural/spiritual theories of aging, the service system, social and health issues, family and care-giving dynamics, social policy, and end of life concerns.	3 Credits
Minimum Required Grade: C		0-12 Total Credits Required

Family Development

Rule: May complete any of the following courses

	Course	**Credits**
	COMX 311 - Family Communication Offered yearly. An examination of communication in marriage/romantic partnership, parent-child, and extended family relationships. Topics include intimacy, power, decision-making, problem solving, identity formation, and interpersonal perception.	3 Credits
	COMX 414 - Comm in Personal Relationshps Offered yearly. Prerequisite, COMX 115S or consent of instructor. An examination of the functions, types, and historical context of close personal relationships with an in-depth study of the role of communication in friendships and romantic relationships.	3 Credits
	EDEC 310 - Child in the Family Offered spring even-numbered years. Prereq., PSYX 100S. Physical, social, emotional and intellectual development, learning theories and child rearing practices related to children 0-6 years of age.	3 Credits

	PSYX 348 - Psychology of Family Violence Offered spring. Prereq., PSYX 100S. Same as WGS 385. Exploration of theoretical explanations for the presence of violence in American families; research and interventions in such areas as child physical and sexual abuse, battering of women, marital rape, spousal homicide, etc.	3 Credits
	S W 423 - Addiction Studies Offered spring. Same as PSYX 441 and SOCI 433. Examination of chemical dependency and behavioral compulsions, including alcohol and other drugs, gambling, eating disorders, sexual addictions. Ecosystems perspective on etiology, treatment, prevention, family dynamics, community response, and societal contributors. Students engage in a service learning community project which is integrated into the classroom through initial training, regular reflection, and other activities.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
Minimum Required Grade: C		0-12 Total Credits Required

Psychology Minor

Minor - Psychology (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 21
Required Cumulative GPA: 2.0

Lower Division Core Requirements

Rule: Must complete the following courses

	Course	**Credits**
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	PSYX 120 - Research Methods I Offered every term. Prereq., PSYX 100S. Experimental and other quantitative methods employed in the scientific study of behavior.	3 Credits
Minimum Required Grade: C		7 Total Credits Required

Minor Electives

Rule: Complete the following subcategories, taking at least 6 upper division credits
Minimum Required Grade: C
12 Total Credits Required

Subcategory 1

Rule: Must complete 1 course

	Course	Credits
	PSYX 230 - Developmental Psychology Offered autumn, spring, summer. Prereq., PSYX 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect. Appropriate for Social Work, Nursing, Addiction Studies, Education, and Psychology.	3 Credits
	PSYX 360 - Social Psychology Offered every term. Individual behavior as a function of interpersonal interaction.	3 Credits
	PSYX 385 - Psychology of Personality Offered intermittently Prereq., PSYX 100S. Introduction to theories and research in personality. Intensive survey of theoretical concepts and a detailed examination of experimental methods and experiments in the field of personality.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subcategory 2

Rule: Must complete 1 course

	Course	Credits
	PSYX 340 - Abnormal Psychology Offered every term. Prereq., PSYX 100S. Description and classification of abnormal behavior.	3 Credits
	PSYX 345 - Child & Adolescent Psych Dis Offered intermittently. Prereq., PSYX 100S and 230. Study of causes, characteristics, assessment and treatment of emotional, social and intellectual disorders. The age span studied will range from infancy through adolescence.	3 Credits
	PSYX 376 - Prin Cognit Behav Mod Offered intermittently. Prereq., PSYX 270S. Study of basic principles, assumptions, methodology and applications of behavior modification. Discussion of current literature relevant to behavioral assessment and treatment of major psychological disorders.	3 Credits

	PSYX 378 - Intro to Clinical Psyc Offered intermittently. Prereq., PSYX 340. Clinical psychology as a science and a profession. Theoretical models and techniques of assessment and intervention. Case illustrations.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subcategory 3

Rule: Must complete 2 courses

	Course	Credits
	PSYX 250N - Fund of Biological Psychology Offered every term. Prereq., PSYX 100S. Introduction to the study of how psychological processes are supported by biological processes. Mechanisms across levels of analysis, from cells to individuals, are addressed.	3 Credits
	PSYX 270 - Fund Psychology of Learning Offered autumn. Prereq., PSYX 100S. Basic theory and research on the nature of animal learning and behavior.	3 Credits
	PSYX 280 - Fund of Memory and Cognition Offered intermittently. Prereq., PSYX 100S. The acquisition and uses of knowledge. An examination of research and theories of human learning, memory, and thinking.	3 Credits
	PSYX 352 - Comparative Psychology Offered autumn. Prereq., PSYX 250N. Advanced evaluation and analysis of animal behavior through the synthesis of theory, research, and methods found in comparative psychology, behavioral biology, ethology, and sociobiology.	3 Credits
	PSYX 356 - Human Neuropsychology Offered spring. Prereq., PSYX 250N. Study of the organization of the nervous system, functional neuroanatomy, neuropathology, neurological disorders, behavioral neurology, and clinical neuropsychology.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Additional Electives

Rule: Must complete additional Psychology electives to achieve 21 degree credits

Minimum Required Grade: C

2 Total Credits Required

Teaching Psychology Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - Psychology (Minor); Track: Teaching Psychology

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 24
Required Cumulative GPA: 2.0

Lower Division Core Requirements

Rule: Must complete the following courses

	Course	Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	PSYX 120 - Research Methods I Offered every term. Prereq., PSYX 100S. Experimental and other quantitative methods employed in the scientific study of behavior.	3 Credits
Minimum Required Grade: C		7 Total Credits Required

Minor Electives

Rule: Complete the following subcategories, taking at least 6 upper division credits
Minimum Required Grade: C
12 Total Credits Required

Subcategory 1

Rule: Must complete 1 course

	Course	Credits
	PSYX 230 - Developmental Psychology Offered autumn, spring, summer. Prereq., PSYX 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect. Appropriate for Social Work, Nursing, Addiction Studies, Education, and Psychology.	3 Credits
	PSYX 360 - Social Psychology Offered every term. Individual behavior as a function of interpersonal interaction.	3 Credits

	PSYX 385 - Psychology of Personality Offered intermittently Prereq., PSYX 100S. Introduction to theories and research in personality. Intensive survey of theoretical concepts and a detailed examination of experimental methods and experiments in the field of personality.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subcategory 2

Rule: Must complete 1 course

	Course	Credits
	PSYX 340 - Abnormal Psychology Offered every term. Prereq., PSYX 100S. Description and classification of abnormal behavior.	3 Credits
	PSYX 345 - Child & Adolescent Psych Dis Offered intermittently. Prereq., PSYX 100S and 230. Study of causes, characteristics, assessment and treatment of emotional, social and intellectual disorders. The age span studied will range from infancy through adolescence.	3 Credits
	PSYX 376 - Prin Cognit Behav Mod Offered intermittently. Prereq., PSYX 270S. Study of basic principles, assumptions, methodology and applications of behavior modification. Discussion of current literature relevant to behavioral assessment and treatment of major psychological disorders.	3 Credits
	PSYX 378 - Intro to Clinical Psyc Offered intermittently. Prereq., PSYX 340. Clinical psychology as a science and a profession. Theoretical models and techniques of assessment and intervention. Case illustrations.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subcategory 3

Rule: Must complete 2 courses

	Course	Credits
	PSYX 250N - Fund of Biological Psychology Offered every term. Prereq., PSYX 100S. Introduction to the study of how psychological processes are supported by biological processes. Mechanisms across levels of analysis, from cells to individuals, are addressed.	3 Credits
	PSYX 270 - Fund Psychology of Learning Offered autumn. Prereq., PSYX 100S. Basic theory and research on the nature of animal learning and behavior.	3 Credits

	PSYX 280 - Fund of Memory and Cognition Offered intermittently. Prereq., PSYX 100S. The acquisition and uses of knowledge. An examination of research and theories of human learning, memory, and thinking.	3 Credits
	PSYX 352 - Comparative Psychology Offered autumn. Prereq., PSYX 250N. Advanced evaluation and analysis of animal behavior through the synthesis of theory, research, and methods found in comparative psychology, behavioral biology, ethology, and sociobiology.	3 Credits
	PSYX 356 - Human Neuropsychology Offered spring. Prereq., PSYX 250N. Study of the organization of the nervous system, functional neuroanatomy, neuropathology, neurological disorders, behavioral neurology, and clinical neuropsychology.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Additional Degree Electives

Rule: Must complete additional Psychology electives to achieve 21 degree credits

Minimum Required Grade: C

2 Total Credits Required

Teaching Licensure Requirements

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Teaching Methods Course

Rule: Complete the following course.

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Social Studies.

	Course	**Credits**

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C		3 Total Credits Required

Bachelor of Science - Neuroscience; Cellular and Molecular Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 76
Required Cumulative GPA: 2.0

Biology/Psychology Core Courses

Rule: Must complete all of the following courses:

Note: BCH 110/111 maybe substituted for BIOB 160N/161N.
BIOH 458 satisfies the Upper Division Writing Requirement for the Major.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
	BIOH 280 - Fundamental Neuroscience Course will focus on the molecular and cellular underpinnings of the functions of the brain and nervous system. The topics will range from the basis of electrical and chemical signaling to the organization of the sensory systems and mechanisms involved in learning, memory, and complex behaviors.	3 Credits

	BIOH 380 - Molecular Neuroscience Prereq., BIOB 260 and BIOH 280. The material covered will give students a practical knowledge of the subcellular organization and function of the nervous system. Students will learn how brain energy metabolism is a dynamic, and highly regulated process. We will explore the variety forms of neuronal chemical communication that may not conform to basic concepts of synaptic signaling. We will study processes that are involved in the growth and guidance of axons leading to the formation as well as the elimination of synapses. We will learn about the processes that are involved in the regulation of sexual differentiation of the nervous system. We will explore the basic mechanisms involved in learning and memory. Finally, Students will learn about the molecular and cellular mechanisms associated with neurodegenerative disease.	3 Credits
	BIOH 458 - Neuroscience Research Prereq., senior standing in Neuroscience. Theory and practical experience in neuroscience experiment design, data collection, results analysis and report creation. Students will generally assist with ongoing research as well as attend formal classroom presentations and discussions. Students will be required to work with the course writing instructor to undertake the writing process and develop a primary literature review, an abstract and final report based on the experiments conducted and the data collected. Students with well-developed research ideas and skills may be allowed to undertake supplemental independent research.	4 Credits
	PSYX 250N - Fund of Biological Psychology Offered every term. Prereq., PSYX 100S. Introduction to the study of how psychological processes are supported by biological processes. Mechanisms across levels of analysis, from cells to individuals, are addressed.	3 Credits
Minimum Required Grade: C-		23 Total Credits Required

Other Required Courses

Rule: Must complete all of the following courses:
Note: PSYX 222 may be substituted for STAT 216.

	Course	**Credits**
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chemistry I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits

	CHMY 222 - Organic Chemistry I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chemistry II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		35 Total Credits Required

Additional Major Courses

Rule: Must complete all of the following courses:

	Course	**Credits**

	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Rule: Choose at least 1 of the following Courses:

	Course	Credits
	BIOB 301 - Developmental Biology Offered autumn. Prereq., BIOB 260; BIOB 272 recommended. An analysis of the origin and development of form and patterns in organisms, stressing the processes of growth and differentiation in plants and animals. Graded traditional letter grade only.	3 Credits
	BIOH 365 - Human AP I for Health Profsns Offered autumn. Prereq., CHMY 121N or CHMY 141N; BIOB 160N or BIOH 112 or 113. Introduction to basic cellular structure and function. The fundamental facts and concepts of the anatomy and physiology of cells and tissues, the integumentary, musculoskeletal, nervous and special senses with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	0 To 4 Credits
	BIOL 435 - Comparative Animal Physiology Offered spring. Prereq., BIOB 260 or equivalent. Animal physiology with emphasis on diversity of functional processes, with strong links to broader ecological and evolutionary contexts.	3 Credits
	CSD 411 - Neuroanatomy & Physiology Offered spring. Prereq.,BIOH 330. Focused study on the anatomy of the nervous system and how the nervous system supports behaviors inherent to communication. Students will be introduced to anatomical terms, structures, and functions. Clinical implications will be discussed as well.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Rule: Choose at least 1 of the following Courses:

	Course	Credits
	BIOB 375 - General Genetics Offered spring. Prereq., BIOB 260 and 272. This course will focus on the molecular genetics of eukaryotes, with special emphasis on transmission genetics and gene structure and regulation.	3 Credits
	BIOB 468 - Endocrinology Offered alternate years. Prereq., BIOB 260 and 272. Integration of fundamental concepts of endocrinology (such as hormone release, hormone transport and receptor activation) into complex systems (such as reproduction).	3 Credits
	BMED 610 - Neuropharmacology Offered alternate years. Prereq., BMED 613 or 661 or consent of instr. Focus on current areas of research and research technologies in neuropharmacology. Development of presentations and research grant proposals. Level: Graduate	3 Credits
	BMED 646 - Neurotoxicology Offered alternate years. Prereq., BMED 641 or 661. Mechanisms of major neurotoxins and neurological disease. Level: Graduate	3 Credits
	KIN 330 - Motor Learning and Control Offered autumn and spring. Prereq., BIOH 201N or BIOH 365. Focused on developing an understanding of the anatomy and physiology within the nervous system necessary for movement. Establishes an understanding of the basic science involved in the control of motor tasks, and uses this foundation to evaluate case studies that will focus on sport performance, clinical deficits, age-related alterations, learning of motor tasks following injury, and other motor-related tasks.	3 Credits
	PSYX 356 - Human Neuropsychology Offered spring. Prereq., PSYX 250N. Study of the organization of the nervous system, functional neuroanatomy, neuropathology, neurological disorders, behavioral neurology, and clinical neuropsychology.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Intersection Courses

Rule: Choose at least 1 of the following Courses:

	Course	Credits

	BIOE 406 - Behavior & Evolution Offered autumn. Prereq., BIOB 272. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies.	3 Credits
	DANC 345 - Teaching for the Disabled (R-4) Offered autumn and spring. Students interact with adults with developmental disabilities in an adaptive dance class where movement is used as a therapeutic modality for people with cognitive and physical impairments. Students interact with the participants, engage as role models and gain beginning teaching experience.	1 Credits
	ECNS 491 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	HTH 430 - Hlth and Mind/Body/Spirit Offered autumn. Prereq., junior standing. Overview of how the mind/body/spirit relationship affects health. Examination of current research exploring how thoughts, emotions, attitudes, and beliefs influence and mediate health outcome. Exploration of the theoretical applications of mind/body/spirit in health and healing used in contemporary society.	3 Credits
	LIT 491 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	LSH 389E - Placebos: The Power of Words Situated at the crossroads of medicine and the humanities, this course looks into the changing reputation of the placebo effect, with special attention to the power of words to induce therapeutic—or counter-therapeutic—effects.	3 Credits
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Neuroscience B.A. Cognitive Neuroscience option

Bachelor of Science - Neuroscience; Cognitive Neuroscience Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 70
Required Cumulative GPA: 2.0

Biology/Psychology Core Courses

Rule: Must complete all of the following courses:

Note: BIOH 458 satisfies the Upper Division Writing Requirement for the Major.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
	BIOH 280 - Fundamental Neuroscience Course will focus on the molecular and cellular underpinnings of the functions of the brain and nervous system. The topics will range from the basis of electrical and chemical signaling to the organization of the sensory systems and mechanisms involved in learning, memory, and complex behaviors.	3 Credits
	BIOH 380 - Molecular Neuroscience Prereq., BIOB 260 and BIOH 280. The material covered will give students a practical knowledge of the subcellular organization and function of the nervous system. Students will learn how brain energy metabolism is a dynamic, and highly regulated process. We will explore the variety forms of neuronal chemical communication that may not conform to basic concepts of synaptic signaling. We will study processes that are involved in the growth and guidance of axons leading to the formation as well as the elimination of synapses. We will learn about the processes that are involved in the regulation of sexual differentiation of the nervous system. We will explore the basic mechanisms involved in learning and memory. Finally, Students will learn about the molecular and cellular mechanisms associated with neurodegenerative disease.	3 Credits

	BIOH 458 - Neuroscience Research Prereq., senior standing in Neuroscience. Theory and practical experience in neuroscience experiment design, data collection, results analysis and report creation. Students will generally assist with ongoing research as well as attend formal classroom presentations and discussions. Students will be required to work with the course writing instructor to undertake the writing process and develop a primary literature review, an abstract and final report based on the experiments conducted and the data collected. Students with well-developed research ideas and skills may be allowed to undertake supplemental independent research.	4 Credits
	PSYX 250N - Fund of Biological Psychology Offered every term. Prereq., PSYX 100S. Introduction to the study of how psychological processes are supported by biological processes. Mechanisms across levels of analysis, from cells to individuals, are addressed.	3 Credits
Minimum Required Grade: C-		23 Total Credits Required

Other Required Courses

Rule: Must complete all of the following courses:

Note: PSYX 222 may be substituted for STAT 216.
CHMY 141N/143N/221/222 may be substituted for CHMY 121N/123/124.

	Course	**Credits**
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123 - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or CHMY 141N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124 - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123. Laboratory to accompany CHMY 123.	2 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits

	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		25 Total Credits Required

Additional Major Courses

Rule: Must complete all of the following courses:

__	**Course**	**Credits**
	BCH 380 - Biochemistry Offered autumn and spring. Prereq., CHMY 223 or BIOB 260. Fundamental biochemistry; chemistry and metabolism of biomolecules, energy relationships in metabolism; storage, transmission, and expression of genetic information. Credit not allowed for both BCH 380 and 480-482.	4 Credits
	PSYX 270 - Fund Psychology of Learning Offered autumn. Prereq., PSYX 100S. Basic theory and research on the nature of animal learning and behavior.	3 Credits
	PSYX 280 - Fund of Memory and Cognition Offered intermittently. Prereq., PSYX 100S. The acquisition and uses of knowledge. An examination of research and theories of human learning, memory, and thinking.	3 Credits
	PSYX 356 - Human Neuropsychology Offered spring. Prereq., PSYX 250N. Study of the organization of the nervous system, functional neuroanatomy, neuropathology, neurological disorders, behavioral neurology, and clinical neuropsychology.	3 Credits
Minimum Required Grade: C-		13 Total Credits Required

Rule: Choose at least 2 of the following Courses:

	Course	Credits
	BIOB 301 - Developmental Biology Offered autumn. Prereq., BIOB 260; BIOB 272 recommended. An analysis of the origin and development of form and patterns in organisms, stressing the processes of growth and differentiation in plants and animals. Graded traditional letter grade only.	3 Credits
	BIOH 365 - Human AP I for Health Profsns Offered autumn. Prereq., CHMY 121N or CHMY 141N; BIOB 160N or BIOH 112 or 113. Introduction to basic cellular structure and function. The fundamental facts and concepts of the anatomy and physiology of cells and tissues, the integumentary, musculoskeletal, nervous and special senses with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	0 To 4 Credits
	BMED 610 - Neuropharmacology Offered alternate years. Prereq., BMED 613 or 661 or consent of instr. Focus on current areas of research and research technologies in neuropharmacology. Development of presentations and research grant proposals. Level: Graduate	3 Credits
	BMED 646 - Neurotoxicology Offered alternate years. Prereq., BMED 641 or 661. Mechanisms of major neurotoxins and neurological disease. Level: Graduate	3 Credits
	KIN 330 - Motor Learning and Control Offered autumn and spring. Prereq., BIOH 201N or BIOH 365. Focused on developing an understanding of the anatomy and physiology within the nervous system necessary for movement. Establishes an understanding of the basic science involved in the control of motor tasks, and uses this foundation to evaluate case studies that will focus on sport performance, clinical deficits, age-related alterations, learning of motor tasks following injury, and other motor-related tasks.	3 Credits
	PSYX 352 - Comparative Psychology Offered autumn. Prereq., PSYX 250N. Advanced evaluation and analysis of animal behavior through the synthesis of theory, research, and methods found in comparative psychology, behavioral biology, ethology, and sociobiology.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Intersection Courses

Rule: Choose at least 1 of the following Courses:

	Course	Credits

	BIOE 406 - Behavior & Evolution Offered autumn. Prereq., BIOB 272. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies.	3 Credits
	DANC 345 - Teaching for the Disabled (R-4) Offered autumn and spring. Students interact with adults with developmental disabilities in an adaptive dance class where movement is used as a therapeutic modality for people with cognitive and physical impairments. Students interact with the participants, engage as role models and gain beginning teaching experience.	1 Credits
	ECNS 491 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	HTH 430 - Hlth and Mind/Body/Spirit Offered autumn. Prereq., junior standing. Overview of how the mind/body/spirit relationship affects health. Examination of current research exploring how thoughts, emotions, attitudes, and beliefs influence and mediate health outcome. Exploration of the theoretical applications of mind/body/spirit in health and healing used in contemporary society.	3 Credits
	LIT 491 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	LSH 389E - Placebos: The Power of Words Situated at the crossroads of medicine and the humanities, this course looks into the changing reputation of the placebo effect, with special attention to the power of words to induce therapeutic—or counter-therapeutic—effects.	3 Credits
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Political Science Department

Karen Adams, Chair

Political Science is the systematic study of politics. Politics influence how people and institutions exercise and resist power. Political Science, therefore, is concerned with how nations and communities are governed and who governs them. The departmental faculty members have as their mission the engagement and enlightenment of their students, professional colleagues, and fellow citizens about the nature of politics.

The department offers a varied undergraduate curriculum covering domestic, foreign, and international politics. By meeting the requirements outlined below, a student may earn a bachelor's degree in political science or in political science-history; a minor in political science or global public health; or a bachelor's degree in political science with an option in one of the following: American politics, international relations and comparative politics, public administration, non-profit administration, international development studies, or public law. A Master of Arts degree in political science and a Master of Public Administration degree are also offered.

The scope of the faculty's interest and research is wide. They bring special insights gained through study and residence in Europe, Russia, Africa, Central Asia, India, the Far East and Latin America, as well as in Montana and Washington, D.C.

Courses offered in the department are designed to: (1) assist students to secure a broad liberal education and to equip them with the foundations for American citizenship; (2) provide undergraduate preparation for those students who propose to continue study at the graduate level with the ultimate goal of college teaching and research; (3) offer a broad program of training for those students who plan careers in government or politics; 4) assist in preparing students for careers in teaching at both the elementary and secondary levels; (5) provide a sound background for those students who intend to enroll in law and other professional schools.

The major fields of political science are (1) American government and politics with national, state and local government, and public law as sub-fields; (2) public administration; (3) political theory; (4) comparative government; (5) international relations, organization and law. Majors are eligible for membership in Pi Sigma Alpha, the national political science honorary and are active in student political activities. The Department of Political Science secures a number of legislative and administrative internships in state and local government each year. Internships and other learning opportunities in Washington, D.C., are also available.

Department Faculty

Professors

Jeffrey Greene, American Government & Public Administration
Ramona Grey, Co-coordinator of the Grad Program
Paul Haber, Globalization, Latin America, Environmental Politics, Social Movements
Peter Koehn, Comparative Government & Politics & Public Administration

Associate Professors

Karen Ruth Adams, Associate Professor and Chair, International Relations
Christopher Muste, American Politics, Public Opinion, Political Psychology, News Media & Co-coordinator of the M.A. Program
Robert Saldin

Assistant Professors

Abhishek Chatterjee, International & Comparative Politics, International Political Economy
Sara Rinfret, Political Science and Public Administration
Eric Schluessel, Assistant Professor of History and Political Science

Adjunct Faculty

Geoff Badenoch, American Politics
Anna Conley, Adjunct Professor
Eva-Maria Maggi, Visiting Assistant Professor
William McLauchlan, Public Law
Keri McWilliams, Non-Profit Administration
Trisha Miller, Public Administration
Nicholas Potratz, Model United Nations

Affiliates

Anthony Johnstone, Associate Professor
Abraham Kim, Executive Director
Dane Scott, Associate Professor of Ethics; Director of the Center for Ethics
Brock Tessman, Dean, Davidson Honors College
Andrea Vernon, Director of Office of Civic Engagement

Emeritus Professors

Forest Grieves, Comparative Government & Politics & International Relations
Louis Hayes, Comparative Government & Politics & International Relations
James Lopach, American Government & Public Law
Jon Tompkins, Professor Emeritus
Terry Weidner, International Relations & Comparative Politics

Political Science

Back to Top

- PSCI 151 - Intro to Civic Engagement

  Credits: 2. This course is an extensive service learning course that requires students to conduct at least 55 hours of volunteer work. Students participate in community needs analysis, organization analysis, and long term volunteer work.

- PSCI 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- PSCI 191S - Special Topics

  Credits: 1 TO 6. (R 6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics. Course Attributes: Internships/Practicums Social Sciences Course (S)

- PSCI 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

- PSCI 210S - Intro to American Government

  Credits: 3. Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government. Course Attributes: Social Sciences Course (S) Democracy and Citizenship (Y)

- PSCI 220S - Intro to Comparative Govt

  Credits: 3. Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures. Course Attributes: Social Sciences Course (S)

- PSCI 227 - Global Health Issues

  Credits: 3. Offered spring. Treats current public-health challenges in industrialized and low-income countries, including chronic and infectious illnesses. In comparative perspective, the course explores the individual, environmental, resource, and governance context of public-health policy, interventions, and outcomes and address questions of human rights and ethics, health equity and justice, regional problems and contributors, and the concerns of vulnerable populations along with possibilities for health advocacy.

- PSCI 230X - Intro to International Rel

  Credits: 3. Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change. Course Attributes: Cultural Intl Diversity (X)

- PSCI 250E - Intro to Political Theory

  Credits: 3. Offered spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to define the nature of the "good" society. Course Attributes: Ethical & Human Values Course

- PSCI 320 - Exp Offering: Comp Politics

  Credits: 1 TO 6. (R- 6) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics. Course Attributes: 15 cr grad limit/Spec Topics

- PSCI 321 - Post-Communist Politics

  Credits: 3. Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of politics in post-communist states with an emphasis on Eastern Europe and Russia.

- PSCI 322 - Politics of Europe

  Credits: 3. Offered autumn. Prereq., junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and

Germany.

- PSCI 324 - Climate Policies: China & U.S.

  Credits: 3. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.

- PSCI 325 - Politics of Latin America

  Credits: 3. Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.

- PSCI 326 - Politics of Africa

  Credits: 3. Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.

- PSCI 327 - Politics of Mexico

  Credits: 3. Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.

- PSCI 328 - Politics of China

  Credits: 3. Prereq., junior standing or consent of instr. Institutions and political development in China.

- PSCI 330 - Exp Offering: Intrnt Relations

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations. Course Attributes:
  15 cr grad limit/Spec Topics

- PSCI 332 - Global Environmental Pol.

  Credits: 3. Offered fall. Prereq. PSCI 230X and junior standing or consent of instructor. This course focuses on the unique set of collective action problems faced by global actors in the governance of the environment and the institutions they use to overcome those problems. Themes include the tragedy of the commons, climate change, and environmental security.

- PSCI 334 - International Security

  Credits: 3. Offered Spring. Prereq. PSCI 230 and junior standing or consent of instr. Explores the meaning, sources, and future of human, national, and international security. Considers a range of historical and contemporary threats (interstate war, civil war, terrorism, crime, natural disaster, human accident, disease, and deprivation), assesses the vulnerability of individuals and states to each threat, and evaluates national and international strategies to reduce them.

- PSCI 335 - American Foreign Policy

  Credits: 3. Prereq., PSCI 230X and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.

- PSCI 336 - European Union

  Credits: 3. Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of political and economic integration in Europe with a focus on the political system of the European Union.

- PSCI 337 - Model United Nations

  Credits: 3. Offered autumn. Prereq., sophomore standing or consent of instr. History and structure of the UN. Contemporary global problems, and the UN's role in addressing them. Class has both active learning and service learning dimensions. Students plan, organize and run the annual Montana Model UN high school conference.

- PSCI 340 - Exp Offering: American Govt

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of American government. Course Attributes: 15 cr grad limit/Spec Topics

- PSCI 341 - Political Parties and Election

  Credits: 3. Offered spring even-numbered years. Prereq., PSCI 210S and junior standing. Political party organization, nominations, campaigns and elections in the United States.

- PSCI 342 - Media, Public Opinion, Polling

Credits: 3. Offered intermittently. Prereq., PSCI 210S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.

- PSCI 344 - State and Local Government

  Credits: 3. Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.

- PSCI 346 - American Presidency

  Credits: 3. Offered autumn. Prereq., PSCI 210S. The constitutional foundation and evolution of the executive branch, the structure of the office and executive functions and powers.

- PSCI 348 - US Multicultural Politics

  Credits: 3. Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.

- PSCI 350 - Exp Offering: Political Theory

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of political theory. Course Attributes: 15 cr grad limit/Spec Topics

- PSCI 352 - American Political Thought

  Credits: 3. Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.

- PSCI 354 - Contemp Issues in Pol Theory

  Credits: 3. (R-6) Offered intermittently in autumn. Prereq., PSCI 250E or consent of instr. and junior standing. Topics variable. Research and assessment of current political and social issues through the study of a representative text and related literature.

- PSCI 357 - Ancient & Medieval Pol Phil

  Credits: 3. Offered autumn. The classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of legitimate authority.

- PSCI 360 - Exp Offering: Public Admin

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental or onetime offerings in the subfield of public administration or policy. Course Attributes: 15 cr grad limit/Spec Topics

- PSCI 361 - Public Administration

  Credits: 3. Offered autumn. Prereq., PSCI 210S and junior standing. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.

- PSCI 365 - Pub Policy Issues and Analysis

  Credits: 3. Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.

- PSCI 370 - Courts and Judicial Politics

  Credits: 3. Offered spring. Prereq., PSCI 210S and junior standing. Introduction to American courts with emphasis on judicial policy making.

- PSCI 391 - Special Topics

  Credits: 1 TO 9. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: 15 cr grad limit/Spec Topics

- PSCI 400 - Adv Writing in Pol Science

  Credits: 1. (R-3) Offered every term. Coreq., any upper-division political science course. Designed for political science students to satisfy their upper-division writing expectation for the major or for students desiring additional experience in writing. Course Attributes: Writing Course-Advanced

- PSCI 401 - Nonprofit Hum Resource Mgt

Credits: 2. On-line course offered every year. Addresses human resource needs specific to nonprofits, including payroll, employment law, and other legal issues.

- PSCI 402 - Nonprofit Volunteer Mgt

  Credits: 2. On-line course offered every year. Addresses the process of recruiting and retaining volunteers at a nonprofit organization, including case studies and hands-on projects.

- PSCI 403 - Nonprofit Prog Plan & Eval

  Credits: 2. On-line course offered every year. Explores program planning for nonprofits from top-to-bottom, including needs assessment and evaluation.

- PSCI 405 - Nonprofit Advocacy

  Credits: 2. On-line course offered every year. Explores and reviews the role of nonprofit organizations in advocacy.

- PSCI 406 - Nonprofit Board Management

  Credits: 2. Online course offered every year. Explores policymaking and fundraising roles and responsibilities of the board; strategies for board recruitment, orientation, and evaluation; and executive director/board relationships.

- PSCI 410 - Nonprofit Strategic Plan

  Credits: 2. Online course offered every year. This course explores the importance of visionary leadership and strategic planning to the success of nonprofit agencies.

- PSCI 411 - Nonprofit Grant Writing

  Credits: 2. Online course offered every year. Students learn how to write the essential parts of a grant proposal and how to search for appropriate funding sources.

- PSCI 412 - Nonprofit Fundraising

  Credits: 2. Online course offered every year. The course will cover all major aspects of a fundraising plan including: annual fund, major gifts, capital campaigns, planned giving, grants and special events. The course will also give students the foundation and tools needed to implement these plans into action.

- PSCI 413 - Nonprofit Financial Mgt

  Credits: 2. Online course offered every year. This course explores special issues related to nonprofit financials including accounting basics, budgeting, financial statement ratios, management controls and nonprofit income tax reporting processes.

- PSCI 420 - Exp Offering: Comp Politics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics. Course Attributes: 15 cr grad limit/Spec Topics

- PSCI 422 - Revolution & Reform in China

  Credits: 3. Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.

- PSCI 430 - Exp Offering: Intrnt Relations

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations. Course Attributes:
  15 cr grad limit/Spec Topics

- PSCI 431 - Politics of Global Migration

  Credits: 3. Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.

- PSCI 433 - International Law & Org

  Credits: 3. Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.

- PSCI 440 - Exp Offering: American Govt

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government. Course Attributes: 15 cr grad limit/Spec Topics

- PSCI 442 - Environmental Policy

  Credits: 3. Prereq., PSCI 210S. This course surveys environmental politics and policy, primarily in the United States. We will examine the nature and scope of environmental, energy, and natural resource problems; contrasting perspectives on their severity and policy implications; the goals and strategies of the environmental community and its opponents; public opinion on the environment; scientific, economic, political, and institutional forces that shape policymaking and implementation; approaches to environmental policy analysis; and selected issues in environmental policy both within the U.S. and globally.

- PSCI 443 - Politics of Social Movements

  Credits: 3. Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.

- PSCI 444 - Am Political Participation

  Credits: 3. Offered intermittently. Prereq., PSCI 210S. Examination of the individual and institutional factors affecting voter turnout, the influences on voter decision making, and non-electoral forms of participation in the United States.

- PSCI 445 - Political Psychology

  Credits: 3. Offered intermittently. Applies psychological theories such as personality, emotion, cognition, and social influence to political attitudes and actions, including political opinion formation, conformity, prejudice, genocide, and political leadership.

- PSCI 448 - Health Care Policy

  Credits: 3. offered autumn. Focuses on sociopolitical environment influencing health policy in the United States including health politics and policy development, political structure and process, health care financing, public opinion and special interest groups, political leadership, policy reform and global health.

- PSCI 449 - Environmental Health Policy

  Credits: 3. Offered spring. Focuses on environmental health policy in the U.S., its evolution, current status, and areas of change.

- PSCI 450 - Exp Offering: Political Theory

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of political theory. Course Attributes: 15 cr grad limit/Spec Topics

- PSCI 452 - Utopianism and its Critics

  Credits: 3. Offered intermittently. Prereq., junior standing. Examination of classic and contemporary utopias, from Plato's Republicto Barbara Goodwin's Justice by Lottery as well as their critics.

- PSCI 453 - Modern Political Theory

  Credits: 3. Offered autumn. Prereq., PSCI 250E or consent of instr and Junior Level or higher. Analysis of Hobbes, Locke, Rousseau, Burke, James and John Stuart Mill, Marx and Lenin with regard to their "modern" views of the purpose(s) of political inquiry, the nature of citizenship and popular sovereignty. Particular attention to contemporary implications of ideas. Course Attributes: Co-Convened Course

- PSCI 460 - Exp Offering: Public Admin

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., junior standing. Experimental or onetime offerings in the subfield of public administration or policy. Course Attributes: 15 cr grad limit/Spec Topics

- PSCI 461 - Administrative Law

  Credits: 3. Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.

- PSCI 462 - Human Resource Management

  Credits: 3. Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.

- PSCI 463 - Development Administration

Credits: 3. Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.

- PSCI 466 - Nonprofit Adm & Pub Svc

  Credits: 3. Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.

- PSCI 467 - Adv Nonprofit Adm

  Credits: 3. Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.

- PSCI 468 - Public Policy

  Credits: 3. Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.

- PSCI 469 - Ethics and Public Policy

  Credits: 3. Offered spring. Focuses on the ethical challenges faced by public servants in government agencies.

- PSCI 471 - American Constitutional Law

  Credits: 3. Offered autumn. Prereq., junior standing or consent of instr. Survey of U.S. Supreme Court's interpretation of the U.S. Constitution's provisions on separation of powers, federalism, civil rights, and civil liberties.

- PSCI 474 - Civil Rights Seminar

  Credits: 3. Offered spring. Prereq., PSCI 471 or consent of instr. Intensive analysis, discussion, and writing about key U.S. Supreme Court constitutional cases on expression, religion, privacy, criminal justice, and discrimination.

- PSCI 480 - Research Goals and Strategies

  Credits: 3. We explore the main methods used in political science research, focusing on research design, best research practices, and pitfalls in research. Students develop their own research design as the final course project.

- PSCI 481 - Origins of Democracy and Authoritarianism

  Credits: 3. Prereq., PSCI 220S. This course will examine in some detail the meaning of the terms "democracy" and "authoritarianism" in a way that permits measurement and analysis, and then seek to explain conditions under which regimes or political systems that can be given the respective appellations emerge.

- PSCI 482 - Politics of the World Economy

  Credits: 3. Prereq., PSCI 220S and PSCI 230X. This course is an introduction to some basic concepts, tools, and problems in international political economy. Particularly, it seeks to examine the implications of the 'economic' relations among 'states' (the terms are in quotes because we will further examine these concepts in some depth throughout the class). Co-convened with PSCI 582. Course Attributes: Co-Convened Course

- PSCI 491 - Special Topics

  Credits: 1 TO 3. (R-9) Offered intermittently. Prereq., consent of instr. and junior standing.Experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: 15 cr grad limit/Spec Topics

- PSCI 492 - Independent Study

  Credits: 1 TO 3. (R-6) Offered every term. Prereq., nine credits in political science courses numbered at the 300- or 400-level and consent of instr. Research in fields appropriate to the needs and objectives of the individual student. Course Attributes: 7 cr grad limit/In Stdy/Intern

- PSCI 498 - Intern/coop education/omnibus

  Credits: 1 TO 6. Offered every term. Prereq., sophomore standing and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Offered credit/no credit only. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- PSCI 501 - Public Administration

  Credits: 3. Offered autumn. Advanced analysis of processes of public management; examination of public administrators' involvement in policy making. Level: Graduate

- PSCI 503 - Policy Analysis

  Credits: 3. Offered spring. The role of public administrators in the policymaking process with emphasis on methods of policy analysis and program evaluation. Level: Graduate

- PSCI 504 - Organization Theory

  Credits: 3. Offered spring. Concepts and theories relevant to the administration of complex organizations, including administrative structure, behavior, process and functions. Level: Graduate

- PSCI 505 - Budgeting & Finance

  Credits: 3. Offered spring. Seminar focusing on principles of public finance and analysis of budgeting as a primary tool of public sector management. Level: Graduate

- PSCI 520 - Comparative Government

  Credits: 3. Offered autumn. Prereq., graduate standing or consent of instr. Concentrated reading and examination of selected subject areas in the field of comparative government. Level: Graduate

- PSCI 521 - Globalization

  Credits: 3. Offered spring. Prereq., senior or graduate standing or consent of instr. Critical examination of contemporary globalization topics from a number of theoretical and political perspectives. Topics include but are not limited to international political economy, security, social movements, democratization, international development, climate change, immigration, and global governance. Level: Graduate

- PSCI 522 - Human Resource Management

  Credits: 3. Offered autumn. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees. Level: Graduate

- PSCI 523 - Administrative Law

  Credits: 3. Offered autumn. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation. Level: Graduate

- PSCI 524 - Management Skills

  Credits: 3. Offered spring. Focus on developing the skills required of managers in nonprofit and government organizations, such as competency in self-assessment, oral and written presentations, managing stress, communicating supportively, motivating, managing conflict, empowering and delegating, succeeding in multicultural contexts, and participating in interviews. Level: Graduate

- PSCI 525 - Strategic Planning

  Credits: 3. Prereq., graduate student. Focus on the means by which public and nonprofit agencies can carry out their missions effectively. Level: Graduate

- PSCI 526 - Issues in State Government

  Credits: 3. Examination of the evolution and development of state governments since the founding period by focusing on the basic political institutions and a broad range of public policy issues that affect governing in the states. Level: Graduate

- PSCI 527 - Performance Measurement

  Credits: 3. Offered intermittently. Focus on the process by which organizations routinely and systematically gather data to assess progress in achieving their goals. Level: Graduate

- PSCI 529 - Intro to Nonprofit Orgs

  Credits: 3. This course is one of the core courses required for MPA students completing the Nonprofit Administration Track. The course provides an introduction to nonprofit organizations and the nonprofit sector within which they are embedded. It investigates such topics as the nature of the nonprofit sector, the diverse kinds of nonprofits in existence, the phenomenon of charitable giving, philanthropy, and volunteering, and the legal framework that establishes nonprofit organizations and regulates their activities. This course is appropriate for graduate students from many disciplines in addition to MPA students due to the diverse nature of the nonprofit sector in fields such as environmental studies, communication studies, sociology, social work and law. Level: Graduate

- PSCI 530 - International Relations

  Credits: 3. Offered autumn. Prereq., consent of instr. Concentrated reading and examination of selected subject areas in the field of international relations. Level: Graduate

- PSCI 540 - American Government

  Credits: 3. Offered spring. Prereq., consent of instr. Concentrated reading and examination of selected subject areas in the field of American government. Level: Graduate

- PSCI 547 - Legislative Relations

  Credits: 3. Online course offered every other year. Focuses on the methods and issues involved in establishing effective working relationships between agencies and the legislative process. Level: Graduate

- PSCI 550 - Political Theory

  Credits: 3. Offered spring. Prereq., consent of instr. Concentrated reading and examination of selected subject areas in the field of political theory. Level: Graduate

- PSCI 553 - Political Theory

  Credits: 3. Ccovers political thinkers from the 16th c., beginning with Thomas Hobbes, to the early 20th century, ending with Marx. Graduate students will consider a fundamental question: what is the purpose of political inquiry? A fundamental question precisely because what people take to be the purpose of political theory determines what they study, who they study, and how they study it. Co-convening course with PSCI 453. Course Attributes: Co-Convened Course

- PSCI 561 - Ethics in Public Admin

  Credits: 3. Prereq., Graduate student. Online course offered every other year. Explores the role of ethics and integrity in public administration and the moral obligations of citizenship. Level: Graduate

- PSCI 563 - Improving Work Culture

  Credits: 3. Online course offered every other year. Focuses on the complexity of the core components of strategic management: program culture and work process management and the considerations necessary to institutionalize positive change. Level: Graduate

- PSCI 582 - Politics of the World Economy

  Credits: 3. Prereq., PSCI 220S and PSCI 230X. This course is a graduate-level introduction to some basic concepts, tools, and problems in international and comparative political economy. Particularly, it seeks to examine the implications of the 'economic' relations among 'states' (the terms are in quotes because we will further examine these concepts in some depth throughout the class). Co-convened with PSCI 482. Course Attributes: Co-Convened Course

- PSCI 586 - MA Research Project

  Credits: 1 TO 4. (R-6) Offered every term. Prereq., consent of instructor. Offered as Credit/No Credit only. Level: Graduate

- PSCI 594 - Seminar

  Credits: 1 TO 9. (R-9) Offered intermittently. Topic varies. Level: Graduate

- PSCI 595 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate

- PSCI 596 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course Attributes: Independent Study

- PSCI 598 - Internship

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Offered credit/no credit only. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate Course Attributes: Internships/Practicums

- PSCI 599 - Thesis

  Credits: 1 TO 6. (R-6) Offered every term. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

Political Sciences B.A.

Bachelor of Arts - Political Science

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 37

Required Cumulative GPA: 2.0

Note: Students pursuing a general political science degree must take a minimum of 37 credits of political science, including one 300-400 level course in four of the five major fields. 21 of the 37 credits must be in upper-division courses. No more than 7 credits of independent study (PSCI 492) and internship (PSCI 498) combined may count toward the 37 required credits. In addition, no more than 15 total credits in special topics courses (e.g., PSCI 320, 391) may count toward the 37 required credits. A maximum of 60 PSCI credits can count towards the Political Science Major.

Required Lower Division Courses

Rule: Must complete all of the following courses:

	Course	Credits
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
	PSCI 220S - Intro to Comparative Govt Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures.	3 Credits
	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
	PSCI 250E - Intro to Political Theory Offered spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to define the nature of the "good" society.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper Division Writing

Rule: Must complete the following course

	Course	Credits

	PSCI 400 - Adv Writing in Pol Science (R-3) Offered every term. Coreq., any upper-division political science course. Designed for political science students to satisfy their upper-division writing expectation for the major or for students desiring additional experience in writing.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Required Upper Division Field Courses

Rule: Must complete 1 upper division course in 4 of the 5 fields:

Note: Any field course can also be counted toward a Political science option. Student must take an additional four courses from the following options.

Minimum Required Grade: C-

12 Total Credits Required

Public Administration

Rule: May select one of the following courses:

	Course	Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 360 - Exp Offering: Public Admin (R-6) Offered intermittently. Experimental or onetime offerings in the subfield of public administration or policy.	1 To 6 Credits
	PSCI 361 - Public Administration Offered autumn. Prereq., PSCI 210S and junior standing. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 391 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PSCI 448 - Health Care Policy offered autumn. Focuses on sociopolitical environment influencing health policy in the United States including health politics and policy development, political structure and process, health care financing, public opinion and special interest groups, political leadership, policy reform and global health.	3 Credits

	PSCI 449 - Environmental Health Policy Offered spring. Focuses on environmental health policy in the U.S., its evolution, current status, and areas of change.	3 Credits
	PSCI 461 - Administrative Law Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
	PSCI 466 - Nonprofit Adm & Pub Svc Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.	3 Credits
	PSCI 467 - Adv Nonprofit Adm Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.	3 Credits
	PSCI 468 - Public Policy Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
	PSCI 469 - Ethics and Public Policy Offered spring. Focuses on the ethical challenges faced by public servants in government agencies.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Political Theory

Rule: May select 1 of the following courses:

	Course	**Credits**
	PSCI 350 - Exp Offering: Political Theory (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 6 Credits

	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 354 - Contemp Issues in Pol Theory (R-6) Offered intermittently in autumn. Prereq., PSCI 250E or consent of instr. and junior standing. Topics variable. Research and assessment of current political and social issues through the study of a representative text and related literature.	3 Credits
	PSCI 357 - Ancient & Medieval Pol Phil Offered autumn. The classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of legitimate authority.	3 Credits
	PSCI 450 - Exp Offering: Political Theory (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 9 Credits
	PSCI 452 - Utopianism and its Critics Offered intermittently. Prereq., junior standing. Examination of classic and contemporary utopias, from Plato's Republicto Barbara Goodwin's Justice by Lottery as well as their critics.	3 Credits
	PSCI 453 - Modern Political Theory Offered autumn. Prereq., PSCI 250E or consent of instr and Junior Level or higher. Analysis of Hobbes, Locke, Rousseau, Burke, James and John Stuart Mill, Marx and Lenin with regard to their "modern" views of the purpose(s) of political inquiry, the nature of citizenship and popular sovereignty. Particular attention to contemporary implications of ideas.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Comparative Government

Rule: May select 1 of the following courses:

	Course	**Credits**
	PSCI 320 - Exp Offering: Comp Politics (R- 6) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 6 Credits
	PSCI 321 - Post-Communist Politics Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of politics in post-communist states with an emphasis on Eastern Europe and Russia.	3 Credits

	PSCI 322 - Politics of Europe Offered autumn. Prereq., junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.	3 Credits
	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits
	PSCI 325 - Politics of Latin America Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 327 - Politics of Mexico Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.	3 Credits
	PSCI 328 - Politics of China Prereq., junior standing or consent of instr. Institutions and political development in China.	3 Credits
	PSCI 329 - Politics of Japan Offered autumn. Prereq., junior standing or consent of instr. Institutions and political development in Japan.	3 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

International Relations

Rule: May select 1 of the following courses:

	Course	Credits

	PSCI 330 - Exp Offering: Intrnt Relations (R-6) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 6 Credits
	PSCI 332 - Global Environmental Pol. Offered fall. Prereq. PSCI 230X and junior standing or consent of instructor. This course focuses on the unique set of collective action problems faced by global actors in the governance of the environment and the institutions they use to overcome those problems. Themes include the tragedy of the commons, climate change, and environmental security.	3 Credits
	PSCI 334 - International Security Offered Spring. Prereq. PSCI 230 and junior standing or consent of instr. Explores the meaning, sources, and future of human, national, and international security. Considers a range of historical and contemporary threats (interstate war, civil war, terrorism, crime, natural disaster, human accident, disease, and deprivation), assesses the vulnerability of individuals and states to each threat, and evaluates national and international strategies to reduce them.	3 Credits
	PSCI 335 - American Foreign Policy Prereq., PSCI 230X and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.	3 Credits
	PSCI 336 - European Union Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of political and economic integration in Europe with a focus on the political system of the European Union.	3 Credits
	PSCI 337 - Model United Nations Offered autumn. Prereq., sophomore standing or consent of instr. History and structure of the UN. Contemporary global problems, and the UN's role in addressing them. Class has both active learning and service learning dimensions. Students plan, organize and run the annual Montana Model UN high school conference.	3 Credits
	PSCI 430 - Exp Offering: Intrnt Relations (R-9) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 9 Credits
	PSCI 431 - Politics of Global Migration Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.	3 Credits
	PSCI 433 - International Law & Org Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.	3 Credits

	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

American Politics

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 340 - Exp Offering: American Govt (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 6 Credits
	PSCI 341 - Political Parties and Election Offered spring even-numbered years. Prereq., PSCI 210S and junior standing. Political party organization, nominations, campaigns and elections in the United States.	3 Credits
	PSCI 342 - Media, Public Opinion, Polling Offered intermittently. Prereq., PSCI 210S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.	3 Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 346 - American Presidency Offered autumn. Prereq., PSCI 210S. The constitutional foundation and evolution of the executive branch, the structure of the office and executive functions and powers.	3 Credits
	PSCI 348 - US Multicultural Politics Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.	3 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits

	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 370 - Courts and Judicial Politics Offered spring. Prereq., PSCI 210S and junior standing. Introduction to American courts with emphasis on judicial policy making.	3 Credits
	PSCI 440 - Exp Offering: American Govt (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 9 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
	PSCI 444 - Am Political Participation Offered intermittently. Prereq., PSCI 210S. Examination of the individual and institutional factors affecting voter turnout, the influences on voter decision making, and non-electoral forms of participation in the United States.	3 Credits
	PSCI 445 - Political Psychology Offered intermittently. Applies psychological theories such as personality, emotion, cognition, and social influence to political attitudes and actions, including political opinion formation, conformity, prejudice, genocide, and political leadership.	3 Credits
	PSCI 468 - Public Policy Cycle Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Degree Electives

Rule: Must complete 12 additional elective credits from PSCI courses numbered 300 and above
Note: PSCI courses may only count toward one category of requirements.
Minimum Required Grade: C-
12 Total Credits Required

American Politics

Bachelor of Arts - Political Science; American Politics Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 40

Required Cumulative GPA: 2.0

Note: Students majoring in Political Science with an option in American Politics option must take a minimum of 40 credits of political science, including one 300-400 level course in four of the five major fields. 21 of the 40 credits must be in upper-division courses. No more than 7 credits of independent study (PSCI 492) and internship (PSCI 498) combined may count toward the 40 required credits. In addition, no more than 15 total credits in special topics courses (e.g., PSCI 320, 391) may count toward the 40 required credits. A maximum of 60 PSCI credits can count towards the Political Science Major.
Students can use the same 300/400 course to fulfill both the upper-division core and the option requirements, but may not double-count the course credits.

Required Lower Division Courses

Rule: Must complete all of the following courses:

	Course	Credits
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
	PSCI 220S - Intro to Comparative Govt Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures.	3 Credits
	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
	PSCI 250E - Intro to Political Theory Offered spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to define the nature of the "good" society.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Required Upper Division Courses

Rule: Must complete the following course:

	Course	Credits
	PSCI 400 - Adv Writing in Pol Science (R-3) Offered every term. Coreq., any upper-division political science course. Designed for political science students to satisfy their upper-division writing expectation for the major or for students desiring additional experience in writing.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Degree Electives

Rule: Must complete 5 of the following courses

	Course	Credits
	PSCI 340 - Exp Offering: American Govt (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 6 Credits
	PSCI 341 - Political Parties and Election Offered spring even-numbered years. Prereq., PSCI 210S and junior standing. Political party organization, nominations, campaigns and elections in the United States.	3 Credits
	PSCI 342 - Media, Public Opinion, Polling Offered intermittently. Prereq., PSCI 210S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.	3 Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 346 - American Presidency Offered autumn. Prereq., PSCI 210S. The constitutional foundation and evolution of the executive branch, the structure of the office and executive functions and powers.	3 Credits
	PSCI 348 - US Multicultural Politics Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.	3 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 370 - Courts and Judicial Politics Offered spring. Prereq., PSCI 210S and junior standing. Introduction to American courts with emphasis on judicial policy making.	3 Credits
	PSCI 440 - Exp Offering: American Govt (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 9 Credits

	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
	PSCI 444 - Am Political Participation Offered intermittently. Prereq., PSCI 210S. Examination of the individual and institutional factors affecting voter turnout, the influences on voter decision making, and non-electoral forms of participation in the United States.	3 Credits
	PSCI 445 - Political Psychology Offered intermittently. Applies psychological theories such as personality, emotion, cognition, and social influence to political attitudes and actions, including political opinion formation, conformity, prejudice, genocide, and political leadership.	3 Credits
	PSCI 468 - Public Policy Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Required Upper Division Field Courses

Rule: Must complete 1 upper division course in 4 of the 5 fields:

Note: Any field course can also be counted toward a Political science option. Student must take an additional four courses from the following options.

Minimum Required Grade: C-

12 Total Credits Required

Public Administration

Rule: May select one of the following courses:

	Course	Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 360 - Exp Offering: Public Admin (R-6) Offered intermittently. Experimental or onetime offerings in the subfield of public administration or policy.	1 To 6 Credits
	PSCI 361 - Public Administration Offered autumn. Prereq., PSCI 210S and junior standing. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.	3 Credits

	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 391 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PSCI 448 - Health Care Policy offered autumn. Focuses on sociopolitical environment influencing health policy in the United States including health politics and policy development, political structure and process, health care financing, public opinion and special interest groups, political leadership, policy reform and global health.	3 Credits
	PSCI 449 - Environmental Health Policy Offered spring. Focuses on environmental health policy in the U.S., its evolution, current status, and areas of change.	3 Credits
	PSCI 461 - Administrative Law Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
	PSCI 466 - Nonprofit Adm & Pub Svc Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.	3 Credits
	PSCI 467 - Adv Nonprofit Adm Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.	3 Credits
	PSCI 468 - Public Policy Cycle Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits

	PSCI 469 - Ethics and Public Policy Offered spring. Focuses on the ethical challenges faced by public servants in government agencies.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Political Theory

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 350 - Exp Offering: Political Theory (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 6 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 354 - Contemp Issues in Pol Theory (R-6) Offered intermittently in autumn. Prereq., PSCI 250E or consent of instr. and junior standing. Topics variable. Research and assessment of current political and social issues through the study of a representative text and related literature.	3 Credits
	PSCI 450 - Exp Offering: Political Theory (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 9 Credits
	PSCI 451 - Ancient & Medieval Pol Phil Offered autumn. Prereq., PSCI 250E or consent of instr and junior standing. The classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of ?legitimate? authority.	3 Credits
	PSCI 452 - Utopianism and its Critics Offered intermittently. Prereq., junior standing. Examination of classic and contemporary utopias, from Plato's Republicto Barbara Goodwin's Justice by Lottery as well as their critics.	3 Credits
	PSCI 453 - Modern Political Theory Offered autumn. Prereq., PSCI 250E or consent of instr and Junior Level or higher. Analysis of Hobbes, Locke, Rousseau, Burke, James and John Stuart Mill, Marx and Lenin with regard to their "modern" views of the purpose(s) of political inquiry, the nature of citizenship and popular sovereignty. Particular attention to contemporary implications of ideas.	3 Credits

Minimum Required Grade: C-	0-3 Total Credits Required

Comparative Government

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 320 - Exp Offering: Comp Politics (R- 6) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 6 Credits
	PSCI 321 - Post-Communist Politics Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of politics in post-communist states with an emphasis on Eastern Europe and Russia.	3 Credits
	PSCI 322 - Politics of Europe Offered autumn. Prereq., junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.	3 Credits
	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits
	PSCI 325 - Politics of Latin America Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 327 - Politics of Mexico Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.	3 Credits
	PSCI 328 - Politics of China Prereq., junior standing or consent of instr. Institutions and political development in China.	3 Credits
	PSCI 329 - Politics of Japan Offered autumn. Prereq., junior standing or consent of instr. Institutions and political development in Japan.	3 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits

	PSCI 421 - Comparative Legal Systems Prereq., junior standing. Emphasis on non-western approaches to law, specifically Islamic law and the legal systems of East Asia. Focus on constitutional law, judicial process, civil liberties, and law enforcement and corrections.	3 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

International Relations

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 330 - Exp Offering: Intrnt Relations (R-6) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 6 Credits
	PSCI 332 - Global Environmental Pol. Offered fall. Prereq. PSCI 230X and junior standing or consent of instructor. This course focuses on the unique set of collective action problems faced by global actors in the governance of the environment and the institutions they use to overcome those problems. Themes include the tragedy of the commons, climate change, and environmental security.	3 Credits
	PSCI 334 - International Security Offered Spring. Prereq. PSCI 230 and junior standing or consent of instr. Explores the meaning, sources, and future of human, national, and international security. Considers a range of historical and contemporary threats (interstate war, civil war, terrorism, crime, natural disaster, human accident, disease, and deprivation), assesses the vulnerability of individuals and states to each threat, and evaluates national and international strategies to reduce them.	3 Credits
	PSCI 335 - American Foreign Policy Prereq., PSCI 230X and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.	3 Credits

	PSCI 336 - European Union Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of political and economic integration in Europe with a focus on the political system of the European Union.	3 Credits
	PSCI 337 - Model United Nations Offered autumn. Prereq., sophomore standing or consent of instr. History and structure of the UN. Contemporary global problems, and the UN's role in addressing them. Class has both active learning and service learning dimensions. Students plan, organize and run the annual Montana Model UN high school conference.	3 Credits
	PSCI 430 - Exp Offering: Intrnt Relations (R-9) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 9 Credits
	PSCI 431 - Politics of Global Migration Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.	3 Credits
	PSCI 433 - International Law & Org Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

American Politics

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 340 - Exp Offering: American Govt (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 6 Credits
	PSCI 341 - Political Parties and Election Offered spring even-numbered years. Prereq., PSCI 210S and junior standing. Political party organization, nominations, campaigns and elections in the United States.	3 Credits

	PSCI 342 - Media, Public Opinion, Polling Offered intermittently. Prereq., PSCI 210S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.	3 Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 346 - American Presidency Offered autumn. Prereq., PSCI 210S. The constitutional foundation and evolution of the executive branch, the structure of the office and executive functions and powers.	3 Credits
	PSCI 348 - US Multicultural Politics Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.	3 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 370 - Courts and Judicial Politics Offered spring. Prereq., PSCI 210S and junior standing. Introduction to American courts with emphasis on judicial policy making.	3 Credits
	PSCI 440 - Exp Offering: American Govt (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 9 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
	PSCI 444 - Am Political Participation Offered intermittently. Prereq., PSCI 210S. Examination of the individual and institutional factors affecting voter turnout, the influences on voter decision making, and non-electoral forms of participation in the United States.	3 Credits

	PSCI 445 - Political Psychology Offered intermittently. Applies psychological theories such as personality, emotion, cognition, and social influence to political attitudes and actions, including political opinion formation, conformity, prejudice, genocide, and political leadership.	3 Credits
	PSCI 468 - Public Policy Cycle Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

International Relations and Comparative Politics

Bachelor of Arts - Political Science; Internat Rel & Compar Politics Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 40

Required Cumulative GPA: 2.0

Note: Students majoring in Political Science with an option in International Relations and Comparative Politics must take a minimum of 40 credits of political science. 21 of the 40 credits must be in upper-division courses. No more than 7 credits of independent study (PSCI 492) and internship (PSCI 498) combined may count toward the 40 required credits. In addition, no more than 15 total credits in special topics courses (e.g., PSCI 320, 391) may count toward the 40 required credits. A maximum of 60 PSCI credits can count towards the Political Science Major.
Students can use the same 300/400 course to fulfill both the upper-division core and the option requirements, but may not double-count the course credits.
It is strongly recommended that a student complete either a) a minimum of two years of foreign language study or b) an internship or study-abroad program.

Required Lower Division Courses

Rule: Must complete all of the following courses:

	Course	**Credits**
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
	PSCI 220S - Intro to Comparative Govt Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures.	3 Credits

	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
	PSCI 250E - Intro to Political Theory Offered spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to define the nature of the "good" society.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Required Upper Division Course

Rule: Must complete the following course:

	Course	Credits
	PSCI 400 - Adv Writing in Pol Science (R-3) Offered every term. Coreq., any upper-division political science course. Designed for political science students to satisfy their upper-division writing expectation for the major or for students desiring additional experience in writing.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Degree Electives

Rule: Must complete the following subcategories

Note: 3 of these credits can be counted toward fulfilling the upper-division core.

15-18 Total Credits Required

International Relations Field Courses

Rule: Must complete 3 of the following courses

	Course	Credits
	PSCI 330 - Exp Offering: Intrnt Relations (R-6) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 6 Credits
	PSCI 332 - Global Environmental Pol. Offered fall. Prereq. PSCI 230X and junior standing or consent of instructor. This course focuses on the unique set of collective action problems faced by global actors in the governance of the environment and the institutions they use to overcome those problems. Themes include the tragedy of the commons, climate change, and environmental security.	3 Credits

	PSCI 334 - International Security Offered Spring. Prereq. PSCI 230 and junior standing or consent of instr. Explores the meaning, sources, and future of human, national, and international security. Considers a range of historical and contemporary threats (interstate war, civil war, terrorism, crime, natural disaster, human accident, disease, and deprivation), assesses the vulnerability of individuals and states to each threat, and evaluates national and international strategies to reduce them.	3 Credits
	PSCI 335 - American Foreign Policy Prereq., PSCI 230X and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.	3 Credits
	PSCI 336 - European Union Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of political and economic integration in Europe with a focus on the political system of the European Union.	3 Credits
	PSCI 337 - Model United Nations Offered autumn. Prereq., sophomore standing or consent of instr. History and structure of the UN. Contemporary global problems, and the UN's role in addressing them. Class has both active learning and service learning dimensions. Students plan, organize and run the annual Montana Model UN high school conference.	3 Credits
	PSCI 430 - Exp Offering: Intrnt Relations (R-9) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 9 Credits
	PSCI 431 - Politics of Global Migration Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.	3 Credits
	PSCI 433 - International Law & Org Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Comparative Politics Field Courses

Rule: Must complete 3 of the following courses

	Course	Credits
	PSCI 320 - Exp Offering: Comp Politics (R- 6) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 6 Credits
	PSCI 321 - Post-Communist Politics Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of politics in post-communist states with an emphasis on Eastern Europe and Russia.	3 Credits
	PSCI 322 - Politics of Europe Offered autumn. Prereq., junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.	3 Credits
	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits
	PSCI 325 - Politics of Latin America Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 327 - Politics of Mexico Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.	3 Credits
	PSCI 328 - Politics of China Prereq., junior standing or consent of instr. Institutions and political development in China.	3 Credits
	PSCI 329 - Politics of Japan Offered autumn. Prereq., junior standing or consent of instr. Institutions and political development in Japan.	3 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits

Minimum Required Grade: C-	9 Total Credits Required

Required Upper Division Field Courses

Rule: Must complete 1 upper division course in 4 of the 5 fields:
Note: Any field course can also be counted toward a Political Science option.
Minimum Required Grade: C-
12 Total Credits Required

Public Administration

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 360 - Exp Offering: Public Admin (R-6) Offered intermittently. Experimental or onetime offerings in the subfield of public administration or policy.	1 To 6 Credits
	PSCI 361 - Public Administration Offered autumn. Prereq., PSCI 210S and junior standing. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 391 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PSCI 448 - Health Care Policy offered autumn. Focuses on sociopolitical environment influencing health policy in the United States including health politics and policy development, political structure and process, health care financing, public opinion and special interest groups, political leadership, policy reform and global health.	3 Credits
	PSCI 449 - Environmental Health Policy Offered spring. Focuses on environmental health policy in the U.S., its evolution, current status, and areas of change.	3 Credits

	PSCI 461 - Administrative Law Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
	PSCI 466 - Nonprofit Adm & Pub Svc Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.	3 Credits
	PSCI 467 - Adv Nonprofit Adm Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.	3 Credits
	PSCI 468 - Public Policy Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
	PSCI 469 - Ethics and Public Policy Offered spring. Focuses on the ethical challenges faced by public servants in government agencies.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Political Theory

Rule: May select 1 of the following courses:

	Course	**Credits**
	PSCI 350 - Exp Offering: Political Theory (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 6 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits

	PSCI 354 - Contemp Issues in Pol Theory (R-6) Offered intermittently in autumn. Prereq., PSCI 250E or consent of instr. and junior standing. Topics variable. Research and assessment of current political and social issues through the study of a representative text and related literature.	3 Credits
	PSCI 450 - Exp Offering: Political Theory (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 9 Credits
	PSCI 451 - Ancient & Medieval Pol Phil Offered autumn. Prereq., PSCI 250E or consent of instr and junior standing. The classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of ?legitimate? authority.	3 Credits
	PSCI 452 - Utopianism and its Critics Offered intermittently. Prereq., junior standing. Examination of classic and contemporary utopias, from Plato's Republicto Barbara Goodwin's Justice by Lottery as well as their critics.	3 Credits
	PSCI 453 - Modern Political Theory Offered autumn. Prereq., PSCI 250E or consent of instr and Junior Level or higher. Analysis of Hobbes, Locke, Rousseau, Burke, James and John Stuart Mill, Marx and Lenin with regard to their "modern" views of the purpose(s) of political inquiry, the nature of citizenship and popular sovereignty. Particular attention to contemporary implications of ideas.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Comparative Government

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 320 - Exp Offering: Comp Politics (R- 6) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 6 Credits
	PSCI 321 - Post-Communist Politics Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of politics in post-communist states with an emphasis on Eastern Europe and Russia.	3 Credits
	PSCI 322 - Politics of Europe Offered autumn. Prereq., junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.	3 Credits

	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits
	PSCI 325 - Politics of Latin America Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 327 - Politics of Mexico Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.	3 Credits
	PSCI 328 - Politics of China Prereq., junior standing or consent of instr. Institutions and political development in China.	3 Credits
	PSCI 329 - Politics of Japan Offered autumn. Prereq., junior standing or consent of instr. Institutions and political development in Japan.	3 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

International Relations

Rule: May select 1 of the following courses:

	Course	**Credits**
	PSCI 330 - Exp Offering: Intrnt Relations (R-6) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 6 Credits

	PSCI 332 - Global Environmental Pol. Offered fall. Prereq. PSCI 230X and junior standing or consent of instructor. This course focuses on the unique set of collective action problems faced by global actors in the governance of the environment and the institutions they use to overcome those problems. Themes include the tragedy of the commons, climate change, and environmental security.	3 Credits
	PSCI 334 - International Security Offered Spring. Prereq. PSCI 230 and junior standing or consent of instr. Explores the meaning, sources, and future of human, national, and international security. Considers a range of historical and contemporary threats (interstate war, civil war, terrorism, crime, natural disaster, human accident, disease, and deprivation), assesses the vulnerability of individuals and states to each threat, and evaluates national and international strategies to reduce them.	3 Credits
	PSCI 335 - American Foreign Policy Prereq., PSCI 230X and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.	3 Credits
	PSCI 336 - European Union Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of political and economic integration in Europe with a focus on the political system of the European Union.	3 Credits
	PSCI 337 - Model United Nations Offered autumn. Prereq., sophomore standing or consent of instr. History and structure of the UN. Contemporary global problems, and the UN's role in addressing them. Class has both active learning and service learning dimensions. Students plan, organize and run the annual Montana Model UN high school conference.	3 Credits
	PSCI 430 - Exp Offering: Intrnt Relations (R-9) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 9 Credits
	PSCI 431 - Politics of Global Migration Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.	3 Credits
	PSCI 432 - Inter-American Relations Offered intermittently. Prereq., PSCI 325 or consent of instr. Examination of problems, issues and concepts in the international relations of nations of the western hemisphere.	3 Credits
	PSCI 433 - International Law & Org Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.	3 Credits

	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

American Politics

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 340 - Exp Offering: American Govt (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 6 Credits
	PSCI 341 - Political Parties and Election Offered spring even-numbered years. Prereq., PSCI 210S and junior standing. Political party organization, nominations, campaigns and elections in the United States.	3 Credits
	PSCI 342 - Media, Public Opinion, Polling Offered intermittently. Prereq., PSCI 210S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.	3 Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 346 - American Presidency Offered autumn. Prereq., PSCI 210S. The constitutional foundation and evolution of the executive branch, the structure of the office and executive functions and powers.	3 Credits
	PSCI 348 - US Multicultural Politics Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.	3 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits

	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 370 - Courts and Judicial Politics Offered spring. Prereq., PSCI 210S and junior standing. Introduction to American courts with emphasis on judicial policy making.	3 Credits
	PSCI 440 - Exp Offering: American Govt (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 9 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
	PSCI 444 - Am Political Participation Offered intermittently. Prereq., PSCI 210S. Examination of the individual and institutional factors affecting voter turnout, the influences on voter decision making, and non-electoral forms of participation in the United States.	3 Credits
	PSCI 445 - Political Psychology Offered intermittently. Applies psychological theories such as personality, emotion, cognition, and social influence to political attitudes and actions, including political opinion formation, conformity, prejudice, genocide, and political leadership.	3 Credits
	PSCI 468 - Public Policy Cycle Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Public Administration

Bachelor of Arts - Political Science; Public Administration Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 40

Required Cumulative GPA: 2.0

Note: Students majoring in Political Science with an option in Public Administration must take a minimum of 40 credits of political science, including one 300-400 level course in four of the five major fields. 21 of the 40 credits must be in upper-division courses. No more than 7 credits of independent study (PSCI 492) and internship (PSCI 498) combined may count toward the 40 required credits. In addition, no more than 15 total credits in special topics courses (e.g., PSCI 320), 391) may count toward the 40 required credits. A maximum of

60 PSCI credits can count towards the Political Science Major.
Students can use the same 300/400 course to fulfill both the upper-division core and the option requirements, but may not double-count the course credits.
A legislative or administrative internship is strongly recommended.

Required Lower Division Courses

Rule: Must complete all of the following courses:

	Course	Credits
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
	PSCI 220S - Intro to Comparative Govt Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures.	3 Credits
	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
	PSCI 250E - Intro to Political Theory Offered spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to define the nature of the "good" society.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Required Upper Division Courses

Rule: Must complete the following courses

	Course	Credits
	PSCI 361 - Public Administration Offered autumn. Prereq., PSCI 210S and junior standing. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.	3 Credits
	PSCI 400 - Adv Writing in Pol Science (R-3) Offered every term. Coreq., any upper-division political science course. Designed for political science students to satisfy their upper-division writing expectation for the major or for students desiring additional experience in writing.	1 Credits
Minimum Required Grade: C-		4 Total Credits Required

Degree Electives

Rule: Must complete 4 of the following courses

	Course	Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 360 - Exp Offering: Public Admin (R-6) Offered intermittently. Experimental or onetime offerings in the subfield of public administration or policy.	1 To 6 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 460 - Exp Offering: Public Admin (R-9) Offered intermittently. Prereq., junior standing. Experimental or onetime offerings in the subfield of public administration or policy.	1 To 9 Credits
	PSCI 461 - Administrative Law Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
	PSCI 466 - Nonprofit Adm & Pub Svc Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.	3 Credits
	PSCI 467 - Adv Nonprofit Adm Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.	3 Credits
	PSCI 468 - Public Policy Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits

	PSCI 469 - Ethics and Public Policy Offered spring. Focuses on the ethical challenges faced by public servants in government agencies.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Required Upper Division Field Courses

Rule: Must complete 1 upper division course in 4 of the 5 fields:
Note: Any field course can also be counted toward a Political science option.
Minimum Required Grade: C-
12 Total Credits Required

Public Administration

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 360 - Exp Offering: Public Admin (R-6) Offered intermittently. Experimental or onetime offerings in the subfield of public administration or policy.	1 To 6 Credits
	PSCI 361 - Public Administration Offered autumn. Prereq., PSCI 210S and junior standing. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 391 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PSCI 448 - Health Care Policy offered autumn. Focuses on sociopolitical environment influencing health policy in the United States including health politics and policy development, political structure and process, health care financing, public opinion and special interest groups, political leadership, policy reform and global health.	3 Credits

	PSCI 449 - Environmental Health Policy Offered spring. Focuses on environmental health policy in the U.S., its evolution, current status, and areas of change.	3 Credits
	PSCI 461 - Administrative Law Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
	PSCI 466 - Nonprofit Adm & Pub Svc Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.	3 Credits
	PSCI 467 - Adv Nonprofit Adm Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.	3 Credits
	PSCI 468 - Public Policy Cycle Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
	PSCI 469 - Ethics and Public Policy Offered spring. Focuses on the ethical challenges faced by public servants in government agencies.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Political Theory

Rule: May select 1 of the following courses:

	Course	**Credits**
	PSCI 350 - Exp Offering: Political Theory (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 6 Credits

	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 354 - Contemp Issues in Pol Theory (R-6) Offered intermittently in autumn. Prereq., PSCI 250E or consent of instr. and junior standing. Topics variable. Research and assessment of current political and social issues through the study of a representative text and related literature.	3 Credits
	PSCI 450 - Exp Offering: Political Theory (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 9 Credits
	PSCI 451 - Ancient & Medieval Pol Phil Offered autumn. Prereq., PSCI 250E or consent of instr and junior standing. The classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of ?legitimate? authority.	3 Credits
	PSCI 452 - Utopianism and its Critics Offered intermittently. Prereq., junior standing. Examination of classic and contemporary utopias, from Plato's Republicto Barbara Goodwin's Justice by Lottery as well as their critics.	3 Credits
	PSCI 453 - Modern Political Theory Offered autumn. Prereq., PSCI 250E or consent of instr and Junior Level or higher. Analysis of Hobbes, Locke, Rousseau, Burke, James and John Stuart Mill, Marx and Lenin with regard to their "modern" views of the purpose(s) of political inquiry, the nature of citizenship and popular sovereignty. Particular attention to contemporary implications of ideas.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Comparative Government

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 320 - Exp Offering: Comp Politics (R- 6) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 6 Credits
	PSCI 321 - Post-Communist Politics Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of politics in post-communist states with an emphasis on Eastern Europe and Russia.	3 Credits

	PSCI 322 - Politics of Europe Offered autumn. Prereq., junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.	3 Credits
	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits
	PSCI 325 - Politics of Latin America Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 327 - Politics of Mexico Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.	3 Credits
	PSCI 328 - Politics of China Prereq., junior standing or consent of instr. Institutions and political development in China.	3 Credits
	PSCI 329 - Politics of Japan Offered autumn. Prereq., junior standing or consent of instr. Institutions and political development in Japan.	3 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

International Relations

Rule: May select 1 of the following courses:

	Course	Credits

	PSCI 330 - Exp Offering: Intrnt Relations (R-6) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 6 Credits
	PSCI 332 - Global Environmental Pol. Offered fall. Prereq. PSCI 230X and junior standing or consent of instructor. This course focuses on the unique set of collective action problems faced by global actors in the governance of the environment and the institutions they use to overcome those problems. Themes include the tragedy of the commons, climate change, and environmental security.	3 Credits
	PSCI 334 - International Security Offered Spring. Prereq. PSCI 230 and junior standing or consent of instr. Explores the meaning, sources, and future of human, national, and international security. Considers a range of historical and contemporary threats (interstate war, civil war, terrorism, crime, natural disaster, human accident, disease, and deprivation), assesses the vulnerability of individuals and states to each threat, and evaluates national and international strategies to reduce them.	3 Credits
	PSCI 335 - American Foreign Policy Prereq., PSCI 230X and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.	3 Credits
	PSCI 336 - European Union Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of political and economic integration in Europe with a focus on the political system of the European Union.	3 Credits
	PSCI 337 - Model United Nations Offered autumn. Prereq., sophomore standing or consent of instr. History and structure of the UN. Contemporary global problems, and the UN's role in addressing them. Class has both active learning and service learning dimensions. Students plan, organize and run the annual Montana Model UN high school conference.	3 Credits
	PSCI 430 - Exp Offering: Intrnt Relations (R-9) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 9 Credits
	PSCI 431 - Politics of Global Migration Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.	3 Credits
	PSCI 433 - International Law & Org Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.	3 Credits

	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

American Politics

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 340 - Exp Offering: American Govt (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 6 Credits
	PSCI 341 - Political Parties and Election Offered spring even-numbered years. Prereq., PSCI 210S and junior standing. Political party organization, nominations, campaigns and elections in the United States.	3 Credits
	PSCI 342 - Media, Public Opinion, Polling Offered intermittently. Prereq., PSCI 210S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.	3 Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 346 - American Presidency Offered autumn. Prereq., PSCI 210S. The constitutional foundation and evolution of the executive branch, the structure of the office and executive functions and powers.	3 Credits
	PSCI 348 - US Multicultural Politics Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.	3 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits

	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 370 - Courts and Judicial Politics Offered spring. Prereq., PSCI 210S and junior standing. Introduction to American courts with emphasis on judicial policy making.	3 Credits
	PSCI 440 - Exp Offering: American Govt (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 9 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
	PSCI 444 - Am Political Participation Offered intermittently. Prereq., PSCI 210S. Examination of the individual and institutional factors affecting voter turnout, the influences on voter decision making, and non-electoral forms of participation in the United States.	3 Credits
	PSCI 445 - Political Psychology Offered intermittently. Applies psychological theories such as personality, emotion, cognition, and social influence to political attitudes and actions, including political opinion formation, conformity, prejudice, genocide, and political leadership.	3 Credits
	PSCI 468 - Public Policy Cycle Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Public Law

Bachelor of Arts - Political Science; Public Law Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 40

Required Cumulative GPA: 2.0

Note: Students majoring in Political Science with an option in Public Law must take a minimum of 40 credits of political science, including one 300-400 level course in four of the five major fields. 21 of the 40 credits must be in upper-division courses. No more than 7 credits of independent study (PSCI 492) and internship (PSCI 498) combined may count toward the 40 required credits. In addition, no more than 15 total credits in special topics courses (e.g., PSCI 320, 391) may count toward the 40 required credits. A maximum of 60 PSCI

credits can count towards the Political Science Major.
Students can use the same 300/400 course to fulfill both the upper-division core and the option requirements, but may not double-count the course credits.

Required Lower Division Courses

Rule: Must complete all of the following courses:

	Course	Credits
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
	PSCI 220S - Intro to Comparative Govt Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures.	3 Credits
	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
	PSCI 250E - Intro to Political Theory Offered spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to define the nature of the "good" society.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Required Upper Division Courses

Rule: Must complete all of the following courses:

	Course	Credits
	PSCI 370 - Courts and Judicial Politics Offered spring. Prereq., PSCI 210S and junior standing. Introduction to American courts with emphasis on judicial policy making.	3 Credits
	PSCI 400 - Adv Writing in Pol Science (R-3) Offered every term. Coreq., any upper-division political science course. Designed for political science students to satisfy their upper-division writing expectation for the major or for students desiring additional experience in writing.	1 Credits
Minimum Required Grade: C-		4 Total Credits Required

Degree Electives

Rule: Must complete 4 of the following courses

	Course	Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 433 - International Law & Org Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.	3 Credits
	PSCI 461 - Administrative Law Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
	PSCI 471 - American Constitutional Law Offered autumn. Prereq., junior standing or consent of instr. Survey of U.S. Supreme Court's interpretation of the U.S. Constitution's provisions on separation of powers, federalism, civil rights, and civil liberties.	3 Credits
	PSCI 474 - Civil Rights Seminar Offered spring. Prereq., PSCI 471 or consent of instr. Intensive analysis, discussion, and writing about key U.S. Supreme Court constitutional cases on expression, religion, privacy, criminal justice, and discrimination.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Required Upper Division Field Courses

Rule: Must complete 1 upper division course in 4 of the 5 fields:
Note: Any field course can also be counted toward a Political science option.
Minimum Required Grade: C-
12 Total Credits Required

Public Administration

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits

	PSCI 360 - Exp Offering: Public Admin (R-6) Offered intermittently. Experimental or onetime offerings in the subfield of public administration or policy.	1 To 6 Credits
	PSCI 361 - Public Administration Offered autumn. Prereq., PSCI 210S and junior standing. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 391 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PSCI 448 - Health Care Policy offered autumn. Focuses on sociopolitical environment influencing health policy in the United States including health politics and policy development, political structure and process, health care financing, public opinion and special interest groups, political leadership, policy reform and global health.	3 Credits
	PSCI 449 - Environmental Health Policy Offered spring. Focuses on environmental health policy in the U.S., its evolution, current status, and areas of change.	3 Credits
	PSCI 461 - Administrative Law Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
	PSCI 466 - Nonprofit Adm & Pub Svc Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.	3 Credits
	PSCI 467 - Adv Nonprofit Adm Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.	3 Credits

	PSCI 468 - Public Policy Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
	PSCI 469 - Ethics and Public Policy Offered spring. Focuses on the ethical challenges faced by public servants in government agencies.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Political Theory

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 350 - Exp Offering: Political Theory (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 6 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 354 - Contemp Issues in Pol Theory (R-6) Offered intermittently in autumn. Prereq., PSCI 250E or consent of instr. and junior standing. Topics variable. Research and assessment of current political and social issues through the study of a representative text and related literature.	3 Credits
	PSCI 450 - Exp Offering: Political Theory (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 9 Credits
	PSCI 451 - Ancient & Medieval Pol Phil Offered autumn. Prereq., PSCI 250E or consent of instr and junior standing. The classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of ?legitimate? authority.	3 Credits
	PSCI 452 - Utopianism and its Critics Offered intermittently. Prereq., junior standing. Examination of classic and contemporary utopias, from Plato's Republicto Barbara Goodwin's Justice by Lottery as well as their critics.	3 Credits

	PSCI 453 - Modern Political Theory Offered autumn. Prereq., PSCI 250E or consent of instr and Junior Level or higher. Analysis of Hobbes, Locke, Rousseau, Burke, James and John Stuart Mill, Marx and Lenin with regard to their "modern" views of the purpose(s) of political inquiry, the nature of citizenship and popular sovereignty. Particular attention to contemporary implications of ideas.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Comparative Government

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 320 - Exp Offering: Comp Politics (R- 6) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 6 Credits
	PSCI 321 - Post-Communist Politics Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of politics in post-communist states with an emphasis on Eastern Europe and Russia.	3 Credits
	PSCI 322 - Politics of Europe Offered autumn. Prereq., junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.	3 Credits
	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits
	PSCI 325 - Politics of Latin America Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 327 - Politics of Mexico Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.	3 Credits
	PSCI 328 - Politics of China Prereq., junior standing or consent of instr. Institutions and political development in China.	3 Credits

	PSCI 329 - Politics of Japan Offered autumn. Prereq., junior standing or consent of instr. Institutions and political development in Japan.	3 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

International Relations

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 330 - Exp Offering: Intrnt Relations (R-6) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 6 Credits
	PSCI 332 - Global Environmental Pol. Offered fall. Prereq. PSCI 230X and junior standing or consent of instructor. This course focuses on the unique set of collective action problems faced by global actors in the governance of the environment and the institutions they use to overcome those problems. Themes include the tragedy of the commons, climate change, and environmental security.	3 Credits
	PSCI 334 - International Security Offered Spring. Prereq. PSCI 230 and junior standing or consent of instr. Explores the meaning, sources, and future of human, national, and international security. Considers a range of historical and contemporary threats (interstate war, civil war, terrorism, crime, natural disaster, human accident, disease, and deprivation), assesses the vulnerability of individuals and states to each threat, and evaluates national and international strategies to reduce them.	3 Credits
	PSCI 335 - American Foreign Policy Prereq., PSCI 230X and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.	3 Credits

	PSCI 336 - European Union Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of political and economic integration in Europe with a focus on the political system of the European Union.	3 Credits
	PSCI 337 - Model United Nations Offered autumn. Prereq., sophomore standing or consent of instr. History and structure of the UN. Contemporary global problems, and the UN's role in addressing them. Class has both active learning and service learning dimensions. Students plan, organize and run the annual Montana Model UN high school conference.	3 Credits
	PSCI 430 - Exp Offering: Intrnt Relations (R-9) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 9 Credits
	PSCI 431 - Politics of Global Migration Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.	3 Credits
	PSCI 433 - International Law & Org Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

American Politics

Rule: May select 1 of the following courses:

	Course	**Credits**
	PSCI 340 - Exp Offering: American Govt (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 6 Credits
	PSCI 341 - Political Parties and Election Offered spring even-numbered years. Prereq., PSCI 210S and junior standing. Political party organization, nominations, campaigns and elections in the United States.	3 Credits

	PSCI 342 - Media, Public Opinion, Polling Offered intermittently. Prereq., PSCI 210S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.	3 Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 346 - American Presidency Offered autumn. Prereq., PSCI 210S. The constitutional foundation and evolution of the executive branch, the structure of the office and executive functions and powers.	3 Credits
	PSCI 348 - US Multicultural Politics Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.	3 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 370 - Courts and Judicial Politics Offered spring. Prereq., PSCI 210S and junior standing. Introduction to American courts with emphasis on judicial policy making.	3 Credits
	PSCI 440 - Exp Offering: American Govt (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 9 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
	PSCI 444 - Am Political Participation Offered intermittently. Prereq., PSCI 210S. Examination of the individual and institutional factors affecting voter turnout, the influences on voter decision making, and non-electoral forms of participation in the United States.	3 Credits

	PSCI 445 - Political Psychology Offered intermittently. Applies psychological theories such as personality, emotion, cognition, and social influence to political attitudes and actions, including political opinion formation, conformity, prejudice, genocide, and political leadership.	3 Credits
	PSCI 468 - Public Policy Cycle Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Teaching Government

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Bachelor of Arts - Political Science; Track: Teaching Government

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 40

Required Cumulative GPA: 2.0

Note: Students with a teaching major in political science must also complete a teaching major or minor in a second field. For the political science teaching major, students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching.

Political science major requirements include: a minimum of 37 credits of political science, including one 300-400 level course in four of the five major fields. 21 of the 37 credits must be in upper-division courses. No more than 7 credits of independent study (PSCI 492) and internship (PSCI 498) combined may count toward the 37 required credits. In addition, no more than 15 total credits in special topics courses (e.g., PSCI 320, 391) may count toward the 37 required credits. A maximum of 60 PSCI credits can count towards the Political Science Major.
PSCI courses may only count toward one category of requirements.

Lower Division Core

Rule: Must complete all of the following courses:

	Course	Credits
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
	PSCI 220S - Intro to Comparative Govt Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures.	3 Credits
	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
	PSCI 250E - Intro to Political Theory Offered spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to define the nature of the "good" society.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper Division Core

Rule: Must complete the following course:

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Social Studies.

	Course	Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits

	PSCI 400 - Adv Writing in Pol Science (R-3) Offered every term. Coreq., any upper-division political science course. Designed for political science students to satisfy their upper-division writing expectation for the major or for students desiring additional experience in writing.	1 Credits
Minimum Required Grade: C-		4 Total Credits Required

Rule: Complete four upper-division electives.
Minimum Required Grade: C-
12 Total Credits Required

Upper Division Field Courses

Rule: Must complete 1 course in 4 of the following 5 fields:

Note: Any field course can also be counted toward a Political science option. Student must take an additional four courses from the following options.
Minimum Required Grade: C-
12 Total Credits Required

Public Administration

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 360 - Exp Offering: Public Admin (R-6) Offered intermittently. Experimental or onetime offerings in the subfield of public administration or policy.	1 To 6 Credits
	PSCI 361 - Public Administration Offered autumn. Prereq., PSCI 210S and junior standing. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 391 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits

	PSCI 448 - Health Care Policy offered autumn. Focuses on sociopolitical environment influencing health policy in the United States including health politics and policy development, political structure and process, health care financing, public opinion and special interest groups, political leadership, policy reform and global health.	3 Credits
	PSCI 449 - Environmental Health Policy Offered spring. Focuses on environmental health policy in the U.S., its evolution, current status, and areas of change.	3 Credits
	PSCI 461 - Administrative Law Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
	PSCI 466 - Nonprofit Adm & Pub Svc Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.	3 Credits
	PSCI 467 - Adv Nonprofit Adm Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.	3 Credits
	PSCI 468 - Public Policy Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
	PSCI 469 - Ethics and Public Policy Offered spring. Focuses on the ethical challenges faced by public servants in government agencies.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Political Theory

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 350 - Exp Offering: Political Theory (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 6 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 354 - Contemp Issues in Pol Theory (R-6) Offered intermittently in autumn. Prereq., PSCI 250E or consent of instr. and junior standing. Topics variable. Research and assessment of current political and social issues through the study of a representative text and related literature.	3 Credits
	PSCI 450 - Exp Offering: Political Theory (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 9 Credits
	PSCI 451 - Ancient & Medieval Pol Phil Offered autumn. Prereq., PSCI 250E or consent of instr and junior standing. The classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of ?legitimate? authority.	3 Credits
	PSCI 452 - Utopianism and its Critics Offered intermittently. Prereq., junior standing. Examination of classic and contemporary utopias, from Plato's Republicto Barbara Goodwin's Justice by Lottery as well as their critics.	3 Credits
	PSCI 453 - Modern Political Theory Offered autumn. Prereq., PSCI 250E or consent of instr and Junior Level or higher. Analysis of Hobbes, Locke, Rousseau, Burke, James and John Stuart Mill, Marx and Lenin with regard to their "modern" views of the purpose(s) of political inquiry, the nature of citizenship and popular sovereignty. Particular attention to contemporary implications of ideas.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Comparative Government

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 320 - Exp Offering: Comp Politics (R- 6) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 6 Credits

	PSCI 321 - Post-Communist Politics Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of politics in post-communist states with an emphasis on Eastern Europe and Russia.	3 Credits
	PSCI 322 - Politics of Europe Offered autumn. Prereq., junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.	3 Credits
	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits
	PSCI 325 - Politics of Latin America Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 327 - Politics of Mexico Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.	3 Credits
	PSCI 328 - Politics of China Prereq., junior standing or consent of instr. Institutions and political development in China.	3 Credits
	PSCI 329 - Politics of Japan Offered autumn. Prereq., junior standing or consent of instr. Institutions and political development in Japan.	3 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits
	PSCI 421 - Comparative Legal Systems Prereq., junior standing. Emphasis on non-western approaches to law, specifically Islamic law and the legal systems of East Asia. Focus on constitutional law, judicial process, civil liberties, and law enforcement and corrections.	3 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits

	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

International Relations

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 330 - Exp Offering: Intrnt Relations (R-6) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 6 Credits
	PSCI 332 - Global Environmental Pol. Offered fall. Prereq. PSCI 230X and junior standing or consent of instructor. This course focuses on the unique set of collective action problems faced by global actors in the governance of the environment and the institutions they use to overcome those problems. Themes include the tragedy of the commons, climate change, and environmental security.	3 Credits
	PSCI 334 - International Security Offered Spring. Prereq. PSCI 230 and junior standing or consent of instr. Explores the meaning, sources, and future of human, national, and international security. Considers a range of historical and contemporary threats (interstate war, civil war, terrorism, crime, natural disaster, human accident, disease, and deprivation), assesses the vulnerability of individuals and states to each threat, and evaluates national and international strategies to reduce them.	3 Credits
	PSCI 335 - American Foreign Policy Prereq., PSCI 230X and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.	3 Credits
	PSCI 336 - European Union Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of political and economic integration in Europe with a focus on the political system of the European Union.	3 Credits
	PSCI 337 - Model United Nations Offered autumn. Prereq., sophomore standing or consent of instr. History and structure of the UN. Contemporary global problems, and the UN's role in addressing them. Class has both active learning and service learning dimensions. Students plan, organize and run the annual Montana Model UN high school conference.	3 Credits

	PSCI 430 - Exp Offering: Intrnt Relations (R-9) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 9 Credits
	PSCI 431 - Politics of Global Migration Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.	3 Credits
	PSCI 433 - International Law & Org Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

American Politics

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 340 - Exp Offering: American Govt (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 6 Credits
	PSCI 341 - Political Parties and Election Offered spring even-numbered years. Prereq., PSCI 210S and junior standing. Political party organization, nominations, campaigns and elections in the United States.	3 Credits
	PSCI 342 - Media, Public Opinion, Polling Offered intermittently. Prereq., PSCI 210S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.	3 Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits

	PSCI 346 - American Presidency Offered autumn. Prereq., PSCI 210S. The constitutional foundation and evolution of the executive branch, the structure of the office and executive functions and powers.	3 Credits
	PSCI 348 - US Multicultural Politics Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.	3 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 370 - Courts and Judicial Politics Offered spring. Prereq., PSCI 210S and junior standing. Introduction to American courts with emphasis on judicial policy making.	3 Credits
	PSCI 440 - Exp Offering: American Govt (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 9 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
	PSCI 444 - Am Political Participation Offered intermittently. Prereq., PSCI 210S. Examination of the individual and institutional factors affecting voter turnout, the influences on voter decision making, and non-electoral forms of participation in the United States.	3 Credits
	PSCI 445 - Political Psychology Offered intermittently. Applies psychological theories such as personality, emotion, cognition, and social influence to political attitudes and actions, including political opinion formation, conformity, prejudice, genocide, and political leadership.	3 Credits
	PSCI 468 - Public Policy Cycle Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits

Minimum Required Grade: C-	0-3 Total Credits Required

Teaching Social Studies

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Global Public Health Minor

Minor - Global Public Health (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 21

Required Cumulative GPA: 2.0

Note: Students must take all core courses from The University of Montana's curriculum, but can receive content credit for relevant practicum and internships experience and for relevant courses taken at other universities if approved by the program director.

Required Courses

Rule: Must complete all of the following:

	Course	Credits
	BIOM 227 - Vectors and Parasites Offered spring. Prereq., college level general biology class is recommended but not required. An introduction to the major groups of parasites and arthropod-borne pathogens infecting humans worldwide. The class will stress the biology, transmission dynamics, prevention and control of these organisms.	3 Credits
	PSCI 227 - Global Health Issues Offered spring. Treats current public-health challenges in industrialized and low-income countries, including chronic and infectious illnesses. In comparative perspective, the course explores the individual, environmental, resource, and governance context of public-health policy, interventions, and outcomes and address questions of human rights and ethics, health equity and justice, regional problems and contributors, and the concerns of vulnerable populations along with possibilities for health advocacy.	3 Credits

Minimum Required Grade: C-	6 Total Credits Required

Core Electives

Rule: Must complete 9 credits from the following courses:

Note: The student should select the Ethnobotany of Amerindians section of PHAR 391 Special Topics.
The student should select the Public Health Genetics section of PHAR 491 Special Topics.

	Course	Credits
	AHHS 430 - Health Aspects of Aging Offered spring. Overview of the health aspects of aging in the United States including biological theories of aging, normal physiological changes associated with aging systems, common pathological problems associated with aging, cultural and ethnic differences in the health of elders, health promotion and healthy aging, and the health care continuum of care for older persons.	3 Credits
	ANTY 349 - Social Change in NnWstrn Socts Offered autumn, odd-numbered years. Study of the processes of change, modernization and development.	3 Credits
	ANTY 426 - Culture, Health and Healing Offered autumn. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.	3 Credits
	BIOM 400 - Medical Microbiology Offered autumn. Microbial structure and functions, pathogenic microorganisms, virology, immunology. Credit not allowed toward a major in microbiology.	3 Credits
	BIOM 427 - General Parasitology Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.	2 Credits
	BIOM 428 - General Parasitology Lab Offered autumn. Coreq., BIOM 427. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.	2 Credits
	CHTH 355 - Theory Pract Comm Hlth Ed Offered autumn. Prereq., KIN 205. History, philosophy, and theory related to community health education and health promotion. Includes the application of program development principles and health promotion strategies to community health programs.	3 Credits
	CHTH 445 - Prgrm Plan in Comm Health Offered spring. Prereq., CHTH 355. Overview of the issues, approaches, and techniques community health educators and professionals utilize in planning and implementing programs to assist communities in improving health status and reducing risky behaviors and their determinants. This course co-convenes with HHP 541.	3 Credits

	COMX 425 - Comm in Health Organizations Offered every other year. Not open to PCOM. This course explores the key issues at the intersection of health communication and organizational communication by considering communication processes that occur in a number of distinct contexts of health organizations. Through case studies and health campaigns students explore contemporary concerns and theory in the area of health communication.	3 Credits
	ECNS 310 - Intro Health Economics Offered intermittently. Prereq., economics course. Survey of market forces that govern the production and consumption of medical care in the U.S. market; uncertainty, asymmetric information, and concentrations of market power resulting in inefficient outcomes. Topics include cost escalations, role of medical insurance, and problems of an aging population.	3 Credits
	PHAR 320 - Am Ind Health Issues Offered spring. An overview of the health issues, health care delivery, health disparities, and social determinants of health that impact American Indians. Also, provides an overview in careers in health and cultural awareness for students.	3 Credits
	PHAR 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PHAR 491 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PHL 321E - Philosophy & Biomedical Ethics Offered intermittently. Prereq., upper-division standing or consent of instr. An examination of ethical problems raised by the practice of medicine and by recent developments in medically-related biological sciences.	3 Credits
	PSCI 431 - Politics of Global Migration Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
	S W 465 - Social Work Global Context Offered spring even-numbered years. Prereq., upper-division or graduate standing. Examination of globalization, human rights, poverty, international aid, and gender issues; their relationship to social work and social justice, and strategies for action.	3 Credits

	SOCI 355 - Population and Society Offered spring. Prereq., SOCI 101S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment. Emphasizes gender issues in international context.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Content Electives

Rule: Must complete 6 credits from the following courses

	Course	Credits
	ANTY 227 - Human Sexuality Offered autumn. Biological, behavioral, and cross-cultural aspects of human sexuality to help students place their own sexuality and that of others in a broader perspective. Includes sexual anatomy, physiology, development, reproduction, diseases, sex determination, as well as gender development and current issues.	3 Credits
	ANTY 333 - Culture and Population Offered autumn, even-numbered years. The relationship between population processes and culture to the human condition; survey data, methodologies, theories of demographic and culture change.	3 Credits
	ANTY 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	ANTY 402 - Quan Ethnographic Field Methds Offered autumn. This course is designed to enhance student understanding of field methods that generate quantitative data describing human behavior. The toolkit of a student completing this course will include knowledge of basic methods that will get you from observing behavior to discussing your research and findings in a professional manner in oral or written formats.	3 Credits
	ANTY 418 - Evol and Genet Var Human Pops Offered spring. Prereq. ANTY 310. Human genetic variation examined from a molecular perspective. Emphasis on the role of infectious disease and other factors as a selective factor in human evolution and exploration of the implications of these associations for human genetic variation.	3 Credits
	ANTY 422 - Mind, Culture and Society Offered autumn even-numbered years. Prereq., ANTY 220S or consent of instr. The study of socialization, personality, cognition, and mental health cross-culturally.	3 Credits
	ANTY 431 - Ethnographic Field Methods Offered spring odd-numbered years. Prereq., ANTY 220S or consent of instr. Introduction to socio-cultural anthropological methods including participant observation, interviewing and narrative techniques and analysis of qualitative data.	3 Credits

	ANTY 435 - Drugs, Culture and Society Offered intermittently. Drug use in a cross-cultural perspective. The role of drugs in cultural expression and social interaction. Examination of the prehistory of drug use, drug use in traditional non-Western and Western societies, and drug use in the context of global sociocultural change.	3 Credits
	BIOB 130N - Evolution and Society Offered intermittently. A focus on relationships between evolutionary biology and important social issues, including the evolution of drug-resistant diseases, the construction and use of genetically-modified organism, human evolutionary biology, and experimental laboratory evolution.	3 Credits
	BIOH 112 - Human Form and Function I Offered autumn. Explores the fundamentals of structure and function at basic cellular and tissue levels, in addition to the anatomy and physiology of the integumentary, musculoskeletal, and nervous systems.	3 Credits
	BIOH 113 - Human Form and Function II Offered spring. Explores the fundamental structures and functions of the endocrine, cardiovascular, respiratory, digestive, urinary and reproductive systems.	3 Credits
	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits
	BIOM 250N - Microbiology for Hlth Sciences Offered spring. Infectious diseases, including concepts of virulence, resistance, prevention and control of microbial diseases in the individual and in the community. If laboratory experience is desired, the student may enroll concurrently in BIOM 251. Credit not allowed toward a major in microbiology.	3 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOM 435 - Virology Offered spring. Prereq., BIOB 260, and either BIOM 360 or BIOM 400. The general nature of viruses, with emphasis on the molecular biology of animal and human viruses. Co-convenes with BIOM 535.	3 Credits
	COMX 204X - International & Dvlpmnt Comm Offered yearly. International Communication is concerned with information exchange across national borders while Development Communication focuses on the historical, current, and prospective role of communication technologies in social change, improving living conditions, and enhancing life prospects - mainly in developing countries.	3 Credits
	COMX 415 - Intercultural Communication Offered autumn and spring. Communication principles and processes in cross-cultural environments. Non-Western cultures are emphasized by contrasting them to Western communication norms.	3 Credits
	COMX 485 - Communication and Health Offered yearly. Theory and research on the health correlates of human interaction.	3 Credits

	ECNS 217X - Issues in Economic Development Offered intermittently. Prereq., ECNS 201S. Study of the processes of economic growth and development in the less developed world.	3 Credits
	HTH 430 - Hlth and Mind/Body/Spirit Offered autumn. Prereq., junior standing. Overview of how the mind/body/spirit relationship affects health. Examination of current research exploring how thoughts, emotions, attitudes, and beliefs influence and mediate health outcome. Exploration of the theoretical applications of mind/body/spirit in health and healing used in contemporary society.	3 Credits
	NASX 303E - Ecol Persp in Nat Amer Trad Offered Autumn and Spring. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.	3 Credits
	NASX 304E - Native American Beliefs/Philos Offered Autumn and Spring. A study of selected ethical systems; origins, world views; religious beliefs and the way they have been affected by western civilization.	3 Credits
	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
	NUTR 221N - Basic Human Nutrition Offered autumn and spring. The principles of science as applied to current concepts and controversies in the field of human nutrition.	3 Credits
	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 348 - US Multicultural Politics Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.	3 Credits
	PSYX 362 - Multicultural Psychology Offered autumn even-numbered years. Current theories and research on culture, race, and ethnicity, and how the sociocultural context influences psychological processes.	3 Credits

	PUBH 595 - Special Topics (R-12) Offered intermittently. Open to PUBH majors only. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Previous topics have included Global Health and Epidemiology of Infectious Disease. Level: Graduate	1 To 12 Credits
	S W 300 - Hum Behav & Soc Environ Offered autumn and spring. Prereq., SW 100 and 200, and junior standing in Social Work. Using the ecological-social systems framework, the integration of knowledge and concepts from the social and behavioral sciences for analysis and assessment of problems and issues relevant to professional social work practice.	3 Credits
	S W 310 - S W Policy & Services Offered autumn and spring. Prereq., SW 200; Social Work major. Social welfare history, program planning and analysis with review of selected policies on the national level. Includes international comparisons. Upper-division writing course.	3 Credits
	S W 323 - Women & Soc Action Amer Offered intermittently. Prereq., one of SW 100, SOCI 101S, or ANTY 101H or consent of instr. Same as WS 323. Focus on women's experiences of and contributions to social change in North, South and Central America in the mid to late-20th century. Through case studies, testimonials, discussions with activists and Internet connections examine social constructions of gender, compare forms of social action in diverse cultural, political and historical contexts, link practice to theories of social participation, and reflect on lessons learned from women's experiences.	3 Credits
	S W 324 - Gender and Welfare Offered intermittently. Prereq., SW 100 or consent of instr. Same as WGS 324. Exploration of the relationship between gender ideologies and the development of social welfare policies. Examination of historic and contemporary social welfare policies, practices and debates in the United States through a gender lens.	3 Credits
	S W 410E - Social Work Ethics Offered autumn and spring. Prereq., SW 200, admission into the BSW program. Analysis of specific ethical dilemmas from personal, professional and policy perspectives. Focus on ethical issues common to the helping professions and utilizing codes of ethics as guides to decision-making. The relationship between professional ethical issues and the development of social policy.	3 Credits
	S W 455 - Social Gerontology Offered autumn. Examination of the field of social gerontology, including an examination of the major bio/psycho/social/cultural/spiritual theories of aging, the service system, social and health issues, family and care-giving dynamics, social policy, and end of life concerns.	3 Credits

	S W 475 - Death, Dying and Grief Offered intermittently. Examination of death, dying and grief from an ecological perspective, focusing on the processes of dying and theories of grief. Emphasis on physical, social, psychological, spiritual, and cultural influences that surround death and grief. Consideration of cultural norms, attitudes toward death, medical, legal and ethical issues of dying. Focus on normal and complicated grief.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
	WGSS 263S - Women's and Gender Studies Offered autumn. Broad overview of gender and women's issues from a social science perspective. Relevant topics related to the sociological and psychological aspects of gender across culture are explored, including masculinity, femininity, violence, reproductive health, cultural diversity in the expression of gender, issues in sexual orientation, and media contributions to these issues.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Nonprofit Administration Minor

Minor - Nonprofit Administration (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 21
Required Cumulative GPA: 2.5

Upper Division Core Courses

Rule: Must complete the following subcategories
Minimum Required Grade: C-
9 Total Credits Required

> *Required Courses*
> **Rule:** Both courses are required

	Course	Credits
	PSCI 466 - Nonprofit Adm & Pub Svc Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.	3 Credits
	PSCI 467 - Adv Nonprofit Adm Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Core Elective Creidts

Rule: Choose 1 of the following courses

	Course	Credits
	HONR 398 - Internship Prereq., consent of instr. Practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	PSCI 498 - Intern/coop education/omnibus Offered every term. Prereq., sophomore standing and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Offered credit/no credit only. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
Minimum Required Grade: C-		3 Total Credits Required

Degree Elective Courses

Rule: Must complete 12 credits from at least 4 of the following 6 areas:
Minimum Required Grade: C-
12 Total Credits Required

Communication Skills

Rule: May complete 3 credits from the following courses:

	Course	Credits

	BMGT 420 - Leadership and Motivation Offered autumn and spring. Prereq., junior standing in Business and BMGT 340. Study of fundamental concepts, theories, and models of leadership and motivation. Selected topics include: trait and behavioral theories of leadership, charismatic and transformational leadership, power and influence, emotions and justice perceptions in motivation, expectancy and equity theories.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	COMX 210 - Communication in Small Groups Offered autumn and spring. Theory and research related to communication roles, collaboration, cohesion, leadership, and decision-making. Experiences provided in task oriented groups and field analyses of group processes.	3 Credits
	COMX 415 - Intercultural Communication Offered autumn and spring. Communication principles and processes in cross-cultural environments. Non-Western cultures are emphasized by contrasting them to Western communication norms.	3 Credits
	COMX 421 - Comm in Non-Profit Organizatns Offered yearly. Focuses on issues in nonprofit organizational communication at macro and micro levels. Topics include: organizational identity, change processes, public relations, fund-raising, advocacy, socialization, stress and burnout, board management and professionalization.	3 Credits
	COMX 422 - Communication and Technology Offered every other year. This course takes a critical look at the influence of communication technologies on organizational communication. Students will examine how the world of work is changing due to new technologies and explore the social and ethical implications of technical innovation, adoption and use.	3 Credits
	COMX 423 - Org Comm Consult Offered every year. Prerequisite, COMX 220S or consent of instructor. Not open to PCOM. Emphasis on the theoretical and practical issues involved in communication training and consultation. Overview of theoretical models followed by the "nuts and bolts" of communication training, development, and assessment. Students will carry out a training or consultation project (e.g., planning, execution, and evaluation) to sharpen the issues explored.	3 Credits
	COMX 424 - Risk Crisis & Comm Offered every other year. This course explores the communicative dynamics that both prevent and cause organizational crisis. Through case studies, the class examines how people plan, communicate and make good decisions in high-risk situations, as well as how to manage crisis public relations effectively.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Youth and Adult Development

Rule: May complete 3 credits from the following courses:

	Course	Credits
	PSYX 230 - Developmental Psychology Offered autumn, spring, summer. Prereq., PSYX 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect. Appropriate for Social Work, Nursing, Addiction Studies, Education, and Psychology.	3 Credits
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits
	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
	SOCI 335 - Juvenile Justice System Offered autumn. Prereq., SOCI 101S and 211S or 330. An analysis of the juvenile justice system in the United States, including the historical development of policies and practices. The role of various social agencies in defining, preventing, and responding to delinquency.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Human Resources Development and Supervision

Rule: May complete 3 credits from the following courses:

	Course	Credits
	COMX 220S - Intro to Organizational Comm Offered yearly. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits

	PTRM 380 - Rec Admin & Leadership Offered spring. The theories, principles and practices that shape the administration of recreation opportunities offered through public, nonprofit and private agencies and organizations. Course content includes leadership roles of recreation managers, organizational structure, management, legality, risk management, staffing, communication and public relations.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Nonprofit Program Planning

Rule: May complete 3 credits from the following courses:

	Course	Credits
	PTRM 485 - Recreation Planning Offered spring. Prereq., PTRM 217S and PTRM 300. Offered autumn. Needs of recreation opportunities and response to those needs through planning, demand assessment and resource analysis.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Nonprofit Marketing

Rule: May complete 3 credits from the following courses:

	Course	Credits
	BMKT 343 - Integrated Marketing Comm Offered autumn or spring. Prereq., junior standing in Business, BMKT 325. An integrated course in promotion strategy. Topics include advertising message design, media selection, promotions, public relations, personal selling, and other selected topics.	3 Credits
	BMKT 412 - Non Profit Marketing Offered intermittently. Prereq., junior standing in Business and BMKT 325. Integration of core concepts of marketing into philanthropic and other nonprofit organizations. Includes strategies for large-scale enterprises such as unions, educational and religious institutions to small organizations that provide local support such as cultural services, human and environmental services. Student work with nonprofit organizations creating marketing communications plans in an experiential learning environment.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Nonprofit Accounting/Financial Management

Rule: May complete 3 credits from the following courses:

	Course	Credits
	ACTG 201 - Principles of Fin Acct Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Political Science Minor

Minor - Political Science (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 21
Required Cumulative GPA: 2.0
Note: Nine of the 21 required credits must be in 300-400-level courses.

Required Lower Division Courses

Rule: Must complete all of the following courses:

	Course	Credits
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
	PSCI 220S - Intro to Comparative Govt Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures.	3 Credits
	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
	PSCI 250E - Intro to Political Theory Offered spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to define the nature of the "good" society.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Required Upper Division Field Courses

Rule: Must complete 1 course in 3 of the 5 following options:
Minimum Required Grade: C-
9 Total Credits Required

Public Administration

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 360 - Exp Offering: Public Admin (R-6) Offered intermittently. Experimental or onetime offerings in the subfield of public administration or policy.	1 To 6 Credits
	PSCI 361 - Public Administration Offered autumn. Prereq., PSCI 210S and junior standing. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 391 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PSCI 448 - Health Care Policy offered autumn. Focuses on sociopolitical environment influencing health policy in the United States including health politics and policy development, political structure and process, health care financing, public opinion and special interest groups, political leadership, policy reform and global health.	3 Credits
	PSCI 449 - Environmental Health Policy Offered spring. Focuses on environmental health policy in the U.S., its evolution, current status, and areas of change.	3 Credits
	PSCI 461 - Administrative Law Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.	3 Credits

	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
	PSCI 466 - Nonprofit Adm & Pub Svc Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.	3 Credits
	PSCI 467 - Adv Nonprofit Adm Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.	3 Credits
	PSCI 468 - Public Policy Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
	PSCI 469 - Ethics and Public Policy Offered spring. Focuses on the ethical challenges faced by public servants in government agencies.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Political Theory

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 350 - Exp Offering: Political Theory (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 6 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 354 - Contemp Issues in Pol Theory (R-6) Offered intermittently in autumn. Prereq., PSCI 250E or consent of instr. and junior standing. Topics variable. Research and assessment of current political and social issues through the study of a representative text and related literature.	3 Credits

	PSCI 450 - Exp Offering: Political Theory (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 9 Credits
	PSCI 451 - Ancient & Medieval Pol Phil Offered autumn. Prereq., PSCI 250E or consent of instr and junior standing. The classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of ?legitimate? authority.	3 Credits
	PSCI 452 - Utopianism and its Critics Offered intermittently. Prereq., junior standing. Examination of classic and contemporary utopias, from Plato's Republicto Barbara Goodwin's Justice by Lottery as well as their critics.	3 Credits
	PSCI 453 - Modern Political Theory Offered autumn. Prereq., PSCI 250E or consent of instr and Junior Level or higher. Analysis of Hobbes, Locke, Rousseau, Burke, James and John Stuart Mill, Marx and Lenin with regard to their "modern" views of the purpose(s) of political inquiry, the nature of citizenship and popular sovereignty. Particular attention to contemporary implications of ideas.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Comparative Government

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 320 - Exp Offering: Comp Politics (R- 6) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 6 Credits
	PSCI 321 - Post-Communist Politics Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of politics in post-communist states with an emphasis on Eastern Europe and Russia.	3 Credits
	PSCI 322 - Politics of Europe Offered autumn. Prereq., junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.	3 Credits
	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits

	PSCI 325 - Politics of Latin America Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 327 - Politics of Mexico Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.	3 Credits
	PSCI 328 - Politics of China Prereq., junior standing or consent of instr. Institutions and political development in China.	3 Credits
	PSCI 329 - Politics of Japan Offered autumn. Prereq., junior standing or consent of instr. Institutions and political development in Japan.	3 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

International Relations

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 330 - Exp Offering: Intrnt Relations (R-6) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 6 Credits
	PSCI 332 - Global Environmental Pol. Offered fall. Prereq. PSCI 230X and junior standing or consent of instructor. This course focuses on the unique set of collective action problems faced by global actors in the governance of the environment and the institutions they use to overcome those problems. Themes include the tragedy of the commons, climate change, and environmental security.	3 Credits

	PSCI 334 - International Security Offered Spring. Prereq. PSCI 230 and junior standing or consent of instr. Explores the meaning, sources, and future of human, national, and international security. Considers a range of historical and contemporary threats (interstate war, civil war, terrorism, crime, natural disaster, human accident, disease, and deprivation), assesses the vulnerability of individuals and states to each threat, and evaluates national and international strategies to reduce them.	3 Credits
	PSCI 335 - American Foreign Policy Prereq., PSCI 230X and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.	3 Credits
	PSCI 336 - European Union Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of political and economic integration in Europe with a focus on the political system of the European Union.	3 Credits
	PSCI 337 - Model United Nations Offered autumn. Prereq., sophomore standing or consent of instr. History and structure of the UN. Contemporary global problems, and the UN's role in addressing them. Class has both active learning and service learning dimensions. Students plan, organize and run the annual Montana Model UN high school conference.	3 Credits
	PSCI 430 - Exp Offering: Intrnt Relations (R-9) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 9 Credits
	PSCI 431 - Politics of Global Migration Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.	3 Credits
	PSCI 433 - International Law & Org Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

American Politics

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 340 - Exp Offering: American Govt (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 6 Credits
	PSCI 341 - Political Parties and Election Offered spring even-numbered years. Prereq., PSCI 210S and junior standing. Political party organization, nominations, campaigns and elections in the United States.	3 Credits
	PSCI 342 - Media, Public Opinion, Polling Offered intermittently. Prereq., PSCI 210S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.	3 Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 346 - American Presidency Offered autumn. Prereq., PSCI 210S. The constitutional foundation and evolution of the executive branch, the structure of the office and executive functions and powers.	3 Credits
	PSCI 348 - US Multicultural Politics Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.	3 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 370 - Courts and Judicial Politics Offered spring. Prereq., PSCI 210S and junior standing. Introduction to American courts with emphasis on judicial policy making.	3 Credits
	PSCI 440 - Exp Offering: American Govt (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 9 Credits

	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
	PSCI 444 - Am Political Participation Offered intermittently. Prereq., PSCI 210S. Examination of the individual and institutional factors affecting voter turnout, the influences on voter decision making, and non-electoral forms of participation in the United States.	3 Credits
	PSCI 445 - Political Psychology Offered intermittently. Applies psychological theories such as personality, emotion, cognition, and social influence to political attitudes and actions, including political opinion formation, conformity, prejudice, genocide, and political leadership.	3 Credits
	PSCI 468 - Public Policy Cycle Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Teaching Government Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - Political Science (Minor); Track: Teaching Government

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 24

Required Cumulative GPA: 2.0

Note: Nine of the 21 required credits must be in 300-400-level courses.

Required Lower Division Courses

Rule: Must complete all of the following courses:

	Course	Credits
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
	PSCI 220S - Intro to Comparative Govt Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures.	3 Credits
	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
	PSCI 250E - Intro to Political Theory Offered spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to define the nature of the "good" society.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Teaching Licensure Requirements

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Required Upper Division Field Courses

Rule: Must complete 1 course in 3 of the 5 following options:
Minimum Required Grade: C-
9 Total Credits Required

Public Administration

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits

	PSCI 360 - Exp Offering: Public Admin (R-6) Offered intermittently. Experimental or onetime offerings in the subfield of public administration or policy.	1 To 6 Credits
	PSCI 361 - Public Administration Offered autumn. Prereq., PSCI 210S and junior standing. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 391 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PSCI 448 - Health Care Policy offered autumn. Focuses on sociopolitical environment influencing health policy in the United States including health politics and policy development, political structure and process, health care financing, public opinion and special interest groups, political leadership, policy reform and global health.	3 Credits
	PSCI 449 - Environmental Health Policy Offered spring. Focuses on environmental health policy in the U.S., its evolution, current status, and areas of change.	3 Credits
	PSCI 461 - Administrative Law Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
	PSCI 466 - Nonprofit Adm & Pub Svc Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.	3 Credits
	PSCI 467 - Adv Nonprofit Adm Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.	3 Credits

	PSCI 468 - Public Policy Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
	PSCI 469 - Ethics and Public Policy Offered spring. Focuses on the ethical challenges faced by public servants in government agencies.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Political Theory

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 350 - Exp Offering: Political Theory (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 6 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 354 - Contemp Issues in Pol Theory (R-6) Offered intermittently in autumn. Prereq., PSCI 250E or consent of instr. and junior standing. Topics variable. Research and assessment of current political and social issues through the study of a representative text and related literature.	3 Credits
	PSCI 450 - Exp Offering: Political Theory (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 9 Credits
	PSCI 451 - Ancient & Medieval Pol Phil Offered autumn. Prereq., PSCI 250E or consent of instr and junior standing. The classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of ?legitimate? authority.	3 Credits
	PSCI 452 - Utopianism and its Critics Offered intermittently. Prereq., junior standing. Examination of classic and contemporary utopias, from Plato's Republicto Barbara Goodwin's Justice by Lottery as well as their critics.	3 Credits

	PSCI 453 - Modern Political Theory Offered autumn. Prereq., PSCI 250E or consent of instr and Junior Level or higher. Analysis of Hobbes, Locke, Rousseau, Burke, James and John Stuart Mill, Marx and Lenin with regard to their "modern" views of the purpose(s) of political inquiry, the nature of citizenship and popular sovereignty. Particular attention to contemporary implications of ideas.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Comparative Government

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 320 - Exp Offering: Comp Politics (R- 6) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 6 Credits
	PSCI 321 - Post-Communist Politics Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of politics in post-communist states with an emphasis on Eastern Europe and Russia.	3 Credits
	PSCI 322 - Politics of Europe Offered autumn. Prereq., junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.	3 Credits
	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits
	PSCI 325 - Politics of Latin America Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 327 - Politics of Mexico Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.	3 Credits
	PSCI 328 - Politics of China Prereq., junior standing or consent of instr. Institutions and political development in China.	3 Credits

	PSCI 329 - Politics of Japan Offered autumn. Prereq., junior standing or consent of instr. Institutions and political development in Japan.	3 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits
	PSCI 421 - Comparative Legal Systems Prereq., junior standing. Emphasis on non-western approaches to law, specifically Islamic law and the legal systems of East Asia. Focus on constitutional law, judicial process, civil liberties, and law enforcement and corrections.	3 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

International Relations

Rule: May select 1 of the following courses:

	Course	**Credits**
	PSCI 330 - Exp Offering: Intrnt Relations (R-6) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 6 Credits
	PSCI 332 - Global Environmental Pol. Offered fall. Prereq. PSCI 230X and junior standing or consent of instructor. This course focuses on the unique set of collective action problems faced by global actors in the governance of the environment and the institutions they use to overcome those problems. Themes include the tragedy of the commons, climate change, and environmental security.	3 Credits
	PSCI 334 - International Security Offered Spring. Prereq. PSCI 230 and junior standing or consent of instr. Explores the meaning, sources, and future of human, national, and international security. Considers a range of historical and contemporary threats (interstate war, civil war, terrorism, crime, natural disaster, human accident, disease, and deprivation), assesses the vulnerability of individuals and states to each threat, and evaluates national and international strategies to reduce them.	3 Credits

	PSCI 335 - American Foreign Policy Prereq., PSCI 230X and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.	3 Credits
	PSCI 336 - European Union Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of political and economic integration in Europe with a focus on the political system of the European Union.	3 Credits
	PSCI 337 - Model United Nations Offered autumn. Prereq., sophomore standing or consent of instr. History and structure of the UN. Contemporary global problems, and the UN's role in addressing them. Class has both active learning and service learning dimensions. Students plan, organize and run the annual Montana Model UN high school conference.	3 Credits
	PSCI 430 - Exp Offering: Intrnt Relations (R-9) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 9 Credits
	PSCI 431 - Politics of Global Migration Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.	3 Credits
	PSCI 433 - International Law & Org Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

American Politics

Rule: May select 1 of the following courses:

	Course	Credits
	PSCI 340 - Exp Offering: American Govt (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 6 Credits

	PSCI 341 - Political Parties and Election Offered spring even-numbered years. Prereq., PSCI 210S and junior standing. Political party organization, nominations, campaigns and elections in the United States.	3 Credits
	PSCI 342 - Media, Public Opinion, Polling Offered intermittently. Prereq., PSCI 210S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.	3 Credits
	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 346 - American Presidency Offered autumn. Prereq., PSCI 210S. The constitutional foundation and evolution of the executive branch, the structure of the office and executive functions and powers.	3 Credits
	PSCI 348 - US Multicultural Politics Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.	3 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 370 - Courts and Judicial Politics Offered spring. Prereq., PSCI 210S and junior standing. Introduction to American courts with emphasis on judicial policy making.	3 Credits
	PSCI 440 - Exp Offering: American Govt (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 9 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits

	PSCI 444 - Am Political Participation Offered intermittently. Prereq., PSCI 210S. Examination of the individual and institutional factors affecting voter turnout, the influences on voter decision making, and non-electoral forms of participation in the United States.	3 Credits
	PSCI 445 - Political Psychology Offered intermittently. Applies psychological theories such as personality, emotion, cognition, and social influence to political attitudes and actions, including political opinion formation, conformity, prejudice, genocide, and political leadership.	3 Credits
	PSCI 468 - Public Policy Cycle Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Teaching Methods Course

Rule: Complete the following course.

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Social Studies.

	Course	Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physics and Astronomy Department

Andrew S. Ware, Chair

Physics is considered to be the most fundamental of all disciplines in the natural sciences. In physics we try to describe and understand a myriad of physical phenomena ranging from subatomic to cosmological scales by quantifying the relationships among different physical quantities. Not only does physics have its own merit as a challenging but exciting scientific endeavor, it provides the basis for understanding underlying processes in astronomy, biology, chemistry, geology, computer science, engineering, and even in behavioral sciences. Applications of physics are virtually unlimited: computers, communications, energy production, medical technology, and space flight, to name just a few. The Department of Physics and Astronomy offers a range of physics courses from introductory to advanced undergraduate level in both experimental and theoretical physics with computational methods in mind. In addition, we offer introductory to advanced astronomy and astrophysics courses in which astronomical applications of physics are emphasized. These courses deal with the Universe, from the solar system to clusters of galaxies, both theoretically and observationally. The Department of Physics and Astronomy offers the Bachelor of Arts degree with a major in physics. Graduates with this degree are prepared for further study in physics or related fields at the masters or Ph.D. level, as well as a wide variety of technical positions in industry.

In addition, the department offers three options that combine a solid background in the study of physics with in-depth study in other fields. These options allow for specialization in related fields and provide appropriate background for certain employment opportunities and for continued graduate or professional study. For more details, see the related sections of this catalog.

- Astronomy
- Computational Physics
- Teaching Broadfield Science

Department Faculty

Professors

Daniel Reisenfeld, Chair, Professor of Physics & Astronomy
Eijiro Uchimoto, Professor
Andrew Ware, Professor

Associate Professors

Nate McCrady, Associate Professor

Assistant Professors

Paul Janzen, Assistant Professor
David Macaluso, Assistant Professor

Adjunct Faculty

Brad Halfpap, Adjunct Associate Professor

Lecturers

Alex Bulmahn, Lecturer
Diane Friend, Lecturer

Research Faculty

Vladimir Kovalev, Assistant Research Professor

Astronomy

Back to Top

- ASTR 131N - Planetary Astronomy

Credits: 3. Offered autumn. Prereq., high school algebra and geometry. An introduction to observational, historical, and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope. Course Attributes: Natural Science Course (N)

- ASTR 132N - Stars, Galaxies, and Universe

  Credits: 3. Offered spring. Prereq., high school algebra and geometry. An introduction to stars, stellar evolution, galaxies, and cosmology. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope. Course Attributes: Natural Science Course (N)

- ASTR 134N - Planetary Astronomy Lab

  Credits: 1. Offered autumn. Prereq. or coreq., ASTR 131N Laboratory exercises in observational and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- ASTR 135N - Stars Galaxies andUniverse Lab

  Credits: 1. Offered spring. Prereq. or coreq., ASTR 132N. Laboratory exercises in observational, stellar, and galactic astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- ASTR 142N - The Evolving Universe

  Credits: 4. Offered spring. Prereq., working knowledge of precalculus (ie., college algebra and college trigonometry). Overview of recent developments in planetary system formation, stars, galaxies, and cosmology. Some astronomical observing required outside of normal class hours. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- ASTR 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

- ASTR 198 - Internship

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internship graduation limit 6

- ASTR 292 - Independent Study

  Credits: 1 TO 6. Course material appropriate to the needs and objectives of the individual student.

- ASTR 351 - Planetary Science

  Credits: 3. Offered autumn even-numbered years. Prereq., PHSX 215N-216N or 205N-206N and M 162 or 171. Same as GEO 317. Physical and geological characteristics of planets, satellites, asteroids, comets, and meteoroids, with an emphasis on comparative planetology.

- ASTR 353 - Galactic Astrophysics

  Credits: 3. Offered spring odd-numbered years. Prereq., ASTR 132N, PHSX 217N-218N, M 273. The nature of the Milky Way galaxy and other galaxies, galactic evolution, the large scale structure of the universe, active galaxies and quasars, and cosmology, including the early universe.

- ASTR 362 - Observational Astronomy

  Credits: 3. Offered autumn even-numbered years. Prereq., ASTR 132N or 142N, PHXS 217N-218N. Laboratory study of the probabilistic behavior of light, data acquisition with telescopes, digital imaging and spectroscopy. Emphasis on fundamental statistical tools, scientific computer programming, and written and oral presentation of scientific results.

- ASTR 363 - Stellar Astr & Astrophys I

  Credits: 3. Offered autumn odd-numbered years. Prereq., ASTR 132N, M 273, and PHSX 217N-218N; PHSX 343 recommended. Detailed application of physical laws to determine the nature of the stars; analysis of stellar spectra and atmospheres; solar astrophysics; structure of stars and their evolution.

- ASTR 365 - Stellar Ast & Astrophys II

Credits: 3. Offered spring even-numbered years. Prereq., ASTR 363. Continuation of ASTR 363.

- ASTR 391 - Special Topics
  Credits: 1 TO 9. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- ASTR 392 - Independent Study
  Credits: 1 TO 6. Course material appropriate to the needs and objectives of the individual student.
- ASTR 398 - Internship
  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
  Course Attributes: Internships/Practicums
- ASTR 494 - Senior Capstone Seminar
  Credits: 1. Offered autumn. Prereq., junior or senior standing in physics. Each student will present a seminar on research performed prior to or during their senior year.
- ASTR 499 - Seminar/Workshop
  Credits: 1. Offered autumn. Prereq., junior or senior standing in physics. Each student will present a seminar on research performed prior to or during their senior year.

Electrical Engineering

Back to Top

- EELE 201 - Circuits I for Engineering
  Credits: 4. Prereq., PHSX 217N and EGEN 101. Introduction to circuit analysis; Ohm's and Kirchhoff's Laws; resistors, capacitors, inductors, dependent sources, ideal op-amps; the complete response of first order circuits; complex frequency and phasors; steady-state AC circuits, coupled inductors and ideal transformers.
- EELE 203 - Circuits II for Engineers
  Credits: 4. Prereq., EELE 201; Coreq., M 274. Natural and forced response of R-L-C circuits, frequency response of R-L-C circuits and Bode plots, frequency response, slew-rate and DC imperfections of real op-amps; Laplace Transform, Fourier series and Fourier Transform techniques in circuit analysis; basic R-L-C and op-amp filters; two port networks.

General engineering Core

Back to Top

- EGEN 101 - Intro to Eng Cal & Prob Solv
  Credits: 3. Offered autumn. Prereq. or coreq., M 151, or M 121 and M 122, or M 171 or M 172 or ALEX score of 5 or Maplesoft score of 15. An introduction to engineering calculations, problem solving, and design. Students are taught to solve and present engineering problems on computers using spreadsheet and graphic software (AutoCAD). In addition, there will be discussions on engineering failures and engineering ethics.
- EGEN 201 - Engineering Statics
  Credits: 3. Prereq., PHSX 215N, M 171; prereq., or coreq., M 172. Equilibrium of particles and rigid bodies; addition and resolution of forces, vector algebra, moments and couples, resultants and static equilibrium, equivalent force systems, centroids, center of gravity, free body method of analysis, two and three dimensional equilibrium, trusses, frames, friction, and method of virtual work.
- EGEN 202 - Engineering Mechanics - Dynamics
  Credits: 3. Prereq., EGEN 201, M 172. Particle and rigid body kinematics and kinetics; rectilinear, curvilinear, and relative motion, equations of motion, work and energy, impulse and momentum, systems of particles, rotation, rotating axes, rigid body analysis, angular momentum, vibration, and time response.
- EGEN 335 - Fluid Mechanics

Credits: 3. Prereq., EGEN 201, M 311. An introduction to the basic concepts of fluid mechanics including the fundamental properties of fluids, fluid statics, kinematics of fluid motion, and similitude. The conservation of mass, energy, and momentum are introduced with applications to compressible and incompressible fluids. Laminar and turbulent boundary layers are introduced.

Physics

Back to Top

- ### PHSX 101 - Freshman Physics Experience

  Credits: 1. Offered autumn. This course is intended for all incoming students either majoring in physics or considering majoring in physics. This seminar course presents an overview of the undergraduate experience as a physics major. Seminars on recent developments in physics and astronomy and opportunities for undergraduate involvement in research and instruction are included.

- ### PHSX 102 - Preparation for Physics

  Credits: 2. Intended primarily for students who wish to learn or review preparatory material to succeed in the algebra-based physics sequence. Basic physical quantities and their mathematical relationships will be explored along with development of problem solving skills. The course also includes selected mathematical topics, such as trigonometry and vectors that are essential for studying physics.

- ### PHSX 141N - Einstein's Relativity

  Credits: 3. Offered spring. Prereq., working knowledge of high school physics and high school calculus, or consent of instr. Modern theoretical study of space, time, the principle of relativity, and its implications. Analysis of apparent paradoxes, and applications to particle physics. Course Attributes: Natural Science Course (N)

- ### PHSX 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ### PHSX 198 - Internship

  Credits: 1 TO 9. (R-6) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- ### PHSX 205N - College Physics I

  Credits: 4. Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N. Course Attributes: Natural Science Course (N)

- ### PHSX 206N - College Physics I Laboratory

  Credits: 1. Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- ### PHSX 207N - College Physics II

  Credits: 4. Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N. Course Attributes: Natural Science Course (N)

- ### PHSX 208N - College Physics II Laboratory

  Credits: 1. Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- PHSX 215N - Fund of Physics w/Calc I

  Credits: 4. Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N. Course Attributes: Natural Science Course (N)

- PHSX 216N - Physics Laboratory I w/Calc

  Credits: 1. Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- PHSX 217N - Fund of Physics w/Calc II

  Credits: 4. Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N. Course Attributes: Natural Science Course (N)

- PHSX 218N - Physics Laboratory II w/Calc

  Credits: 1. Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- PHSX 225N - Gen Science: Phys & Chem Sci

  Credits: 5. Offered autumn. Prereq., M 095 or equiv. Integrated lectures, discussions, laboratory exercises, and demonstrations on topics in chemical and physical science for prospective elementary school teachers and the non-scientist. A two-hour laboratory session is required each week. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- PHSX 291 - Special Topics

  Credits: 1 TO 9. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- PHSX 292 - Independent Study

  Credits: 1 TO 9. (R-9) Course material appropriate to the needs and objectives of the individual student. Course Attributes: Omnibus Course

- PHSX 301 - Intro Theoretical Physics

  Credits: 3. Offered spring. Prereq., M 273; coreq., PHSX 217N-218N. Selected topics from applied linear algebra, ordinary and partial differential equations, vector analysis, complex variables, and Fourier series. Applications to classical mechanics, electromagnetism, and quantum mechanics.

- PHSX 311 - Oscillations and Waves

  Credits: 2. Offered autumn. Prereq., PHSX 217N-218N or 207N-208N; Prereq. or coreq. M 273. Detailed study of oscillations and waves at the intermediate level, to develop physical intuition and mathematical skills needed for analyzing a wide range of periodic phenomena encountered in physics.

- PHSX 320 - Classical Mechanics

  Credits: 3. Offered autumn. Prereq., PHSX 301, M 311. Topics in classical mechanics at the intermediate level, emphasizing Lagrangian and Hamiltonian dynamics.

- PHSX 323 - Intermediate Physics Lab

  Credits: 3. Offered spring. Prereq., PHSX 217N-218N or PHSX 207N-208N and PHSX 311. Laboratory course in the application of analog and digital electronics to experimental physics, with additional emphasis on data analysis techniques.

- PHSX 327 - Optics

  Credits: 3. Offered spring. Prereq., PHSX 311. Intermediate level study of light and optics, including geometrical optics, wave optics, optical instruments, coherence, polarization, and special topics.

- PHSX 330 - Communicating Physics

Credits: 3. Offered spring even-numbered years. Prereq., PHSX 217N-218N or PHSX 207N-208N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles. Course Attributes: Writing Course-Advanced

- PHSX 333 - Computational Physics

  Credits: 3. Offered spring odd-numbered years. Prereq., PHSX 217N-218N; coreq., any upper-division PHXS course. Solution of advanced problems in physics using computational methods. Students will learn a variety of numerical methods, including FORTRAN programming techniques.

- PHSX 343 - Modern Physics

  Credits: 3. Offered autumn. Prereq., one year of college physics; coreq., M 273. Includes historical background for development of modern physics and an introduction to quantum mechanics, atomic and nuclear physics. Credit not allowed for graduate degree in physics.

- PHSX 391 - Special Topics

  Credits: 1 TO 12. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- PHSX 392 - Honors Physics

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Independent research in topics of current interest in physics.

- PHSX 423 - Electricity & Magnetism I

  Credits: 3. Offered autumn. Prereq, PHSx 301. Electricity and magnetism at the intermediate level.

- PHSX 425 - Electricity & Magnetism II

  Credits: 3. Offered spring. Prereq., PHSX 423. Continuation of PHSX 423. Electricity and magnetism at the intermediate level.

- PHSX 444 - Advanced Physics Lab

  Credits: 3. Offered autumn. Prereq., PHSX 343 or equiv., PHSX 327 or equiv.; PHSX 322 suggested but not required. Advanced experiments in classical and modern physics, including optics, spectroscopy, laser science, atomic, nuclear, and particle physics, Data analysis techniques for experimental scientists. Recommended for students entering graduate school in any experimental science.

- PHSX 446 - Thermodyn & Stat Mech

  Credits: 3. Offered spring even-numbered years. Prereq., PHSX 343; coreq., M 311. Topics in thermodynamics and statistical mechanics.

- PHSX 451 - Elementary Particle Physics

  Credits: 3. Offered alternate odd years. Prereq., PHSX 301 and PHSX 343. This course will provide a sound introduction to the Standard Model of particle physics introducing students to the fundamental particles, fundamental forces, and the Feynman calculus.

- PHSX 461 - Quantum Mechanics I

  Credits: 3. Offered autumn. Prereq., PHSX 311, PHSX 343; prereq. or coreq., M 311. Introduction to quantum mechanics. Topics include Schroedinger equation, piecewise constant potential, harmonic oscillator, hydrogen atom, angular momentum theory, electron spin.

- PHSX 462 - Quantum Mechanics II

  Credits: 3. Offered spring. Prereq., PHSX 461 or consent of instr. Advanced topics in quantum mechanics including linear vector spaces and Dirac notation, quantum dynamics, time-dependent perturbation theory, and scattering theory.

- PHSX 491 - Special Topics

  Credits: 3. (R-6) Offered intermittently. Prereq., PHSX 461 or consent of instr. Studies of a topic in advanced modern physics including nuclear physics, solid state physics, and quantum optics. The topic chosen will vary according to instructor.

- PHSX 492 - Independent Study

  Credits: 1 TO 9. (R-9) Offered intermittently. University omnibus option for independent work. Course Attributes: Omnibus Course

- PHSX 499 - Senior Capstone Seminar

Credits: 1. Offered autumn. Prereq., junior or senior standing in physics. Each student will present a seminar on research performed prior to or during their senior year.

- PHSX 595 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
  Course Attributes: Internships/Practicums
- PHSX 597 - Research
  Credits: 1 TO 6. (R-9) Offered intermittently. Prereq., consent of instr. Research in selected physics topics. Level: Graduate
- PHSX 598 - Internship
  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Level: Graduate Course Attributes: Internships/Practicums
- PHSX 599 - Thesis
  Credits: 1 TO 9. (R-9) Offered intermittently. Thesis preparation and execution. Level: Graduate

Physics B.A.

Bachelor of Arts - Physics

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 61
Required Cumulative GPA: 2.0

Lower Division Physics

Rule: Must complete all of the courses in one of the two options:
Note: Calculus-based Physics sequence is strongly recommended.
Note: The Physics with Calculus series (PHSX 215N - 218N) is strongly recommended.
Minimum Required Grade: C-
10 Total Credits Required

College Physics

Rule: May complete all of the following courses

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits

	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete all of the following courses

	Course	**Credits**
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits

Minimum Required Grade: C-	10 Total Credits Required

Upper Division Physics

Rule: Complete the following courses

	Course	Credits
	PHSX 301 - Intro Theoretical Physics Offered spring. Prereq., M 273; coreq., PHSX 217N-218N. Selected topics from applied linear algebra, ordinary and partial differential equations, vector analysis, complex variables, and Fourier series. Applications to classical mechanics, electromagnetism, and quantum mechanics.	3 Credits
	PHSX 311 - Oscillations and Waves Offered autumn. Prereq., PHSX 217N-218N or 207N-208N; Prereq. or coreq. M 273. Detailed study of oscillations and waves at the intermediate level, to develop physical intuition and mathematical skills needed for analyzing a wide range of periodic phenomena encountered in physics.	2 Credits
	PHSX 320 - Classical Mechanics Offered autumn. Prereq., PHSX 301, M 311. Topics in classical mechanics at the intermediate level, emphasizing Lagrangian and Hamiltonian dynamics.	3 Credits
	PHSX 323 - Intermediate Physics Lab Offered spring. Prereq., PHSX 217N-218N or PHSX 207N-208N and PHSX 311. Laboratory course in the application of analog and digital electronics to experimental physics, with additional emphasis on data analysis techniques.	3 Credits
	PHSX 327 - Optics Offered spring. Prereq., PHSX 311. Intermediate level study of light and optics, including geometrical optics, wave optics, optical instruments, coherence, polarization, and special topics.	3 Credits
	PHSX 343 - Modern Physics Offered autumn. Prereq., one year of college physics; coreq., M 273. Includes historical background for development of modern physics and an introduction to quantum mechanics, atomic and nuclear physics. Credit not allowed for graduate degree in physics.	3 Credits
	PHSX 423 - Electricity & Magnetism I Offered autumn. Prereq, PHSx 301. Electricity and magnetism at the intermediate level.	3 Credits
	PHSX 444 - Advanced Physics Lab Offered autumn. Prereq., PHSX 343 or equiv., PHSX 327 or equiv.; PHSX 322 suggested but not required. Advanced experiments in classical and modern physics, including optics, spectroscopy, laser science, atomic, nuclear, and particle physics, Data analysis techniques for experimental scientists. Recommended for students entering graduate school in any experimental science.	3 Credits

	PHSX 461 - Quantum Mechanics I Offered autumn. Prereq., PHSX 311, PHSX 343; prereq. or coreq., M 311. Introduction to quantum mechanics. Topics include Schroedinger equation, piecewise constant potential, harmonic oscillator, hydrogen atom, angular momentum theory, electron spin.	3 Credits
	PHSX 499 - Senior Capstone Seminar Offered autumn. Prereq., junior or senior standing in physics. Each student will present a seminar on research performed prior to or during their senior year.	1 Credits
Minimum Required Grade: C-		27 Total Credits Required

Physics Electives

Rule: Choose any 2 courses designated with PHSX prefix, for 6 total credits
Note: PHSX 425 and PHSX 462 are strongly recommended

	Course	**Credits**
	PHSX 141N - Einstein's Relativity Offered spring. Prereq., working knowledge of high school physics and high school calculus, or consent of instr. Modern theoretical study of space, time, the principle of relativity, and its implications. Analysis of apparent paradoxes, and applications to particle physics.	3 Credits
	PHSX 330 - Communicating Physics Offered spring even-numbered years. Prereq., PHSX 217N-218N or PHSX 207N-208N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles.	3 Credits
	PHSX 333 - Computational Physics Offered spring odd-numbered years. Prereq., PHSX 217N-218N; coreq., any upper-division PHXS course. Solution of advanced problems in physics using computational methods. Students will learn a variety of numerical methods, including FORTRAN programming techniques.	3 Credits
	PHSX 425 - Electricity & Magnetism II Offered spring. Prereq., PHSX 423. Continuation of PHSX 423. Electricity and magnetism at the intermediate level.	3 Credits
	PHSX 446 - Thermodyn & Stat Mech Offered spring even-numbered years. Prereq., PHSX 343; coreq., M 311. Topics in thermodynamics and statistical mechanics.	3 Credits
	PHSX 462 - Quantum Mechanics II Offered spring. Prereq., PHSX 461 or consent of instr. Advanced topics in quantum mechanics including linear vector spaces and Dirac notation, quantum dynamics, time-dependent perturbation theory, and scattering theory.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Math Requirements

Rule: Complete all of the following courses

Note: M 317, M 412, and M 418 are recommended as well

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Computer Science Requirements

Rule: Choose 1 of the following

Note: PHSX 333 or CSCI 250 is strongly recommended

	Course	Credits
	CSCI 100 - Intro to Programming Offered autumn and spring. This course covers basic programming concepts such as variables, data types, iteration, flow of control, input/output, functions, and objects. The course will also cover programming ideas such as data structures, algorithms, modularity, and debugging. Students will learn about the role computation can play in solving problems by writing interesting programs to solve useful goals. No prior programming experience is expected. (Two hours independent lab per week.) Credit not allowed for both CSCI 100 and CSCI 110.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits

	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
	PHSX 333 - Computational Physics Offered spring odd-numbered years. Prereq., PHSX 217N-218N; coreq., any upper-division PHXS course. Solution of advanced problems in physics using computational methods. Students will learn a variety of numerical methods, including FORTRAN programming techniques.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Advanced College Writing Requirement

Rule: Must take the following course

Note: May substitute another advanced writing course as approved by the department chair.

	Course	**Credits**
	PHSX 330 - Communicating Physics Offered spring even-numbered years. Prereq., PHSX 217N-218N or PHSX 207N-208N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Foreign Language

Note: Students must also complete a 2 semester language sequence or have equivalent placement.

Astronomy B.A.

The astronomy option provides a thorough study of astronomy and astrophysics as well as a solid background in physics and mathematics. Graduates from this program have gone on to graduate programs in astronomy and astrophysics while others have found career opportunities at national astronomical observatories.

Bachelor of Arts - Physics; Astronomy Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 65

Required Cumulative GPA: 2.0

Lower Division Physics Core

Rule: Must complete all of the courses in one of the two options:

Note: Calculus-based physics sequence is strongly recommended.

Note: The Physics with Calculus series (PHSX 215N - 218N) is strongly recommended.

10 Total Credits Required

College Physics

Rule: May complete all of the following courses

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete all of the following courses:

	Course	Credits

	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Lower Division Astronomy Core

Rule: Must complete all of the courses in one of the two options:

4 Total Credits Required

Astronomy Core: Option 1

Rule: May complete all of the following courses

	Course	**Credits**
	ASTR 132N - Elementary Astronomy II Offered spring. Prereq., high school algebra and geometry. An introduction to stars, stellar evolution, galaxies, and cosmology. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits
	ASTR 135N - Elementary Astronomy Lab II Offered spring. Prereq. or coreq., ASTR 132N. Laboratory exercises in observational, stellar, and galactic astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	1 Credits

Minimum Required Grade: C-	4 Total Credits Required

Astronomy Core: Option 2

Rule: May complete the following course

	Course	Credits
	ASTR 142N - The Evolving Universe Offered spring. Prereq., working knowledge of precalculus (ie., college algebra and college trigonometry). Overview of recent developments in planetary system formation, stars, galaxies, and cosmology. Some astronomical observing required outside of normal class hours.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Upper Division Physics Core

Rule: Must complete the following courses

	Course	Credits
	PHSX 301 - Intro Theoretical Physics Offered spring. Prereq., M 273; coreq., PHSX 217N-218N. Selected topics from applied linear algebra, ordinary and partial differential equations, vector analysis, complex variables, and Fourier series. Applications to classical mechanics, electromagnetism, and quantum mechanics.	3 Credits
	PHSX 311 - Oscillations and Waves Offered autumn. Prereq., PHSX 217N-218N or 207N-208N; Prereq. or coreq. M 273. Detailed study of oscillations and waves at the intermediate level, to develop physical intuition and mathematical skills needed for analyzing a wide range of periodic phenomena encountered in physics.	2 Credits
	PHSX 343 - Modern Physics Offered autumn. Prereq., one year of college physics; coreq., M 273. Includes historical background for development of modern physics and an introduction to quantum mechanics, atomic and nuclear physics. Credit not allowed for graduate degree in physics.	3 Credits
	PHSX 461 - Quantum Mechanics I Offered autumn. Prereq., PHSX 311, PHSX 343; prereq. or coreq., M 311. Introduction to quantum mechanics. Topics include Schroedinger equation, piecewise constant potential, harmonic oscillator, hydrogen atom, angular momentum theory, electron spin.	3 Credits
	PHSX 499 - Senior Capstone Seminar Offered autumn. Prereq., junior or senior standing in physics. Each student will present a seminar on research performed prior to or during their senior year.	1 Credits

Minimum Required Grade: C-	12 Total Credits Required

Upper Division Astronomy Core

Rule: Must complete the following courses

Note: ASTR 351 and ASTR 362 are recommended as well

	Course	Credits
	ASTR 353 - Galactic Astrophysics Offered spring odd-numbered years. Prereq., ASTR 132N, PHSX 217N-218N, M 273. The nature of the Milky Way galaxy and other galaxies, galactic evolution, the large scale structure of the universe, active galaxies and quasars, and cosmology, including the early universe.	3 Credits
	ASTR 363 - Stellar Astr & Astrophys I Offered autumn odd-numbered years. Prereq., ASTR 132N, M 273, and PHSX 217N-218N; PHSX 343 recommended. Detailed application of physical laws to determine the nature of the stars; analysis of stellar spectra and atmospheres; solar astrophysics; structure of stars and their evolution.	3 Credits
	ASTR 365 - Stellar Ast & Astrophys II Offered spring even-numbered years. Prereq., ASTR 363. Continuation of ASTR 363.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Major Electives

Rule: Complete the following subcategories of courses

12 Total Credits Required

Physics Electives

Rule: Choose 3 of the following courses

	Course	Credits
	PHSX 320 - Classical Mechanics Offered autumn. Prereq., PHSX 301, M 311. Topics in classical mechanics at the intermediate level, emphasizing Lagrangian and Hamiltonian dynamics.	3 Credits
	PHSX 327 - Optics Offered spring. Prereq., PHSX 311. Intermediate level study of light and optics, including geometrical optics, wave optics, optical instruments, coherence, polarization, and special topics.	3 Credits
	PHSX 423 - Electricity & Magnetism I Offered autumn. Prereq, PHSx 301. Electricity and magnetism at the intermediate level.	3 Credits

	PHSX 425 - Electricity & Magnetism II Offered spring. Prereq., PHSX 423. Continuation of PHSX 423. Electricity and magnetism at the intermediate level.	3 Credits
	PHSX 446 - Thermodyn & Stat Mech Offered spring even-numbered years. Prereq., PHSX 343; coreq., M 311. Topics in thermodynamics and statistical mechanics.	3 Credits
	PHSX 462 - Quantum Mechanics II Offered spring. Prereq., PHSX 461 or consent of instr. Advanced topics in quantum mechanics including linear vector spaces and Dirac notation, quantum dynamics, time-dependent perturbation theory, and scattering theory.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Physics Laboratory Electives

Rule: Choose 1 of the following laboratory courses

	Course	Credits
	ASTR 362 - Observational Astronomy Offered autumn even-numbered years. Prereq., ASTR 132N or 142N, PHXS 217N-218N. Laboratory study of the probabilistic behavior of light, data acquisition with telescopes, digital imaging and spectroscopy. Emphasis on fundamental statistical tools, scientific computer programming, and written and oral presentation of scientific results.	3 Credits
	PHSX 323 - Intermediate Physics Lab Offered spring. Prereq., PHSX 217N-218N or PHSX 207N-208N and PHSX 311. Laboratory course in the application of analog and digital electronics to experimental physics, with additional emphasis on data analysis techniques.	3 Credits
	PHSX 444 - Advanced Physics Lab Offered autumn. Prereq., PHSX 343 or equiv., PHSX 327 or equiv.; PHSX 322 suggested but not required. Advanced experiments in classical and modern physics, including optics, spectroscopy, laser science, atomic, nuclear, and particle physics, Data analysis techniques for experimental scientists. Recommended for students entering graduate school in any experimental science.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Math Requirements

Rule: Complete the following courses

Note: M 317, M 412, and M 418 are recommended as well

	Course	Credits

	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Computer Science Electives

Rule: Choose 1 of the following courses

Note: PHSX 333 or CSCI 250 is strongly recommended.

	Course	**Credits**
	CSCI 100 - Intro to Programming Offered autumn and spring. This course covers basic programming concepts such as variables, data types, iteration, flow of control, input/output, functions, and objects. The course will also cover programming ideas such as data structures, algorithms, modularity, and debugging. Students will learn about the role computation can play in solving problems by writing interesting programs to solve useful goals. No prior programming experience is expected. (Two hours independent lab per week.) Credit not allowed for both CSCI 100 and CSCI 110.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits

	PHSX 333 - Computational Physics Offered spring odd-numbered years. Prereq., PHSX 217N-218N; coreq., any upper-division PHXS course. Solution of advanced problems in physics using computational methods. Students will learn a variety of numerical methods, including FORTRAN programming techniques.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Advanced College Writing Requirement

Rule: Must take the following course

Note: May substitute another advanced writing course as approved by the department chair.

	Course	**Credits**
	PHSX 330 - Communicating Physics Offered spring even-numbered years. Prereq., PHSX 217N-218N or PHSX 207N-208N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Foreign Language

Note: Students must also complete a 2 semester language sequence or have equivalent placement.

Computational Physics

The computational physics option provides a thorough study of computer science and computational physics as well as a solid background in physics and mathematics. Graduates from this program have gone on to graduate programs in physics and computer science while others have found career opportunities in technical fields.

Bachelor of Arts - Physics; Computational Physics Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 72

Required Cumulative GPA: 2.0

Lower Division Physics Core

Rule: Must complete all of the courses in one of the two options:

Note: null

Note: The Physics with Calculus series (PHSX 215N - 218N) is strongly recommended.

10 Total Credits Required

College Physics

Rule: may complete all of the following courses

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete all of the following courses

	Course	Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits

	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Upper Division Physics

Rule: Complete the following courses

	Course	Credits
	PHSX 301 - Intro Theoretical Physics Offered spring. Prereq., M 273; coreq., PHSX 217N-218N. Selected topics from applied linear algebra, ordinary and partial differential equations, vector analysis, complex variables, and Fourier series. Applications to classical mechanics, electromagnetism, and quantum mechanics.	3 Credits
	PHSX 311 - Oscillations and Waves Offered autumn. Prereq., PHSX 217N-218N or 207N-208N; Prereq. or coreq. M 273. Detailed study of oscillations and waves at the intermediate level, to develop physical intuition and mathematical skills needed for analyzing a wide range of periodic phenomena encountered in physics.	2 Credits
	PHSX 320 - Classical Mechanics Offered autumn. Prereq., PHSX 301, M 311. Topics in classical mechanics at the intermediate level, emphasizing Lagrangian and Hamiltonian dynamics.	3 Credits
	PHSX 333 - Computational Physics Offered spring odd-numbered years. Prereq., PHSX 217N-218N; coreq., any upper-division PHXS course. Solution of advanced problems in physics using computational methods. Students will learn a variety of numerical methods, including FORTRAN programming techniques.	3 Credits
	PHSX 343 - Modern Physics Offered autumn. Prereq., one year of college physics; coreq., M 273. Includes historical background for development of modern physics and an introduction to quantum mechanics, atomic and nuclear physics. Credit not allowed for graduate degree in physics.	3 Credits
	PHSX 423 - Electricity & Magnetism I Offered autumn. Prereq, PHSx 301. Electricity and magnetism at the intermediate level.	3 Credits

	PHSX 499 - Senior Capstone Seminar Offered autumn. Prereq., junior or senior standing in physics. Each student will present a seminar on research performed prior to or during their senior year.	1 Credits
Minimum Required Grade: C-		18 Total Credits Required

Physics Elective

Rule: Choose 1 of the following courses

Note: PHSX 322, 425, and 461 are strongly recommended

	Course	Credits
	PHSX 141N - Einstein's Relativity Offered spring. Prereq., working knowledge of high school physics and high school calculus, or consent of instr. Modern theoretical study of space, time, the principle of relativity, and its implications. Analysis of apparent paradoxes, and applications to particle physics.	3 Credits
	PHSX 323 - Intermediate Physics Lab Offered spring. Prereq., PHSX 217N-218N or PHSX 207N-208N and PHSX 311. Laboratory course in the application of analog and digital electronics to experimental physics, with additional emphasis on data analysis techniques.	3 Credits
	PHSX 327 - Optics Offered spring. Prereq., PHSX 311. Intermediate level study of light and optics, including geometrical optics, wave optics, optical instruments, coherence, polarization, and special topics.	3 Credits
	PHSX 330 - Communicating Physics Offered spring even-numbered years. Prereq., PHSX 217N-218N or PHSX 207N-208N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles.	3 Credits
	PHSX 425 - Electricity & Magnetism II Offered spring. Prereq., PHSX 423. Continuation of PHSX 423. Electricity and magnetism at the intermediate level.	3 Credits
	PHSX 444 - Advanced Physics Lab Offered autumn. Prereq., PHSX 343 or equiv., PHSX 327 or equiv.; PHSX 322 suggested but not required. Advanced experiments in classical and modern physics, including optics, spectroscopy, laser science, atomic, nuclear, and particle physics, Data analysis techniques for experimental scientists. Recommended for students entering graduate school in any experimental science.	3 Credits
	PHSX 446 - Thermodyn & Stat Mech Offered spring even-numbered years. Prereq., PHSX 343; coreq., M 311. Topics in thermodynamics and statistical mechanics.	3 Credits

	PHSX 461 - Quantum Mechanics I Offered autumn. Prereq., PHSX 311, PHSX 343; prereq. or coreq., M 311. Introduction to quantum mechanics. Topics include Schroedinger equation, piecewise constant potential, harmonic oscillator, hydrogen atom, angular momentum theory, electron spin.	3 Credits
	PHSX 462 - Quantum Mechanics II Offered spring. Prereq., PHSX 461 or consent of instr. Advanced topics in quantum mechanics including linear vector spaces and Dirac notation, quantum dynamics, time-dependent perturbation theory, and scattering theory.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Math Requirements

Rule: Complete the following courses

Note: M 307, STAT 341, and STAT 458 are recommended as well

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 225 - Intro to Discrete Mathematics Offered autumn. Prereq., one of M 162, 171, or 181 or consent of instr. Mathematical concepts used in computer science with an emphasis on mathematical reasoning and proof techniques. Elementary logic, sets, functions and relations, combinatorics, mathematical induction, recursion and algorithms. Mathematics majors should take M 307 instead of 225.	3 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
		21 Total Credits Required

Computer Science Requirements

Rule: Complete the following subcategories of courses

20 Total Credits Required

Computer Science Core Courses

Rule: Must complete all of the following courses

	Course	Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 232 - Data Structures and Algorithms Offered autumn. Prereq., 'B-' or better in CSCI 136; or consent of instr. Abstract data types, algorithm analysis, stacks, queues, lists, recursion, trees, hashing, graphs, and applications of data structures in algorithm development. Python programming language used.	4 Credits
	CSCI 332 - Design/Analysis of Algorithms Offered spring. Prereq., CSCI 232 and M 225 or consent of instr. Algorithm design, analysis, and correctness. Commonly used algorithms including searching and sorting, string search, dynamic programming, branch and bound, graph algorithms, and parallel algorithms. Introduction to NP-complete problems.	3 Credits
Minimum Required Grade: C-		13 Total Credits Required

Computer Science Electives

Rule: Choose an additional 7 credits from any CSCI courses number 200 and above

Note: CSCI 205, 250, 361, 415, and 477 are recommended

Advanced College Writing Requirement

Rule: Must take the following course

Note: May substitute another advanced writing course as approved by the department chair.

	Course	Credits

	PHSX 330 - Communicating Physics Offered spring even-numbered years. Prereq., PHSX 217N-218N or PHSX 207N-208N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Foreign Language

Note: Students must also complete a 2 semester language sequence or have equivalent placement.

Teaching Physics

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Bachelor of Arts - Physics; Track: Teaching Physics

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 76

Required Cumulative GPA: 2.0

Lower Division Physics

Rule: Must complete all of the courses in one of the two options:

Note: Calculus-based Physics sequence is strongly recommended.

Note: The Physics with Calculus series (PHSX 215N - 218N) is strongly recommended.

Minimum Required Grade: C-

10 Total Credits Required

College Physics

Rule: May complete all of the following courses

	Course	**Credits**

	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete all of the following courses

	Course	**Credits**
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits

	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Upper Division Physics

Rule: Must complete the following subcategories
Minimum Required Grade: C-
22 Total Credits Required

Required Upper Division Courses

Rule: All courses are required

	Course	Credits
	PHSX 301 - Intro Theoretical Physics Offered spring. Prereq., M 273; coreq., PHSX 217N-218N. Selected topics from applied linear algebra, ordinary and partial differential equations, vector analysis, complex variables, and Fourier series. Applications to classical mechanics, electromagnetism, and quantum mechanics.	3 Credits
	PHSX 320 - Classical Mechanics Offered autumn. Prereq., PHSX 301, M 311. Topics in classical mechanics at the intermediate level, emphasizing Lagrangian and Hamiltonian dynamics.	3 Credits
	PHSX 327 - Optics Offered spring. Prereq., PHSX 311. Intermediate level study of light and optics, including geometrical optics, wave optics, optical instruments, coherence, polarization, and special topics.	3 Credits
	PHSX 330 - Communicating Physics Offered spring even-numbered years. Prereq., PHSX 217N-218N or PHSX 207N-208N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles.	3 Credits
	PHSX 343 - Modern Physics Offered autumn. Prereq., one year of college physics; coreq., M 273. Includes historical background for development of modern physics and an introduction to quantum mechanics, atomic and nuclear physics. Credit not allowed for graduate degree in physics.	3 Credits

	PHSX 423 - Electricity & Magnetism I Offered autumn. Prereq, PHSx 301. Electricity and magnetism at the intermediate level.	3 Credits
	PHSX 461 - Quantum Mechanics I Offered autumn. Prereq., PHSX 311, PHSX 343; prereq. or coreq., M 311. Introduction to quantum mechanics. Topics include Schroedinger equation, piecewise constant potential, harmonic oscillator, hydrogen atom, angular momentum theory, electron spin.	3 Credits
	PHSX 499 - Senior Capstone Seminar Offered autumn. Prereq., junior or senior standing in physics. Each student will present a seminar on research performed prior to or during their senior year.	1 Credits
Minimum Required Grade: C-		22 Total Credits Required

Upper Division Elective Courses

Rule: Must take 3 additional upper division elective courses

Math Requirements

Rule: Complete all of the following courses

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Computer Science Requirements

Rule: Choose 1 of the following

Note: PHSX 333 is strongly recommended

	Course	Credits
	CSCI 100 - Intro to Programming Offered autumn and spring. This course covers basic programming concepts such as variables, data types, iteration, flow of control, input/output, functions, and objects. The course will also cover programming ideas such as data structures, algorithms, modularity, and debugging. Students will learn about the role computation can play in solving problems by writing interesting programs to solve useful goals. No prior programming experience is expected. (Two hours independent lab per week.) Credit not allowed for both CSCI 100 and CSCI 110.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Statistics

Rule: Must complete 1 of the following courses

	Course	Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Advanced College Writing Requirement

Rule: Must take the following course

Note: May substitute another advanced writing course as approved by the department chair.

	Course	Credits

	PHSX 330 - Communicating Physics Offered spring even-numbered years. Prereq., PHSX 217N-218N or PHSX 207N-208N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching. This major does not qualify as a single field endorsement. Individuals must complete a second teaching major or minor in another content area.

Allied Science

Rule: Must complete the following subcategories

20-21 Total Credits Required

Astronomy

Rule: Must complete the following courses

	Course	**Credits**
	ASTR 131N - Elementary Astronomy I Offered autumn. Prereq., high school algebra and geometry. An introduction to observational, historical, and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits
	ASTR 132N - Elementary Astronomy II Offered spring. Prereq., high school algebra and geometry. An introduction to stars, stellar evolution, galaxies, and cosmology. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Chemistry

Rule: Must complete the following courses

	Course	**Credits**

	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 485 - Laboratory Safety Offered autumn. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.	1 Credits
Minimum Required Grade: C-		4 Total Credits Required

Biology

Rule: Must complete 1 of the following courses

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Geology

Rule: Must complete the following courses

	Course	Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits
	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
Minimum Required Grade: C-		4 Total Credits Required

Environmental

Rule: Must complete 1 of the following courses

	Course	Credits
	ENSC 105N - Environmental Science Offered autumn. Provides students with opportunities to use class knowledge to make a difference; helps students build all of the following: scientific literacy; skills in critical thinking, research and self-instruction; an understanding of the scientific basis of environmental issues, policies and laws; habits of sustainable living, scientifically-informed, active participation in social decisions, and service to their community and to the earth.	3 Credits
	ENST 472 - Gen Sci: Conserv Ed Offered autumn and spring. A study of the foundations of environmental science and conservation education with applications to community service and teaching.	3 Credits
	GEO 105N - Oceanography Offered spring. The ocean covers 70 % of the globe, and yet vast regions remain unexplored. Interactions between the atmosphere and the sea moderate and control our climate. Nearly 40 % of the world's population lives within 100 kilometers of the coast. The oceans are geographically, environmentally, culturally, and economically critical to society. This course introduces oceanography, including the origin of water and ocean basins; marine resources; atmospheric circulation; air-sea interaction; ocean-climate feedback; currents, tides, and coastal processes; marine ecology; and use and misuse of the oceans.	3 Credits

	GEO 108N - Climate Change Offered autumn. The geoscience perspective on the earth's climate system. Climate processes and feedbacks, climate history from early earth to the ice ages, present and future changes due to natural processes and human activities.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Licensure Course

Rule: Must complete the following course

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Science.

	Course	Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Broadfield Science

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Bachelor of Arts - Physics; Teaching Broadfield Science Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 79

Required Cumulative GPA: 2.0

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching.

Physics Requirements

Rule: Must complete all of the following subcategories

Minimum Required Grade: C-

24 Total Credits Required

Required Physics Courses

Rule: All courses are required

	Course	Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits

	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 301 - Intro Theoretical Physics Offered spring. Prereq., M 273; coreq., PHSX 217N-218N. Selected topics from applied linear algebra, ordinary and partial differential equations, vector analysis, complex variables, and Fourier series. Applications to classical mechanics, electromagnetism, and quantum mechanics.	3 Credits
	PHSX 311 - Oscillations and Waves Offered autumn. Prereq., PHSX 217N-218N or 207N-208N; Prereq. or coreq. M 273. Detailed study of oscillations and waves at the intermediate level, to develop physical intuition and mathematical skills needed for analyzing a wide range of periodic phenomena encountered in physics.	2 Credits
	PHSX 330 - Communicating Physics Offered spring even-numbered years. Prereq., PHSX 217N-218N or PHSX 207N-208N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles.	3 Credits
	PHSX 343 - Modern Physics Offered autumn. Prereq., one year of college physics; coreq., M 273. Includes historical background for development of modern physics and an introduction to quantum mechanics, atomic and nuclear physics. Credit not allowed for graduate degree in physics.	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

Physics Elective

Rule: Must complete 1 additional upper division Physics course

Math Requirements

Rule: All courses are required

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits

	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Statistics Requirements

Rule: Must complete 1 of the following courses

	Course	Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Astronomy Requirements

Rule: All courses are required

	Course	Credits
	ASTR 131N - Elementary Astronomy I Offered autumn. Prereq., high school algebra and geometry. An introduction to observational, historical, and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits
	ASTR 134N - Elementary Astronomy Lab I Offered autumn. Prereq. or coreq., ASTR 131N Laboratory exercises in observational and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	1 Credits
Minimum Required Grade: C-		4 Total Credits Required

Geology Requirements

Rule: Must complete the following subcategories

7 Total Credits Required

Required Geology Courses

Rule: All courses are required

	Course	Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits
	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
Minimum Required Grade: C-		4 Total Credits Required

Geology Electives

Rule: Must complete 1 of the following courses

	Course	Credits
	ASTR 351 - Planetary Science Offered autumn even-numbered years. Prereq., PHSX 215N-216N or 205N-206N and M 162 or 171. Same as GEO 317. Physical and geological characteristics of planets, satellites, asteroids, comets, and meteoroids, with an emphasis on comparative planetology.	3 Credits
	GEO 105N - Oceanography Offered spring. The ocean covers 70 % of the globe, and yet vast regions remain unexplored. Interactions between the atmosphere and the sea moderate and control our climate. Nearly 40 % of the world's population lives within 100 kilometers of the coast. The oceans are geographically, environmentally, culturally, and economically critical to society. This course introduces oceanography, including the origin of water and ocean basins; marine resources; atmospheric circulation; air-sea interaction; ocean-climate feedback; currents, tides, and coastal processes; marine ecology; and use and misuse of the oceans.	3 Credits

	GEO 108N - Climate Change Offered autumn. The geoscience perspective on the earth's climate system. Climate processes and feedbacks, climate history from early earth to the ice ages, present and future changes due to natural processes and human activities.	3 Credits
	GEO 200 - Historical Geology Offered autumn. Traces the history of the earth since its inception 4.5 billion years ago. Presents scientific theories for the origin of the earth and the nature of important earth shaping events of the past, including the development of the oceans, atmosphere and climate.	2 Credits
Minimum Required Grade: C-		3 Total Credits Required

Biology Requirements

Rule: Must complete all of the following courses

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		12 Total Credits Required

Chemistry Requirements

Rule: Must complete all of the following courses

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 485 - Laboratory Safety Offered autumn. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.	1 Credits
Minimum Required Grade: C-		11 Total Credits Required

Advanced College Writing Requirement

Rule: Must take the following course

Note: May substitute another advanced writing course as approved by the department chair.

	Course	Credits
	PHSX 330 - Communicating Physics Offered spring even-numbered years. Prereq., PHSX 217N-218N or PHSX 207N-208N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Methods Requirement

Rule: Complete the following course.

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Science.

	Course	Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Minor - Physics (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 24
Required Cumulative GPA: 2.0
Note: Mathematics prerequisites for the physics minor are M 171, 172, 273, and 311

Required Lower Division Courses

Rule: Must complete all of the following courses in one of the two options:
Note: The Physics with Calculus series (PHSX 215N - 218N) is strongly recommended.

10 Total Credits Required

College Physics

Rule: May complete all of the following courses:

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete all of the following courses:

	Course	Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Upper Division Core Course

Rule: Must complete the following course:

	Course	Credits
	PHSX 301 - Intro Theoretical Physics Offered spring. Prereq., M 273; coreq., PHSX 217N-218N. Selected topics from applied linear algebra, ordinary and partial differential equations, vector analysis, complex variables, and Fourier series. Applications to classical mechanics, electromagnetism, and quantum mechanics.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Elective Courses

Rule: Must complete 11 credits from the following courses

Note: Eight of the eleven required credits must be upper division courses.

	Course	Credits
	PHSX 141N - Einstein's Relativity Offered spring. Prereq., working knowledge of high school physics and high school calculus, or consent of instr. Modern theoretical study of space, time, the principle of relativity, and its implications. Analysis of apparent paradoxes, and applications to particle physics.	3 Credits
	PHSX 291 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PHSX 311 - Oscillations and Waves Offered autumn. Prereq., PHSX 217N-218N or 207N-208N; Prereq. or coreq. M 273. Detailed study of oscillations and waves at the intermediate level, to develop physical intuition and mathematical skills needed for analyzing a wide range of periodic phenomena encountered in physics.	2 Credits
	PHSX 320 - Classical Mechanics Offered autumn. Prereq., PHSX 301, M 311. Topics in classical mechanics at the intermediate level, emphasizing Lagrangian and Hamiltonian dynamics.	3 Credits
	PHSX 323 - Intermediate Physics Lab Offered spring. Prereq., PHSX 217N-218N or PHSX 207N-208N and PHSX 311. Laboratory course in the application of analog and digital electronics to experimental physics, with additional emphasis on data analysis techniques.	3 Credits
	PHSX 327 - Optics Offered spring. Prereq., PHSX 311. Intermediate level study of light and optics, including geometrical optics, wave optics, optical instruments, coherence, polarization, and special topics.	3 Credits
	PHSX 330 - Communicating Physics Offered spring even-numbered years. Prereq., PHSX 217N-218N or PHSX 207N-208N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles.	3 Credits
	PHSX 333 - Computational Physics Offered spring odd-numbered years. Prereq., PHSX 217N-218N; coreq., any upper-division PHXS course. Solution of advanced problems in physics using computational methods. Students will learn a variety of numerical methods, including FORTRAN programming techniques.	3 Credits
	PHSX 343 - Modern Physics Offered autumn. Prereq., one year of college physics; coreq., M 273. Includes historical background for development of modern physics and an introduction to quantum mechanics, atomic and nuclear physics. Credit not allowed for graduate degree in physics.	3 Credits
	PHSX 423 - Electricity & Magnetism I Offered autumn. Prereq, PHSx 301. Electricity and magnetism at the intermediate level.	3 Credits

	PHSX 444 - Advanced Physics Lab Offered autumn. Prereq., PHSX 343 or equiv., PHSX 327 or equiv.; PHSX 322 suggested but not required. Advanced experiments in classical and modern physics, including optics, spectroscopy, laser science, atomic, nuclear, and particle physics, Data analysis techniques for experimental scientists. Recommended for students entering graduate school in any experimental science.	3 Credits
	PHSX 446 - Thermodyn & Stat Mech Offered spring even-numbered years. Prereq., PHSX 343; coreq., M 311. Topics in thermodynamics and statistical mechanics.	3 Credits
	PHSX 461 - Quantum Mechanics I Offered autumn. Prereq., PHSX 311, PHSX 343; prereq. or coreq., M 311. Introduction to quantum mechanics. Topics include Schroedinger equation, piecewise constant potential, harmonic oscillator, hydrogen atom, angular momentum theory, electron spin.	3 Credits
	PHSX 462 - Quantum Mechanics II Offered spring. Prereq., PHSX 461 or consent of instr. Advanced topics in quantum mechanics including linear vector spaces and Dirac notation, quantum dynamics, time-dependent perturbation theory, and scattering theory.	3 Credits
Minimum Required Grade: C-		11 Total Credits Required

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Astronomy Minor

Minor - Astronomy (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 25

Required Cumulative GPA: 2.0

Note: Mathematics prerequisites for the Astronomy minor are M 171, M 172, and M 273

Lower Division Physics Courses

Rule: Must complete all of the courses in one of the two options:

Note: The Physics with Calculus series (PHSX 215N - 218N) is strongly recommended.

10 Total Credits Required

> ### *College Physics*
> **Rule:** May complete all of the following courses:

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete all of the following courses:

	Course	Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits

	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Lower Division Astronomy Courses

Rule: Complete the following subcategories of courses

6-7 Total Credits Required

Core Course

Rule: Complete all of the following courses

	Course	**Credits**
	ASTR 131N - Elementary Astronomy I Offered autumn. Prereq., high school algebra and geometry. An introduction to observational, historical, and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Core Elective

Rule: Choose 1 of the following courses

	Course	**Credits**
	ASTR 132N - Elementary Astronomy II Offered spring. Prereq., high school algebra and geometry. An introduction to stars, stellar evolution, galaxies, and cosmology. Students will have a chance to visit UM’s state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits

	ASTR 142N - The Evolving Universe Offered spring. Prereq., working knowledge of precalculus (ie., college algebra and college trigonometry). Overview of recent developments in planetary system formation, stars, galaxies, and cosmology. Some astronomical observing required outside of normal class hours.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Electives

Rule: Must complete 3 of the following courses

	Course	Credits
	ASTR 351 - Planetary Science Offered autumn even-numbered years. Prereq., PHSX 215N-216N or 205N-206N and M 162 or 171. Same as GEO 317. Physical and geological characteristics of planets, satellites, asteroids, comets, and meteoroids, with an emphasis on comparative planetology.	3 Credits
	ASTR 353 - Galactic Astrophysics Offered spring odd-numbered years. Prereq., ASTR 132N, PHSX 217N-218N, M 273. The nature of the Milky Way galaxy and other galaxies, galactic evolution, the large scale structure of the universe, active galaxies and quasars, and cosmology, including the early universe.	3 Credits
	ASTR 362 - Observational Astronomy Offered autumn even-numbered years. Prereq., ASTR 132N or 142N, PHXS 217N-218N. Laboratory study of the probabilistic behavior of light, data acquisition with telescopes, digital imaging and spectroscopy. Emphasis on fundamental statistical tools, scientific computer programming, and written and oral presentation of scientific results.	3 Credits
	ASTR 363 - Stellar Astr & Astrophys I Offered autumn odd-numbered years. Prereq., ASTR 132N, M 273, and PHSX 217N-218N; PHSX 343 recommended. Detailed application of physical laws to determine the nature of the stars; analysis of stellar spectra and atmospheres; solar astrophysics; structure of stars and their evolution.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Teaching Physics Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Minor - Physics (Minor); Track: Teaching Physics

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 56
Required Cumulative GPA: 2.0

Lower Division Physics

Rule: Must complete all of the courses in one of the two options:
Note: Calculus-based Physics sequence is strongly recommended.
Note: The Physics with Calculus series (PHSX 215N - 218N) is strongly recommended.
Minimum Required Grade: C-
10 Total Credits Required

College Physics

Rule: May complete all of the following courses

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete all of the following courses

	Course	Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Upper Division Physics

Rule: Complete the following courses

	Course	Credits
	PHSX 320 - Classical Mechanics Offered autumn. Prereq., PHSX 301, M 311. Topics in classical mechanics at the intermediate level, emphasizing Lagrangian and Hamiltonian dynamics.	3 Credits
	PHSX 327 - Optics Offered spring. Prereq., PHSX 311. Intermediate level study of light and optics, including geometrical optics, wave optics, optical instruments, coherence, polarization, and special topics.	3 Credits
	PHSX 330 - Communicating Physics Offered spring even-numbered years. Prereq., PHSX 217N-218N or PHSX 207N-208N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles.	3 Credits

	PHSX 343 - Modern Physics Offered autumn. Prereq., one year of college physics; coreq., M 273. Includes historical background for development of modern physics and an introduction to quantum mechanics, atomic and nuclear physics. Credit not allowed for graduate degree in physics.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Math Requirements

Rule: Complete all of the following courses

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Computer Science Requirements

Rule: Choose 1 of the following

Note: PHSX 333 is strongly recommended

	Course	Credits

	CSCI 100 - Intro to Programming Offered autumn and spring. This course covers basic programming concepts such as variables, data types, iteration, flow of control, input/output, functions, and objects. The course will also cover programming ideas such as data structures, algorithms, modularity, and debugging. Students will learn about the role computation can play in solving problems by writing interesting programs to solve useful goals. No prior programming experience is expected. (Two hours independent lab per week.) Credit not allowed for both CSCI 100 and CSCI 110.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Statistics

Rule: Must complete 1 of the following courses

	Course	Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching. Individuals completing a teaching minor must also complete a teaching major in another content area.

Allied Science

Rule: Must complete the following subcategories

10-11 Total Credits Required

> ### *Astronomy*
>
> **Rule:** Must complete 1 of the following courses

	Course	Credits
	ASTR 131N - Elementary Astronomy I Offered autumn. Prereq., high school algebra and geometry. An introduction to observational, historical, and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits
	ASTR 132N - Elementary Astronomy II Offered spring. Prereq., high school algebra and geometry. An introduction to stars, stellar evolution, galaxies, and cosmology. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Chemistry

Rule: Must complete the following courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 485 - Laboratory Safety Offered autumn. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.	1 Credits
Minimum Required Grade: C-		4 Total Credits Required

Biology

Rule: Must complete 1 of the following courses

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits

	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Teaching Licensure Course

Rule: Must complete the following course

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Science.

	Course	Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Philosophy Department

Paul Muench, Chair

Philosophy is the search for an understanding of how the world as a whole hangs together and of how we are to assume our place in the world. Philosophy pursues its goal first of all historically. It is the trustee of the heritage of great philosophical texts, and it engages those texts in conversation with contemporary problems. Second, philosophy turns to the contemporary world directly and tries to illuminate and advance its concerns with ethics and art, with science and technology, with ecology and feminism, with law and medicine. Bachelor of Arts and Master of Arts degrees are offered.

Bachelor of Arts and Master of Arts degrees are offered. More information is available online at the Philosophy Department website:

Department Faculty

Professors

Albert Borgmann, Regents Professor Emeritus of Philosophy
Bridget Clarke, Associate Professor of Philosophy
Armond Duwell, Professor of Philosophy
Christopher Preston, Professor of Philosophy
David Sherman, Professor of Philosophy
Deborah Slicer, Professor of Philosophy, Graduate Advisor

Associate Professors

Soazig Le Bihan, Associate Professor of Philosophy
Paul Muench, Associate Professor of Philosophy
Matthew Strohl, Associate Professor of Philosophy

Adjunct Faculty

Patrick Burke, Adjunct Instructor of Philosophy
Melodie Stenger

Emeritus Professors

Thomas Huff, Adjunct Professor / Professor of Philosophy, Emeritus
Fred McGlynn, Professor Emeritus

Philosophy

Back to Top

- PHL 101Y - Introduction to Philosophy
  Credits: 3. (R-12) Offered yearly. An introduction to philosophy through examination of the thought of selected great philosophers or traditional positions on classical philosophical problems. Course Attributes: Democracy and Citizenship (Y)
- PHL 102Y - Topical Intro to Philosophy
  Credits: 1 TO 4. (R-9) Offered yearly. An introduction to philosophy through examination of a selected topic (such as existentialism, philosophy of film, technology and the good life, science and society, philosophy of religion). Course Attributes: Democracy and Citizenship (Y)
- PHL 110E - Introduction to Ethics
  Credits: 3. Offered every term. An examination of the Western vision of morality through the careful study of selected writings from Aristotle, Kant and Mill. Additional works in ethics may supplement primary readings. Course Attributes: Ethical & Human Values Course
- PHL 112E - Intro Ethics and Environment
  Credits: 3. Offered intermittently. An introductory-level ethics course with a special interest in the natural environment. The course will (a) introduce students to the three classical traditions in ethics - virtue, Kantianism, and utilitarianism, (b) ground these theories in questions about the moral status of non-humans and our moral duties to non-humans, (c) include an applied section

that covers animal welfare, biotechnology, and other current topics. Course Attributes: Ethical & Human Values Course

- PHL 114E - Intro to Political Ethics

  Credits: 3. Offered intermittently. An examination of the issues of political ethics through the careful study of selected writings from the three great Western political traditions: classical natural law theory, modern individualism, and contemporary distributive justice. Course Attributes: Ethical & Human Values Course

- PHL 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- PHL 198 - Internship

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of faculty supervisor and the Internship Services Office. Extended classroom experience which provides practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- PHL 210E - Moral Philosophy

  Credits: 3. Offered autumn and spring. Prereq., philosophy major or minor, or consent of instr. An examination of leading approaches to moral philosophy through a careful reading of classical texts in the Western tradition. A more thorough treatment of the material offered in PHL 110E. Intended primarily for philosophy majors and minors. Course Attributes: Ethical & Human Values Course Writing Course-Intermediate

- PHL 233 - Intro to Logic: Deduction

  Credits: 3. Offered autumn and spring. Understanding general principles of reasoning and the habits of clear and correct thinking. Emphasis on the analysis of the logical structure of claims in natural language and the skills of elementary deductive inference.

- PHL 235 - Intro to Logic: Induction

  Credits: 3. Offered intermittently. Prereq., PHL 233 or equivalent, or consent of instr. A study of the formal principles of reasoning from evidence.

- PHL 241N - Hist & Philosophy of Science

  Credits: 3. Offered intermittently. The epistemological and metaphysical developments of natural philosophy or science. The origins of science in ancient Greece, and its subsequent developments during the scientific revolution. Developments in biology, especially Darwinism and genetics, and developments in physics. Course Attributes: Hist & Cultural Studies (H) Natural Science Course (N)

- PHL 261Y - History of Ancient Philosophy

  Credits: 3. Offered autumn. Introduction to the central works of Plato and Aristotle, with an overview of Presocratic and Hellenistic philosophy. Course Attributes: Democracy and Citizenship (Y)

- PHL 262Y - History of Modern Philosophy

  Credits: 3. Offered spring. A survey of the history of philosophy from Descartes to Kant, which includes other continental rationalists and the British Empiricists. Course Attributes: Democracy and Citizenship (Y)

- PHL 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- PHL 292 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

- PHL 298 - Internship

  Credits: 1 TO 6. (R-9) Offered intermittently. Prereq., consent of faculty supervisor and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- PHL 301 - Knowledge and Reality

  Credits: 3. (R-9) Offered intermittently. Prereq., upper-division standing or consent of instr. Selected topics in one or more of the following areas: epistemology (the study of knowledge), philosophy of science, metaphysics. Intended primarily for non-majors.

- PHL 311 - The Good, Right, Beautiful

  Credits: 3. (R-9) Offered intermittently. Prereq., upper-division standing or consent of instr. Selected topics in one or more of the following areas: ethics, philosophy of mind/action, aesthetics. Intended primarily for non-majors.

- PHL 316 - Historical Figures in Phil

  Credits: 3. (R-9)Offered intermittently. Prereq., upper-division standing or consent of instr. Study of one or more historically significant philosophers. Intended primarily for non-majors.

- PHL 321E - Philosophy & Biomedical Ethics

  Credits: 3. Offered intermittently. Prereq., upper-division standing or consent of instr. An examination of ethical problems raised by the practice of medicine and by recent developments in medically-related biological sciences. Course Attributes: Ethical & Human Values Course

- PHL 323 - Ethics of Climate Change

  Credits: 3. This course examines some of the fundamental issues raised by global climate change and considers how environmental ethics might help to address these issues. Students will become acquainted with the essential elements of climate change science and be provided with an introduction to contemporary approaches to environmental ethics that have developed out of the primary ethical traditions of western thought: deontological (Kantian) ethics, utilitarian ethics, and virtue ethics. In addition, the course examines alternative understandings of the appropriate relationship between humans and the natural world including: “Deep Ecology” and Native American perspectives.

- PHL 351 - Philosophy and Feminism

  Credits: 3. Offered intermittently. Prereq., upper-division standing or consent of instr. Study of what distinguishes feminist from traditional approaches to ethics. May also examine other relevant areas of philosophy, including epistemology, political theory, philosophy of science and environment.

- PHL 363H - Ancient Greek and Roman Philosophy

  Credits: 3. Offered intermittently. Examination of the thought of the philosophers of Greece and Rome as expressed in original works read in English translation. Ancient philosophy studied within its historical, linguistic and cultural setting. Course Attributes: Hist & Cultural Studies (H)

- PHL 370 - Philosophy of Religion

  Credits: 3. Offered intermittently. Prereq., upper-division standing or consent of instr. An examination of one or more of the classic problems of Western philosophy of religion, such as the traditional arguments for and against the existence of God, the relationship of faith and reason, the status of religious experience, the problem of evil, and the problem of reconciling divine omniscience with human freedom.

- PHL 390 - Research

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the background and objectives of the student. Course Attributes: Research & Creative Schlrshp

- PHL 391 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- PHL 392 - Independent Study

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- PHL 394 - Seminar

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. A review and discussion of current research. Topics vary.

- PHL 398 - Internship

Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of faculty supervisor and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- PHL 405 - 20th Century Analytic Phil

  Credits: 3. (R-9) Offered intermittently. Prereq., upper-division standing, PHL 210E, PHL 233, and PHL 262Y, or consent of instr. Intensive study of the work of one or more philosophers (such as Frege, Russell, Wittgenstein) or historical introduction to the major issues and figures of 20th century philosophy in the analytic tradition (with readings from Frege, Russell, Wittgenstein, Quine and others).

- PHL 406 - Contemp Issues Analytic Phil

  Credits: 3. (R-6) Offered intermittently. Prereq., upper-division standing, PHL 210E, PHL 233, and PHL 262Y, or consent of instr. Examination of contemporary issues in analytic philosophy focusing on one or more of the following topics: philosophy of language, epistemology, metaphysics, philosophy of mind.

- PHL 412 - Ethics and Public Affairs

  Credits: 3. Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Examination of morally relevant issues in government, journalism, education and other social institutions. Issues considered may include just war theory, deception, confidentiality, conflict of interest, privacy, paternalism responsibilities in conflict with other institutions, and responsibilities across national boundaries, among others.

- PHL 422 - Environmental Philosophy

  Credits: 3. Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment.

- PHL 427 - Topics in Philosophy of Art

  Credits: 1 TO 4. (R-9) Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Examination of philosophical problems related to particular arts and discussion of the nature of the arts. Topics considered may include music, visual arts, literature, and film.

- PHL 429 - Philosophy in Literature

  Credits: 3. Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Philosophical thought in selected works of literature.

- PHL 445 - Central Issues Phil of Science

  Credits: 3. Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. A consideration of philosophical issues relating to the nature of modern physical science: method, explanation, theory, progress, space/time, causality, relation of science to philosophy.

- PHL 449 - Hist Moral and Political Phil

  Credits: 3. Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Reading and interpretation of selected writings in the history of moral philosophy and/or political philosophy.

- PHL 450 - Contemp Moral/Political Theory

  Credits: 3. Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Recent theories in ethics and their implications; recent work in political theory, emphasizing contemporary liberalism and its critics.

- PHL 455 - Phil of Society and Culture

  Credits: 3. Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. A philosophical examination of cultural forces shaping modern society, forces such as science, technology, or domesticity.

- PHL 462 - Early Modern Philosophy

  Credits: 3. (R-6) Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Intensive study of the work of one or more of the major philosophers from the early modern period (Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume).

- PHL 464 - Kant

  Credits: 3. Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Reading and interpretation of selected works.

- PHL 465 - Plato

  Credits: 3. Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.

- PHL 466 - Aristotle

  Credits: 3. Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.

- PHL 467 - 19th Century Continental Phil

  Credits: 3. (R-6) Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Intensive study of the work of one or more 19th century continental philosophers (such as Hegel, Schopenhauer, Kierkegaard, Marx, Nietzsche).

- PHL 468 - 20th Century Continental Phil

  Credits: 3. (R-9) Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Intensive study of the work of one or more 20th century continental philosophers (such as Heidegger, Husserl, Sartre, Merleau-Ponty, Ricoeur, Derrida) or several texts representing a major movement in 20th century continental thought (such as Phenomenology, Existentialism, Hermeneutics, Post-structuralism).

- PHL 490 - Research

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the background and objectives of the student. Course Attributes: Research & Creative Schlrshp

- PHL 491 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- PHL 492 - Independent Study

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- PHL 494 - Seminar

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. A review and discussion of current research. Topics vary.

- PHL 498 - Internship

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of faculty supervisor and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- PHL 499 - Senior Seminar

  Credits: 3. (R-9) Offered spring. Prereq., senior standing and philosophy major or philosophy minor, or consent of instr. Research in problems in philosophy. Course Attributes: Writing Course-Advanced

- PHL 501 - Philosophy of Technology

  Credits: 3. (R-6) Offered once every two years. Reading and interpretation of selected writings that address central issues in the philosophy of technology. Level: Graduate

- PHL 502 - Topics in Value Theory

  Credits: 3. (R-6) Offered once every two years. Reading and interpretation of selected writings in value theory. Level: Graduate

- PHL 504 - Topics in Environ Philosophy

  Credits: 3. (R-9) Offered yearly. Same as ENST 504. Critical study/discussion of current (as well as benchmark) texts and issues in environmental ethics, environmental politics, and the philosophy of ecology. Interdisciplinary; open to interested students from all disciplines. Level: Graduate

- PHL 505 - Issues in the Anthropocene

  Credits: 3. (R-6) Offered once every two years. Reading and interpretation of selected writings in contemporary environmental philosophy. Level: Graduate

- PHL 507 - Philosophical Foundations of Ecology

Credits: 3. Offered once every two years. In this seminar we will look at some of the key papers in philosophy of ecology (and perhaps, more broadly, environmental philosophy). Some of the topics covered will be: whether nature can be thought to be in balance, the complexity-stability debate, the role and nature of models in ecology, whether there are laws of ecology, whether communities and ecosystems are "super-organisms" or simple aggregates, what biodiversity is and why we should care about it.

- PHL 510 - Phil Forum Colloquium
  Credits: 1. (R-3) Offered autumn and spring. Prereq., graduate standing. Discussion and further exploration of issues presented at the weekly Philosophy Forum. Level: Graduate
- PHL 590 - Research
  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the background and objectives of the student. Level: Graduate Course Attributes: Research & Creative Schlrshp
- PHL 591 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- PHL 592 - Independent Study
  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate
- PHL 593 - Professional Paper
  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course Attributes: Faculty-Led Study Abroad
- PHL 594 - Seminar
  Credits: 1 TO 9. (R-9) Offered intermittently. A review and discussion of current research. Topics vary. Level: Graduate
- PHL 598 - Internship
  Credits: 1 TO 12. (R-12) Offered intermittently. Prereq., consent of faculty supervisor and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus. Level: Graduate Course Attributes: Internships/Practicums
- PHL 599 - Thesis
  Credits: 1 TO 6. (R-9) Offered every semester. Prereq., approval of a thesis proposal by the student's thesis committee. Level: Graduate

Philosophy B.A.

Bachelor of Arts - Philosophy

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 33

Required Cumulative GPA: 1.7

Philosophy Lower-Division Core

Rule: All courses are required.

Note: General Education fulfillment through the lower-division core: PHL 210E fulfills the "approved writing course" and "Ethics & Human Values."
Both PHL 261Y and PHL 262Y fulfill "American & European Perspectives".

	Course	Credits
	PHL 210E - Moral Philosophy Offered autumn and spring. Prereq., philosophy major or minor, or consent of instr. An examination of leading approaches to moral philosophy through a careful reading of classical texts in the Western tradition. A more thorough treatment of the material offered in PHL 110E. Intended primarily for philosophy majors and minors.	3 Credits
	PHL 233 - Intro to Logic: Deduction Offered autumn and spring. Understanding general principles of reasoning and the habits of clear and correct thinking. Emphasis on the analysis of the logical structure of claims in natural language and the skills of elementary deductive inference.	3 Credits
	PHL 261Y - History of Ancient Philosophy Offered autumn. Introduction to the central works of Plato and Aristotle, with an overview of Presocratic and Hellenistic philosophy.	3 Credits
	PHL 262Y - History of Modern Philosophy Offered spring. A survey of the history of philosophy from Descartes to Kant, which includes other continental rationalists and the British Empiricists.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Philosophy Upper-Division Core

Rule: Complete four courses (12 credits) with one course (3 credits) in each of the following four core areas.
Minimum Required Grade: C-
12 Total Credits Required

I. History

Rule: Complete one course (3 credits).

Note: Special Topics courses taught at the 400-level (PHL 491 [PHIL 495]) may count as upper-division core courses provided that they have a suitable content (consult the department advisor).

	Course	Credits
	PHL 462 - Early Modern Philosophy (R-6) Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Intensive study of the work of one or more of the major philosophers from the early modern period (Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume).	3 Credits
	PHL 464 - Kant Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
	PHL 465 - Plato Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.	3 Credits

	PHL 466 - Aristotle Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

II. Value Theory

Rule: Complete one course (3 credits).

Note: Special Topics courses taught at the 400-level (PHL 491 [PHIL 495]) may count as upper-division core courses provided that they have a suitable content (consult the department advisor).

	Course	Credits
	PHL 412 - Ethics and Public Affairs Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Examination of morally relevant issues in government, journalism, education and other social institutions. Issues considered may include just war theory, deception, confidentiality, conflict of interest, privacy, paternalism responsibilities in conflict with other institutions, and responsibilities across national boundaries, among others.	3 Credits
	PHL 422 - Environmental Philosophy Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment.	3 Credits
	PHL 427 - Topics in Philosophy of Art (R-9) Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Examination of philosophical problems related to particular arts and discussion of the nature of the arts. Topics considered may include music, visual arts, literature, and film.	1 To 4 Credits
	PHL 429 - Philosophy in Literature Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Philosophical thought in selected works of literature.	3 Credits
	PHL 449 - Hist Moral and Political Phil Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Reading and interpretation of selected writings in the history of moral philosophy and/or political philosophy.	3 Credits
	PHL 450 - Contemp Moral/Political Theory Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Recent theories in ethics and their implications; recent work in political theory, emphasizing contemporary liberalism and its critics.	3 Credits

	PHL 455 - Phil of Society and Culture Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. A philosophical examination of cultural forces shaping modern society, forces such as science, technology, or domesticity.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

III. Continental Philosophy

Rule: Complete one course (3 credits).

Note: Special Topics courses taught at the 400-level (PHL 491 [PHIL 495]) may count as upper-division core courses provided that they have a suitable content (consult the department advisor).

	Course	Credits
	PHL 467 - 19th Century Continental Phil (R-6) Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Intensive study of the work of one or more 19th century continental philosophers (such as Hegel, Schopenhauer, Kierkegaard, Marx, Nietzsche).	3 Credits
	PHL 468 - 20th Century Continental Phil (R-9) Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Intensive study of the work of one or more 20th century continental philosophers (such as Heidegger, Husserl, Sartre, Merleau-Ponty, Ricoeur, Derrida) or several texts representing a major movement in 20th century continental thought (such as Phenomenology, Existentialism, Hermeneutics, Post-structuralism).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

IV. Analytic Philosophy

Rule: Complete one course (3 credits).

Note: Special Topics courses taught at the 400-level (PHL 491 [PHIL 495]) may count as upper-division core courses provided that they have a suitable content (consult the department advisor).

	Course	Credits
	PHL 405 - 20th Century Analytic Phil (R-9) Offered intermittently. Prereq., upper-division standing, PHL 210E, PHL 233, and PHL 262Y, or consent of instr. Intensive study of the work of one or more philosophers (such as Frege, Russell, Wittgenstein) or historical introduction to the major issues and figures of 20th century philosophy in the analytic tradition (with readings from Frege, Russell, Wittgenstein, Quine and others).	3 Credits

	PHL 406 - Contemp Issues Analytic Phil (R-6) Offered intermittently. Prereq., upper-division standing, PHL 210E, PHL 233, and PHL 262Y, or consent of instr. Examination of contemporary issues in analytic philosophy focusing on one or more of the following topics: philosophy of language, epistemology, metaphysics, philosophy of mind.	3 Credits
	PHL 445 - Central Issues Phil of Science Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. A consideration of philosophical issues relating to the nature of modern physical science: method, explanation, theory, progress, space/time, causality, relation of science to philosophy.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Required Upper-Division Electives in Philosophy

Rule: Students must complete two courses (6 credits).

Note: Any course taken for an Upper-Division Core area would not also apply to the Upper-Division Elective requirement.

	Course	Credits
	PHL 301 - Knowledge and Reality (R-9) Offered intermittently. Prereq., upper-division standing or consent of instr. Selected topics in one or more of the following areas: epistemology (the study of knowledge), philosophy of science, metaphysics. Intended primarily for non-majors.	3 Credits
	PHL 311 - The Good, Right, Beautiful (R-9) Offered intermittently. Prereq., upper-division standing or consent of instr. Selected topics in one or more of the following areas: ethics, philosophy of mind/action, aesthetics. Intended primarily for non-majors.	3 Credits
	PHL 316 - Historical Figures in Phil (R-9)Offered intermittently. Prereq., upper-division standing or consent of instr. Study of one or more historically significant philosophers. Intended primarily for non-majors.	3 Credits
	PHL 321E - Philosophy & Biomedical Ethics Offered intermittently. Prereq., upper-division standing or consent of instr. An examination of ethical problems raised by the practice of medicine and by recent developments in medically-related biological sciences.	3 Credits
	PHL 323 - Ethics of Climate Change This course examines some of the fundamental issues raised by global climate change and considers how environmental ethics might help to address these issues. Students will become acquainted with the essential elements of climate change science and be provided with an introduction to contemporary approaches to environmental ethics that have developed out of the primary ethical traditions of western thought: deontological (Kantian) ethics, utilitarian ethics, and virtue ethics. In addition, the course examines alternative understandings of the appropriate relationship between humans and the natural world including: “Deep Ecology” and Native American perspectives.	3 Credits

	PHL 351 - Philosophy and Feminism Offered intermittently. Prereq., upper-division standing or consent of instr. Study of what distinguishes feminist from traditional approaches to ethics. May also examine other relevant areas of philosophy, including epistemology, political theory, philosophy of science and environment.	3 Credits
	PHL 363H - Ancient Greek and Roman Phil Offered intermittently. Examination of the thought of the philosophers of Greece and Rome as expressed in original works read in English translation. Ancient philosophy studied within its historical, linguistic and cultural setting.	3 Credits
	PHL 370 - Philosophy of Religion Offered intermittently. Prereq., upper-division standing or consent of instr. An examination of one or more of the classic problems of Western philosophy of religion, such as the traditional arguments for and against the existence of God, the relationship of faith and reason, the status of religious experience, the problem of evil, and the problem of reconciling divine omniscience with human freedom.	3 Credits
	PHL 390 - Research (R-9) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the background and objectives of the student.	1 To 9 Credits
	PHL 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PHL 392 - Independent Study (R-9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	PHL 394 - Seminar (R-9) Offered intermittently. Prereq., consent of instr. A review and discussion of current research. Topics vary.	1 To 9 Credits
	PHL 398 - Internship (R-6) Offered intermittently. Prereq., consent of faculty supervisor and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	PHL 405 - 20th Century Analytic Phil (R-9) Offered intermittently. Prereq., upper-division standing, PHL 210E, PHL 233, and PHL 262Y, or consent of instr. Intensive study of the work of one or more philosophers (such as Frege, Russell, Wittgenstein) or historical introduction to the major issues and figures of 20th century philosophy in the analytic tradition (with readings from Frege, Russell, Wittgenstein, Quine and others).	3 Credits
	PHL 406 - Contemp Issues Analytic Phil (R-6) Offered intermittently. Prereq., upper-division standing, PHL 210E, PHL 233, and PHL 262Y, or consent of instr. Examination of contemporary issues in analytic philosophy focusing on one or more of the following topics: philosophy of language, epistemology, metaphysics, philosophy of mind.	3 Credits

	PHL 412 - Ethics and Public Affairs Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Examination of morally relevant issues in government, journalism, education and other social institutions. Issues considered may include just war theory, deception, confidentiality, conflict of interest, privacy, paternalism responsibilities in conflict with other institutions, and responsibilities across national boundaries, among others.	3 Credits
	PHL 422 - Environmental Philosophy Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment.	3 Credits
	PHL 427 - Topics in Philosophy of Art (R-9) Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Examination of philosophical problems related to particular arts and discussion of the nature of the arts. Topics considered may include music, visual arts, literature, and film.	1 To 4 Credits
	PHL 429 - Philosophy in Literature Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Philosophical thought in selected works of literature.	3 Credits
	PHL 445 - Central Issues Phil of Science Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. A consideration of philosophical issues relating to the nature of modern physical science: method, explanation, theory, progress, space/time, causality, relation of science to philosophy.	3 Credits
	PHL 449 - Hist Moral and Political Phil Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Reading and interpretation of selected writings in the history of moral philosophy and/or political philosophy.	3 Credits
	PHL 450 - Contemp Moral/Political Theory Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Recent theories in ethics and their implications; recent work in political theory, emphasizing contemporary liberalism and its critics.	3 Credits
	PHL 455 - Phil of Society and Culture Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. A philosophical examination of cultural forces shaping modern society, forces such as science, technology, or domesticity.	3 Credits
	PHL 462 - Early Modern Philosophy (R-6) Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Intensive study of the work of one or more of the major philosophers from the early modern period (Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume).	3 Credits
	PHL 464 - Kant Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
	PHL 465 - Plato Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.	3 Credits

	PHL 466 - Aristotle Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
	PHL 467 - 19th Century Continental Phil (R-6) Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Intensive study of the work of one or more 19th century continental philosophers (such as Hegel, Schopenhauer, Kierkegaard, Marx, Nietzsche).	3 Credits
	PHL 468 - 20th Century Continental Phil (R-9) Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Intensive study of the work of one or more 20th century continental philosophers (such as Heidegger, Husserl, Sartre, Merleau-Ponty, Ricoeur, Derrida) or several texts representing a major movement in 20th century continental thought (such as Phenomenology, Existentialism, Hermeneutics, Post-structuralism).	3 Credits
	PHL 490 - Research (R-9) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the background and objectives of the student.	1 To 9 Credits
	PHL 491 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PHL 492 - Independent Study (R-9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	PHL 494 - Seminar (R-9) Offered intermittently. Prereq., consent of instr. A review and discussion of current research. Topics vary.	1 To 9 Credits
	PHL 498 - Internship (R-6) Offered intermittently. Prereq., consent of faculty supervisor and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
Minimum Required Grade: C-		6 Total Credits Required

Senior Seminar

Rule: Students must complete PHL 499 (PHIL 480). 3 credits.

Note: This capstone course is normally taken during the spring semester of senior year.

General Education fulfillment: PHL 499 fulfills the "Upper Division Writing Expectation for the major"

	Course	**Credits**

	PHL 499 - Senior Seminar (R-9) Offered spring. Prereq., senior standing and philosophy major or philosophy minor, or consent of instr. Research in problems in philosophy.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Modern and Classical Language Requirement

Note: Students who major in philosophy must demonstrate third semester proficiency in a foreign language either by completing three semesters of one foreign language, with grades of C- (1.67) or better, or by receiving an equivalent score on a competence exam. Recommended languages for philosophy are Ancient Greek, Latin, French, and German.

Philosophy Minor

Minor - Philosophy (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18

Required Cumulative GPA: 2.0

Note: Students must complete a minimum of 18 credits in philosophy; at least 6 credits must be in courses numbered 300 and higher.

Lower Division Core

Rule: Must complete all of the following courses:

Note: General Education fulfillment through the lower-division core: PHL 210E fulfills the "approved writing course"
and "Ethics & Human Values." Both PHL 261Y and PHL 262Y fulfill "American & European Perspectives".

	Course	**Credits**
	PHL 210E - Moral Philosophy Offered autumn and spring. Prereq., philosophy major or minor, or consent of instr. An examination of leading approaches to moral philosophy through a careful reading of classical texts in the Western tradition. A more thorough treatment of the material offered in PHL 110E. Intended primarily for philosophy majors and minors.	3 Credits
	PHL 233 - Intro to Logic: Deduction Offered autumn and spring. Understanding general principles of reasoning and the habits of clear and correct thinking. Emphasis on the analysis of the logical structure of claims in natural language and the skills of elementary deductive inference.	3 Credits
	PHL 261Y - History of Ancient Philosophy Offered autumn. Introduction to the central works of Plato and Aristotle, with an overview of Presocratic and Hellenistic philosophy.	3 Credits

	PHL 262Y - History of Modern Philosophy Offered spring. A survey of the history of philosophy from Descartes to Kant, which includes other continental rationalists and the British Empiricists.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Core Area Requirement

Rule: Students must complete at least one course in two of the four core areas. Both must be upper division.

Note: Special Topics courses taught at the 400-level (PHL 491 [PHIL 495]) may count as upper-division core courses provided that they have a suitable content (consult the department advisor).

Minimum Required Grade: C-

6 Total Credits Required

History

	Course	Credits
	PHL 462 - Early Modern Philosophy (R-6) Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Intensive study of the work of one or more of the major philosophers from the early modern period (Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume).	3 Credits
	PHL 464 - Kant Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
	PHL 465 - Plato Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
	PHL 466 - Aristotle Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
Minimum Required Grade: C-		

Value Theory

	Course	Credits
	PHL 412 - Ethics and Public Affairs Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Examination of morally relevant issues in government, journalism, education and other social institutions. Issues considered may include just war theory, deception, confidentiality, conflict of interest, privacy, paternalism responsibilities in conflict with other institutions, and responsibilities across national boundaries, among others.	3 Credits

	PHL 422 - Environmental Philosophy Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment.	3 Credits
	PHL 427 - Topics in Philosophy of Art (R-9) Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Examination of philosophical problems related to particular arts and discussion of the nature of the arts. Topics considered may include music, visual arts, literature, and film.	1 To 4 Credits
	PHL 429 - Philosophy in Literature Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Philosophical thought in selected works of literature.	3 Credits
	PHL 449 - Hist Moral and Political Phil Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Reading and interpretation of selected writings in the history of moral philosophy and/or political philosophy.	3 Credits
	PHL 450 - Contemp Moral/Political Theory Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Recent theories in ethics and their implications; recent work in political theory, emphasizing contemporary liberalism and its critics.	3 Credits
	PHL 455 - Phil of Society and Culture Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. A philosophical examination of cultural forces shaping modern society, forces such as science, technology, or domesticity.	3 Credits
Minimum Required Grade: C-		

Continental Philosophy

	Course	**Credits**
	PHL 467 - 19th Century Continental Phil (R-6) Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Intensive study of the work of one or more 19th century continental philosophers (such as Hegel, Schopenhauer, Kierkegaard, Marx, Nietzsche).	3 Credits
	PHL 468 - 20th Century Continental Phil (R-9) Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 262Y, or consent of instr. Intensive study of the work of one or more 20th century continental philosophers (such as Heidegger, Husserl, Sartre, Merleau-Ponty, Ricoeur, Derrida) or several texts representing a major movement in 20th century continental thought (such as Phenomenology, Existentialism, Hermeneutics, Post-structuralism).	3 Credits
Minimum Required Grade: C-		

Analytic Philosophy

	Course	Credits
	PHL 405 - 20th Century Analytic Phil (R-9) Offered intermittently. Prereq., upper-division standing, PHL 210E, PHL 233, and PHL 262Y, or consent of instr. Intensive study of the work of one or more philosophers (such as Frege, Russell, Wittgenstein) or historical introduction to the major issues and figures of 20th century philosophy in the analytic tradition (with readings from Frege, Russell, Wittgenstein, Quine and others).	3 Credits
	PHL 406 - Contemp Issues Analytic Phil (R-6) Offered intermittently. Prereq., upper-division standing, PHL 210E, PHL 233, and PHL 262Y, or consent of instr. Examination of contemporary issues in analytic philosophy focusing on one or more of the following topics: philosophy of language, epistemology, metaphysics, philosophy of mind.	3 Credits
	PHL 445 - Central Issues Phil of Science Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. A consideration of philosophical issues relating to the nature of modern physical science: method, explanation, theory, progress, space/time, causality, relation of science to philosophy.	3 Credits
Minimum Required Grade: C-		

Native American Studies

Theodore Van Alst, Chair

The Native American Studies Department at the University of Montana builds its curriculum on the foundation of three interrelated principles: sovereignty, indigeneity and community well-being. In so doing we pay close attention to the continuing role of traditional value systems, the impacts of colonization and the efforts toward decolonization within tribal communities. We define sovereignty broadly as one of the rights of all indigenous peoples, including both the political-legal foundations as provided in U.S. law and policy and self-determination more generally. Indigeneity underlies the unique holistic relationship that Native American communities have to the land and to the environment. In addition, our degree program not only intends to advance the well-being of our individual students, both native and non-native, but also to enhance the well-being of Indigenous communities across Montana, the United States and globally, by providing necessary and relevant education about those communities as well as the skills and knowledge for those working within those communities to do so effectively. Our curriculum and the foundations of faculty research are broadly cross-disciplinary with these principles at their base.

Native American Studies is an academic discipline committed to examining the contemporary and past experiences and life ways of the first Americans from their perspective. The curriculum is designed to provide a study of American Indians from a holistic and humanistic viewpoint by focusing upon their cultures, history, and contemporary life. Courses are designed for both Native American and non Native American students so they can better understand human similarities and differences, thereby leading to more effective work with and within tribal communities, through stronger knowledge bases of tribal America, and the development of better communications and cross-cultural relationships.

The Native American Studies major supports the objectives of a liberal arts education. It is interdisciplinary and provides a perspective that critically analyzes and evaluates the strengths and limitations of each contributing discipline.

Department Faculty

Professors

David Beck, Professor
Richmond Clow, Professor
Wade Davies, Professor & Co-Chair

S. Neyooxet Greymorning, Professor
Kathryn Shanley, Professor & Special Assistant to the Provost Native American and Indigenous Education

Assistant Professors

Theodore Van Alst, Associate Professor & Co-Chair

Adjunct Faculty

Heather Cahoon, Adjunct Lecturer

Lecturers

George Price, Lecturer

Film

Back to Top

- FILM 860 - Native Americans & Cinema
  Credits: 3. Offered once each year. Same as NASX 360. Surveys the image of Native Americans in American film with an emphasis on revisionist, or breakthrough films. Ultimate focus will be on films featuring Native American writers, directors and actors.

Native American Studies

Back to Top

- NASX 105H - Intro Native Amer Studies
  Credits: 3. Offered Autumn and Spring. Survey course to acquaint the student with Native American Studies by a general overview of Indian history, culture, philosophy, religious beliefs and contemporary issues. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)
- NASX 141 - Elementary Blackfoot I
  Credits: 5. Offered autumn. An introduction to the Blackfoot language and culture. Students will learn how to write and read Blackfoot as well as how to conduct simple conversations.
- NASX 142 - Elementary Blackfoot II
  Credits: 4. Offered intermittently spring. Continuation of 141. Course Attributes: Foreign Language Requirement
- NASX 180 - Event Planning
  Credits: 3. Offered spring semester. This course is intended for students to learn the skills necessary to put on a large event. The course is intended as a hands-on experiential learning course. The culmination of the course will be putting on the annual Kyi-Yo contest pow-wow, the first large regional pow-wow of the year on the circuit.
- NASX 191 - Special Topics
  Credits: 1 TO 9. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- NASX 192 - Independent Study
  Credits: 1 TO 6. (R-6) Prereq., consent of instr. Selected topics on American Indians under the direct supervision of a faculty member.
- NASX 198 - Internship
  Credits: 1 TO 6. (R-9)Offered by special arrangement. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- NASX 201X - Indian Cultr Exprssd Thru Lang

  Credits: 3. Offered Autumn. This course has been designed to introduce students to a non-Western perspective of the relationship that exists between Indian cultures and their languages. Students will be exposed to various languages of American Indian peoples, and how through Native languages insight can be gained into history, traditions, and cultural life-ways of Indian peoples. Course Attributes: Cultural Intl Diversity (X)

- NASX 210X - Native Amer Sports & Games

  Credits: 3. Offered Autumn or Spring. Explores Native American sports and games, both traditional and modern. Through classroom learning and actual play, students gain an understanding of how play and competition have been vital to Native communities. Course Attributes: Cultural Intl Diversity (X)

- NASX 231X - Indig World View Perspectives

  Credits: 3. Offered Spring. Same as ANTY 231X. Examination of Indigenous belief systems, with regard to world views, religious ceremonies, cultural ways and the impact that Anglo-European culture has had upon these systems. Focus on Indigenous peoples of Australia, New Zealand, Canada and the United States Course Attributes: Cultural Intl Diversity (X)

- NASX 235X - Oral/Written Trads Native Amer

  Credits: 3. Offered Autumn and Spring. Analysis of the oral traditions of Native Americans including an introduction to the literary works of early leading American Indian writers. Course Attributes: Lit & Artistic Studies (L) Writing Course-Intermediate Cultural Intl Diversity (X)

- NASX 239X - Nat North Amer History & Art

  Credits: 3. Focus on Native North American history through art and material culture and its relationship to American Indian tribally specific aesthetics, cosmologies, worldviews and life-ways, historic uses and the contemporary Indian artistic experience. Course Attributes: Lit & Artistic Studies (L) Cultural Intl Diversity (X)

- NASX 260X - Indig Community Developmnt

  Credits: 3. Offered intermittently. This course introduces the student to concepts in indigenous/rural sustainable community development in the countries of North America in broad historical and cultural frameworks. Course Attributes: Cultural Intl Diversity (X)

- NASX 280 - NA Studies Rsrch Theors/Mthds

  Credits: 3. Offered Autumn. Prereq., NAS major or minor. Introduction to the Research materials pertaining to the study of American Indian peoples and cultures. Emphasis on current research trends and writing. Course Attributes: Writing Course-Intermediate

- NASX 291 - Special Topics

  Credits: 1 TO 6. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- NASX 292 - Independent Study

  Credits: 1 TO 6. (R 6) Experimental offerings of visiting professors, experimental offerings of new courses or one time offerings of current topics.

- NASX 303E - Ecol Persp in Nat Amer Trad

  Credits: 3. Offered Autumn and Spring. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources. Course Attributes: Ethical & Human Values Course Cultural Intl Diversity (X)

- NASX 304E - Native American Beliefs/Philos

  Credits: 3. Offered Autumn and Spring. A study of selected ethical systems; origins, world views; religious beliefs and the way they have been affected by western civilization. Course Attributes: Ethical & Human Values Course Cultural Intl Diversity (X)

- NASX 306X - Contemp Global Iss Indg People

  Credits: 3. Offered Autumn. An examination of the major issues that affect the contemporary experiences of Indigenous Peoples of the Americas, and other global communities. Course Attributes: Cultural Intl Diversity (X)

- NASX 340 - Native American Lit

  Credits: 3. Offered Autumn. Prereq., three credits of lower-division LIT courses and NASX 105H or 235X. Same as LIT 305. Selected readings from Native American Literature and

criticism with emphasis on the literatures after the Native American literary Renaissance. A minimum of three genres covered and three culture areas.

- NASX 351 - Traditional Eco Knowledge

  Credits: 3. ?Offered summer. This course is one unit of the four unit (12 credit) summer semester program: "Wild Rockies Summer Semester." Description: This course will explore the traditional ecological perspectives of the Salish, Kootenai, Blackfeet and Tlingit people, as well as how these perspectives relate to Western concepts of ecology. Through field-based activities, lectures by tribal elders, and personal exploration, students will come to a heightened understanding of the still vital cultural perspectives and practices of modern American Indians, particularly in the Rockies of Montana and Canada.

- NASX 352 - Montana's Indians/Land

  Credits: 3. Offered autumn. This course is one unit of the four unit (12 credit) fall semester program: "Montana Afoot & Afloat: Human/Land Relations." Description: This course gives students a greater understanding of Indian people's traditional relationships with the land in Montana, and an understanding of how and why those relationships may have changed. Extensive time will be spent on the Fort Belknap, Northern Cheyenne and Crow Reservations where the class will meet with tribal elders and learning will have an emphasis on environmental and tribal/land relationships.

- NASX 354X - Indians of MT since Rsrvtn Era

  Credits: 3. Offered Autumn. Same as HSTA 354. Examination of the history of Montana Indians since the establishment of the reservations, contemporary conditions, and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues. Course Attributes: Cultural Intl Diversity (X)

- NASX 360 - Native Amer and Cinema

  Credits: 3. Offered Autumn or Spring. Same as ENFM 344. Surveys the image of Native Americans in American film with an emphasis on "revisionist," or "breakthrough" films. Ultimate focus will be on films featuring Native American writers, directors and actors.

- NASX 391 - Special Topics

  Credits: 1 TO 6. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- NASX 394 - Workshop/Seminar

  Credits: 1 TO 6. (R-6) Offered intermittently. Variable topics addressing Indian law, policy and culture by visiting scholars.

- NASX 398 - Internship

  Credits: 1 TO 6. (R-6) Offered by special arrangement. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- NASX 403 - Contmp Tribal Resource Issues

  Credits: 3. Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.

- NASX 405H - Gndr Iss in Native Amer Stdies

  Credits: 3. Offered intermittently. Same as WS 342H. Focus on American Indian gender relations and their cultural continuity and historical evolution. National in scope with concentration on certain tribes. Group analysis of contemporary gender issues relevant to Native American peoples. Course Attributes: Hist & Cultural Studies (H)

- NASX 464 - Hist Amer Indian Affrs to 1776

  Credits: 3. Offered Autumn. Same as HIST 464. A study of American Indian relations with Europeans and the United States from first contact to 1776.

- NASX 465 - Hist Amer Indian Affrs 10 Cent

  Credits: 3. Offered Spring. Same as HIST 465. A study of tribal encounters and adjustments to the American nations in the nineteenth century.

- NASX 466 - Hist of Indian Affrs from 1890

Credits: 3. Offered Autumn. Same as HIST 466. A study of tribal encounters and adjustments to the American nation from 1890.

- NASX 475 - Tribal Sovereignty
  Credits: 3. Offered Spring. An examination of the evolution of tribal governments from a historical and political perspective. Particular attention is devoted to the issues of tribal sovereignty and tribal-state conflicts.
- NASX 488 - Stds in Native Amer Autobio
  Credits: 3. Offered intermittently. Same as LIT 429. Prereq., LIT 300 or LIT 305/NASX 340, or consent of instr. Study of texts that present a first-person story of Native American individual's life within historical and cultural contexts, with discussion of theories of autobiography.
- NASX 491 - Special Topics
  Credits: 1 TO 6. (R-6) Prereq., upper-division standing and consent of instr. Selected topics on American Indians under the direct supervision of a faculty member.
- NASX 492 - Independent Study
  Credits: 1 TO 6. (R-9) Offered by special arrangement. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.
- NASX 494 - Seminar/Workshop
  Credits: 3. (R-6) Offered Spring. Prereq., NAS major or minor, 18 credits in NAS, and junior standing or higher. Senior reading capstone course for the review of past and current literature on and by American Indians. Course Attributes: Writing Course-Advanced
- NASX 499 - Senior Capstone/Thesis
  Credits: 3 TO 9. (R-9) Offered by special arrangement. Prereq., NAS major or minor, 18 credits in NAS, junior standing, and consent of instr. Independent research project in Native American Studies, supervised by a faculty member, and leading to completion of baccalaureate degree.
- NASX 594 - Sem Native American Stds
  Credits: 1 TO 3. (R-6) Offered intermittently. Prereq., consent of instr. A review and discussion of current research. Topics vary. Level: Graduate
- NASX 595 - Special Topics
  Credits: 1 TO 9. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- NASX 596 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., graduate standing and consent of instr. Study of selected topics or problems on American Indians under the direct supervision of a faculty member. Level: Graduate Course Attributes: Independent Study
- NASX 598 - Internship
  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Level: Graduate Course Attributes: Internships/Practicums

Native American Studies B.A.

Bachelor of Arts - Native American Studies

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 39

Required Cumulative GPA: 2.5

Lower Division Core Courses

Rule: Must complete all of the following courses:

	Course	Credits
	NASX 105H - Intro Native Amer Studies Offered Autumn and Spring. Survey course to acquaint the student with Native American Studies by a general overview of Indian history, culture, philosophy, religious beliefs and contemporary issues.	3 Credits
	NASX 201X - Indian Cultr Exprssd Thru Lang Offered Autumn. This course has been designed to introduce students to a non-Western perspective of the relationship that exists between Indian cultures and their languages. Students will be exposed to various languages of American Indian peoples, and how through Native languages insight can be gained into history, traditions, and cultural life-ways of Indian peoples.	3 Credits
	NASX 235X - Oral/Written Trads Native Amer Offered Autumn and Spring. Analysis of the oral traditions of Native Americans including an introduction to the literary works of early leading American Indian writers.	3 Credits
	NASX 280 - NA Studies Rsrch Theors/Mthds Offered Autumn. Prereq., NAS major or minor. Introduction to the Research materials pertaining to the study of American Indian peoples and cultures. Emphasis on current research trends and writing.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper Division Core Courses

Rule: Must complete the following subcategories

18 Total Credits Required

Fundamentals

Rule: Must complete all of the following courses

	Course	Credits
	NASX 303E - Ecol Persp in Nat Amer Trad Offered Autumn and Spring. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.	3 Credits
	NASX 304E - Native American Beliefs/Philos Offered Autumn and Spring. A study of selected ethical systems; origins, world views; religious beliefs and the way they have been affected by western civilization.	3 Credits

	NASX 494 - Seminar/Workshop (R-6) Offered Spring. Prereq., NAS major or minor, 18 credits in NAS, and junior standing or higher. Senior reading capstone course for the review of past and current literature on and by American Indians.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Indigenous

Rule: Must complete 1 of the following courses

	Course	Credits
	NASX 260X - Indig Community Developmnt Offered intermittently. This course introduces the student to concepts in indigenous/rural sustainable community development in the countries of North America in broad historical and cultural frameworks.	3 Credits
	NASX 306X - Contemp Global Iss Indg People Offered Autumn. An examination of the major issues that affect the contemporary experiences of Indigenous Peoples of the Americas, and other global communities.	3 Credits
	NASX 475 - Tribal Sovereignty Offered Spring. An examination of the evolution of tribal governments from a historical and political perspective. Particular attention is devoted to the issues of tribal sovereignty and tribal-state conflicts.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

History

Rule: Must complete 2 of the following courses

	Course	Credits
	NASX 464 - Hist Amer Indian Affrs to 1776 Offered Autumn. Same as HIST 464. A study of American Indian relations with Europeans and the United States from first contact to 1776.	3 Credits
	NASX 465 - Hist Amer Indian Affrs 10 Cent Offered Spring. Same as HIST 465. A study of tribal encounters and adjustments to the American nations in the nineteenth century.	3 Credits
	NASX 466 - Hist of Indian Affrs from 1890 Offered Autumn. Same as HIST 466. A study of tribal encounters and adjustments to the American nation from 1890.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Elective Courses

Rule: Must complete 9 credits from the following courses:

	Course	Credits
	AAS 260 - African Amer & Native Amer Offered Fall, even years. A study of the broad scope of relations between African Americans and Native Americans in colonial and United States history. Topics explored through history, sociology, and cultural anthropology.	3 Credits
	ANTY 122S - Race and Minorities Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.	3 Credits
	ANTY 323X - Native Peoples of Montana Offered spring. The history and culture of the Indian tribes in Montana.	3 Credits
	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	HSTA 455 - Indian, Bison, & Horse (AM) Offered autumn odd-numbered years. Historical interaction between Native American societies, horses and bison in North America. A writing intensive course. Upper division writing course for the history major.	3 Credits
	HSTR 367 - 19th Cent Amer West (AM) Euro-American movement and conflict in the nineteenth century trans-Mississippi west.	3 Credits
	HSTR 369 - 20th Cent Amer West (AM) The contemporary trans-Mississippi West.	3 Credits
	NASX 141 - Elementary Blackfoot I Offered autumn. An introduction to the Blackfoot language and culture. Students will learn how to write and read Blackfoot as well as how to conduct simple conversations.	4 Credits
	NASX 142 - Elementary Blackfoot II Offered intermittently spring. Continuation of 141.	4 Credits
	NASX 180 - Event Planning Offered spring semester. This course is intended for students to learn the skills necessary to put on a large event. The course is intended as a hands-on experiential learning course. The culmination of the course will be putting on the annual Kyi-Yo contest pow-wow, the first large regional pow-wow of the year on the circuit.	3 Credits
	NASX 191 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits

	NASX 198 - Internship (R-9)Offered by special arrangement. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	NASX 210X - Native Amer Sports & Games Offered Autumn or Spring. Explores Native American sports and games, both traditional and modern. Through classroom learning and actual play, students gain an understanding of how play and competition have been vital to Native communities.	3 Credits
	NASX 231X - Indig World View Perspectives Offered Spring. Same as ANTY 231X. Examination of Indigenous belief systems, with regard to world views, religious ceremonies, cultural ways and the impact that Anglo-European culture has had upon these systems. Focus on Indigenous peoples of Australia, New Zealand, Canada and the United States	3 Credits
	NASX 291 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	NASX 340 - Native American Lit Offered Autumn. Prereq., three credits of lower-division LIT courses and NASX 105H or 235X. Same as LIT 305. Selected readings from Native American Literature and criticism with emphasis on the literatures after the Native American literary Renaissance. A minimum of three genres covered and three culture areas.	3 Credits
	NASX 354X - Indians of MT since Rsrvtn Era Offered Autumn. Same as HSTA 354. Examination of the history of Montana Indians since the establishment of the reservations, contemporary conditions, and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.	3 Credits
	NASX 360 - Native Amer and Cinema Offered Autumn or Spring. Same as ENFM 344. Surveys the image of Native Americans in American film with an emphasis on "revisionist," or "breakthrough" films. Ultimate focus will be on films featuring Native American writers, directors and actors.	3 Credits
	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
	NASX 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits

	NASX 394 - Workshop/Seminar (R-6) Offered intermittently. Variable topics addressing Indian law, policy and culture by visiting scholars.	1 To 6 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits
	NASX 405H - Gndr Iss in Native Amer Stdies Offered intermittently. Same as WS 342H. Focus on American Indian gender relations and their cultural continuity and historical evolution. National in scope with concentration on certain tribes. Group analysis of contemporary gender issues relevant to Native American peoples.	3 Credits
	NASX 488 - Stds in Native Amer Autobio Offered intermittently. Same as LIT 429. Prereq., LIT 300 or LIT 305/NASX 340, or consent of instr. Study of texts that present a first-person story of Native American individual's life within historical and cultural contexts, with discussion of theories of autobiography.	3 Credits
	NASX 491 - Independent Study (R-6) Prereq., upper-division standing and consent of instr. Selected topics on American Indians under the direct supervision of a faculty member.	1 To 6 Credits
	NASX 499 - Senior Capstone/Thesis (R-9) Offered by special arrangement. Prereq., NAS major or minor, 18 credits in NAS, junior standing, and consent of instr. Independent research project in Native American Studies, supervised by a faculty member, and leading to completion of baccalaureate degree.	3 To 9 Credits
	PHAR 320 - Am Ind Health Issues Offered spring. An overview of the health issues, health care delivery, health disparities, and social determinants of health that impact American Indians. Also, provides an overview in careers in health and cultural awareness for students.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Language Rejuvenation and Maintenance Certificate

Certificate of Art - Language Rejuvenation & Maint

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18
Required Cumulative GPA: 2.0

Core Courses

Rule: All courses are required

	Course	Credits
	ANTY 476 - Methods for Native Languages (R-6) Offered Spring. In an effort to highlight promising methodologies that will advance the success of Native language acquisition and instruction, students will be exposed to an innovative methodology while being instructed in an Indigenous language.	3 Credits
	CSD 210 - Speech & Lang Devel Offered autumn. Sophomore standing or greater. Topics include typical speech and language development, phonology, semantic, morphological, syntax, and pragmatics, along with individual differences, second language acquisition and literacy.	3 Credits
	NASX 201X - Indian Cultr Exprssd Thru Lang Offered Autumn. This course has been designed to introduce students to a non-Western perspective of the relationship that exists between Indian cultures and their languages. Students will be exposed to various languages of American Indian peoples, and how through Native languages insight can be gained into history, traditions, and cultural life-ways of Indian peoples.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Degree Electives

Rule: Complete a minimum of 9 credits from the following list of courses
Note: ANTY 476 may be repeated for elective credits.

	Course	Credits
	ANTY 326E - Indigenous Peoples & Globl Dev Offered spring odd-numbered years. This class will examine the impact of global development on tribal and Indigenous peoples. Topics will include land issues, health, employment, and cultural change caused by global development and explore how these societies are resisting and adapting to their changing world.	3 Credits
	ANTY 423 - Culture and Identity Offered spring. The comparative study of identity formation along and across racial, ethnic, and ethno-national lines. Emphasis on issues of ethnogenesis, cultural resistance, transformation, domination, colonialism as well as sharing to understand both the cultural commonalties and differences in identity formation.	3 Credits
	NASX 141 - Elementary Blackfoot I Offered autumn. An introduction to the Blackfoot language and culture. Students will learn how to write and read Blackfoot as well as how to conduct simple conversations.	4 Credits
	NASX 235X - Oral/Written Trads Native Amer Offered Autumn and Spring. Analysis of the oral traditions of Native Americans including an introduction to the literary works of early leading American Indian writers.	3 Credits

	PSCI 411 - Nonprofit Grant Writing Online course offered every year. Students learn how to write the essential parts of a grant proposal and how to search for appropriate funding sources.	2 Credits
	PSCI 412 - Nonprofit Fundraising Online course offered every year. The course will cover all major aspects of a fundraising plan including: annual fund, major gifts, capital campaigns, planned giving, grants and special events. The course will also give students the foundation and tools needed to implement these plans into action.	2 Credits
Minimum Required Grade: C-		9 Total Credits Required

Native American Studies Minor

Minor - Native American Studies (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 21
Required Cumulative GPA: 2.5

Core Courses

Rule: Must complete all of the following courses

	Course	**Credits**
	NASX 105H - Intro Native Amer Studies Offered Autumn and Spring. Survey course to acquaint the student with Native American Studies by a general overview of Indian history, culture, philosophy, religious beliefs and contemporary issues.	3 Credits
	NASX 235X - Oral/Written Trads Native Amer Offered Autumn and Spring. Analysis of the oral traditions of Native Americans including an introduction to the literary works of early leading American Indian writers.	3 Credits
	NASX 303E - Ecol Persp in Nat Amer Trad Offered Autumn and Spring. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.	3 Credits
	NASX 304E - Native American Beliefs/Philos Offered Autumn and Spring. A study of selected ethical systems; origins, world views; religious beliefs and the way they have been affected by western civilization.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Degree Electives

Rule: Must complete 9 credits in the following courses

	Course	Credits
	AAS 260 - African Amer & Native Amer Offered Fall, even years. A study of the broad scope of relations between African Americans and Native Americans in colonial and United States history. Topics explored through history, sociology, and cultural anthropology.	3 Credits
	ANTY 122S - Race and Minorities Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.	3 Credits
	ANTY 323 - Native People of Montana Offered spring. The history and culture of the Indian tribes in Montana.	3 Credits
	ANTY 330X - Peoples and Cultures of World (R-9) Offered autumn and spring. Study of the peoples of various geographic regions and their cultures.	3 Credits
	HSTA 455 - Indian, Bison, & Horse (AM) Offered autumn odd-numbered years. Historical interaction between Native American societies, horses and bison in North America. A writing intensive course. Upper division writing course for the history major.	3 Credits
	HSTR 367 - 19th Cent Amer West (AM) Euro-American movement and conflict in the nineteenth century trans-Mississippi west.	3 Credits
	HSTR 369 - 20th Cent Amer West (AM) The contemporary trans-Mississippi West.	3 Credits
	NASX 141 - Elementary Blackfoot I Offered autumn. An introduction to the Blackfoot language and culture. Students will learn how to write and read Blackfoot as well as how to conduct simple conversations.	4 Credits
	NASX 142 - Elementary Blackfoot II Offered intermittently spring. Continuation of 141.	4 Credits
	NASX 180 - Event Planning Offered spring semester. This course is intended for students to learn the skills necessary to put on a large event. The course is intended as a hands-on experiential learning course. The culmination of the course will be putting on the annual Kyi-Yo contest pow-wow, the first large regional pow-wow of the year on the circuit.	3 Credits
	NASX 191 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits

	NASX 198 - Internship (R-9)Offered by special arrangement. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	NASX 201X - Indian Cultr Exprssd Thru Lang Offered Autumn. This course has been designed to introduce students to a non-Western perspective of the relationship that exists between Indian cultures and their languages. Students will be exposed to various languages of American Indian peoples, and how through Native languages insight can be gained into history, traditions, and cultural life-ways of Indian peoples.	3 Credits
	NASX 210X - Native Amer Sports & Games Offered Autumn or Spring. Explores Native American sports and games, both traditional and modern. Through classroom learning and actual play, students gain an understanding of how play and competition have been vital to Native communities.	3 Credits
	NASX 231X - Indig World View Perspectives Offered Spring. Same as ANTY 231X. Examination of Indigenous belief systems, with regard to world views, religious ceremonies, cultural ways and the impact that Anglo-European culture has had upon these systems. Focus on Indigenous peoples of Australia, New Zealand, Canada and the United States	3 Credits
	NASX 260X - Indig Community Developmnt Offered intermittently. This course introduces the student to concepts in indigenous/rural sustainable community development in the countries of North America in broad historical and cultural frameworks.	3 Credits
	NASX 280 - NA Studies Rsrch Theors/Mthds Offered Autumn. Prereq., NAS major or minor. Introduction to the Research materials pertaining to the study of American Indian peoples and cultures. Emphasis on current research trends and writing.	3 Credits
	NASX 291 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	NASX 306X - Contemp Global Iss Indg People Offered Autumn. An examination of the major issues that affect the contemporary experiences of Indigenous Peoples of the Americas, and other global communities.	3 Credits
	NASX 340 - Native American Lit Offered Autumn. Prereq., three credits of lower-division LIT courses and NASX 105H or 235X. Same as LIT 305. Selected readings from Native American Literature and criticism with emphasis on the literatures after the Native American literary Renaissance. A minimum of three genres covered and three culture areas.	3 Credits

	NASX 354X - Indians of MT since Rsrvtn Era Offered Autumn. Same as HSTA 354. Examination of the history of Montana Indians since the establishment of the reservations, contemporary conditions, and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.	3 Credits
	NASX 360 - Native Amer and Cinema Offered Autumn or Spring. Same as ENFM 344. Surveys the image of Native Americans in American film with an emphasis on "revisionist," or "breakthrough" films. Ultimate focus will be on films featuring Native American writers, directors and actors.	3 Credits
	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
	NASX 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	NASX 394 - Workshop/Seminar (R-6) Offered intermittently. Variable topics addressing Indian law, policy and culture by visiting scholars.	1 To 6 Credits
	NASX 405H - Gndr Iss in Native Amer Stdies Offered intermittently. Same as WS 342H. Focus on American Indian gender relations and their cultural continuity and historical evolution. National in scope with concentration on certain tribes. Group analysis of contemporary gender issues relevant to Native American peoples.	3 Credits
	NASX 464 - Hist Amer Indian Affrs to 1776 Offered Autumn. Same as HIST 464. A study of American Indian relations with Europeans and the United States from first contact to 1776.	3 Credits
	NASX 465 - Hist Amer Indian Affrs 10 Cent Offered Spring. Same as HIST 465. A study of tribal encounters and adjustments to the American nations in the nineteenth century.	3 Credits
	NASX 466 - Hist of Indian Affrs from 1890 Offered Autumn. Same as HIST 466. A study of tribal encounters and adjustments to the American nation from 1890.	3 Credits
	NASX 475 - Tribal Sovereignty Offered Spring. An examination of the evolution of tribal governments from a historical and political perspective. Particular attention is devoted to the issues of tribal sovereignty and tribal-state conflicts.	3 Credits
	NASX 488 - Stds in Native Amer Autobio Offered intermittently. Same as LIT 429. Prereq., LIT 300 or LIT 305/NASX 340, or consent of instr. Study of texts that present a first-person story of Native American individual's life within historical and cultural contexts, with discussion of theories of autobiography.	3 Credits

	NASX 491 - Independent Study (R-6) Prereq., upper-division standing and consent of instr. Selected topics on American Indians under the direct supervision of a faculty member.	1 To 6 Credits
	NASX 499 - Senior Capstone/Thesis (R-9) Offered by special arrangement. Prereq., NAS major or minor, 18 credits in NAS, junior standing, and consent of instr. Independent research project in Native American Studies, supervised by a faculty member, and leading to completion of baccalaureate degree.	3 To 9 Credits
Minimum Required Grade: C-		9 Total Credits Required

Military Science

Reserve Officers Training Corps, Chad Carlson, Chair

Army ROTC (Reserve Officers' Training Corps) offers college students the opportunity to serve as commissioned officers in the U.S. Army, the Army National Guard, or the U.S. Army Reserve upon graduation. ROTC enhances a student's education by providing unique leadership and management training along with practical leadership experience. Students develop many of the qualities basic to success while earning a college degree and an officer's commission at the same time.

The Margin of Difference. Army ROTC cadets learn to be leaders and receive hands-on experience in managing physical, financial, and human resources. They develop self-confidence and superior decision-making skills. Employers value these leadership qualities and recognize the associated potential in ROTC graduates.

Four–Year Program. The four–year Army ROTC program consists of two parts: the Basic Course and the Advanced Course.

Basic Course. The basic course is normally taken during the first two years of college and may be taken without incurring any military obligation. This course covers such subjects as management principles, national defense, military history, and leadership development. Basic course classes include adventure training such as squad tactics and small arms marksmanship. Additional opportunities are also available to conduct small unit training exercises throughout Western Montana. In addition, a variety of outside social and professional enrichment activities are available. All necessary ROTC textbooks, uniforms, and other essential materials for the basic course are furnished to students at no cost. After completing the basic course, students who have demonstrated the potential to become officers and who have met the physical and scholastic standards are eligible to enroll in the Advanced Course. Compression of the Basic Course into two semesters may be arranged for those students who did not take military science courses during their Freshman year.

Advanced Course. The Advanced Course is usually taken during the final two years of college. Instruction includes organization and management, tactics, ethics, critical thinking, creative problem solving and further leadership development. Uniforms and equipment in the Advanced Course are furnished to students at no cost. During the summer between their junior and senior years of college, Advanced Course cadets attend Cadet Summer Training (CST), a fully paid four–week leadership practicum. LDAC gives cadets the chance to apply what they have learned in the classroom and introduces them to Army life while also receiving academic credit. Completion of the Advanced Course requires two years of study. Each cadet in the Advanced Course receives a subsistence allowance of up to $4,500 for each year of attendance.

Two–Year Program. The two–year program applies to incoming juniors and community college graduates, students at four–year colleges who did not take ROTC during their first two years of school, and students entering a two–year postgraduate course of study. To enter the two–year program, students must attend a fully paid four–week Leader's Training Course (LTC), normally held during the summer between their sophomore and junior years of college. At LTC, students learn to challenge themselves physically and mentally, and to build their confidence and leadership skills. After successfully completing LTC, students who meet all the necessary enrollment requirements may participate in the Advanced Course.

Scholarships and Financial Assistance. Army ROTC scholarships are offered for four, three and two years and are awarded on a competitive basis. Each scholarship pays 100% of student's tuition and fees, $1200 a year for textbooks and supplies, and a monthly stipend totaling up to $4,500 per year while the scholarship is in effect. Four-year scholarships are awarded to students who will be entering college as freshmen. Two and three–year scholarships are awarded to students already enrolled in college and to Army enlisted personnel on active duty. Additionally, students who attend LTC (see two–year program) may compete for two–year scholarships while at the course. Scholarship recipients can pursue degrees in any accredited four year program at the University of Montana. Students who receive scholarships are required to attain undergraduate degrees in the fields in which their scholarships were awarded.

Veterans. Veterans may apply their military experience as credit toward the ROTC Basic Course. If eligible, a veteran may enroll directly into the Advanced Course.

Simultaneous Membership Program. This program allows students to be members of the Army National Guard or the Army Reserve and to enroll in Army ROTC at the same time. Students participating in the Simultaneous Membership Program receive up to $4,000 per year in tuition assistance, $4,500 per year in monthly stipends and an additional $20,000 per year in other benefits. There are also scholarships available for students participating in the Simultaneous Membership Program that are interested in staying in the Army National Guard or the Army Reserve upon graduation that pay up to $8,500 per year for living expenses and $1,200 per year for textbooks, supplies and other equipment. These scholarships are in addition to many of the current benefits students receive as part of the Simultaneous Membership Program.

Service Obligation. There is no military service obligation for basic course students, unless on scholarship. Advanced course and scholarship (contracted) students incur an obligation to serve in the active Army, Army Reserve or National Guard.

Commission Requirements. In order to earn a commission as a Second Lieutenant in the United States Army, each student must:

1. Complete all required Military Science instruction while attending college as a full-time student, and obtain a baccalaureate or higher degree.
2. Complete a PMS approved US History course.
3. Meet medical and physical fitness standards.
4. Be a U.S. citizen.
5. Successfully complete Cadet Summer Training.
6. Be recommended by the Professor of Military Science.

Department Faculty

Professors

Chad Carlson, Lieutenant Colonel

Assistant Professors

CPT Patrick Beckwith, Assistant Operation Officer
MSG Travis Hambrick, Senior Military Science Advisor & MS III Advisor
CPT Tracy Mitchell, Instructor/ROTC Recruiter
CPT Kris Pyette, Operation Officer & MSII Advisor
CPT Sean Thornton
SFC Bradley Watson

Affiliates

Richard Reeves, Supplies manager

Military Science Leadership

Back to Top

- MSL 101 - Leadership and Personal Dev

  Credits: 3. Offered autumn. The Constitutional role of the military, military tradition, current defense posture, service roles and missions. An introduction to issues and competencies that are central to a commissioned officer's responsibilities. Establishes framework for understanding officership, leadership and army values. Course Attributes: ROTC Course

- MSL 102 - Intro to Tactical Leadership

  Credits: 3. Offered spring. Establishes foundation of basic leadership fundamentals such as problem–solving, communications, goal setting and improving listening techniques. Introduction to the principles of military leadership and organizational values through discussion, observation and practice exercises. Course Attributes: ROTC Course

- MSL 106 - Army Physical Fitness

  Credits: 1. (R–4) Offered autumn and spring. The study and application of military drill and ceremony: formation, ceremonies, and marching; the study of the fundamentals of the military physical conditioning program, and the practical application of skills learned. Physical education

activity course; a maximum of four credits of activity courses may be counted toward graduation. Course Attributes: ROTC Course

- MSL 195 - Special Topics

  Credits: 1 TO 6. (R–6) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics. Course Attributes: ROTC Course

- MSL 201 - Innovative Team Leadership

  Credits: 3. Offered autumn. Demonstration and practice of individual military leadership skills with emphasis on communication and observation through experiential learning exercises. Establishes framework for understanding of "life skills" such as physical fitness and time management. Examination and practical application of tasks training and military style briefings. Course Attributes: ROTC Course

- MSL 202 - Found of Tactical Leadership

  Credits: 3. Offered spring. Building successful teams through influencing actions and effective communication in setting and achieving goals. Use of creativity in the problem solving process. Introduction of individual and team aspects of military tactics in small unit operations. Practical exercises in techniques for training others as an aspect of continued leadership development. Course Attributes: ROTC Course

- MSL 203 - Ranger Challenge

  Credits: 2. (R–4) Offered autumn. Practical hands–on training in one rope bridge, land navigation, military weapons assembly/disassembly and physical conditioning. A team selected from this class will represent the University in competition against four other colleges and universities within the Big Sky Task Force. Students may include up to, but not more than, four credits earned in the HHP 100–179 and DANC 325 activity courses and MSL 203 and 315 in the total number of credits required for graduation. Students must be physically qualified and enrolled in an additional MSL academic class. Course Attributes: ROTC Course

- MSL 204 - Leader's Training Course

  Credits: 3. (R–4) Offered autumn and spring. Prereq., consent of instr. Intensive supervised study in applied leadership and management development in an organizational setting. Course Attributes: ROTC Course

- MSL 291 - Special Topics

  Credits: 1 TO 6. (R–6) Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- MSL 295 - Special Topics

  Credits: 1 TO 6. (R–6) Offered spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics. Course Attributes: ROTC Course

- MSL 296 - Leadership Practicum

  Credits: 1 TO 4. (R–4) Offered autumn and spring. Prereq., consent of instr. Intensive supervised study in applied leadership and management development in an organizational setting. Course Attributes: Service Learning/Volunteer ROTC Course

- MSL 301 - Adaptive Team Leadership

  Credits: 3. Offered autumn. Prereq., consent of instr. Coreq., MSL 303. Developing personal leadership principles through the learning and application of various small unit leadership procedures. Fundamentals of leadership development, land navigation, troop leading, small units tactics, rappelling, rifle marksmanship and physical fitness. Study of the organization and operation of the U.S. Army as a profession. Students are required to attend one weekend field exercise during the semester. Restricted to contracted Military Science students. Course Attributes: ROTC Course

- MSL 302 - Applied Team Leadership

  Credits: 3. Offered spring. Prereq., consent of instr. Coreq., MSL 303. Continuation of the study and application of small unit leadership tasks. Advanced leadership skills taught including medical evacuation procedures, radio procedures, and increased involvement in planning and executing military operations in preparation for attendance at the Leader Development and Assessment Course at Fort Lewis, Washington. Students participate in rifle marksmanship instruction including qualification with the M16A2 rifle, rappelling, and attend one weekend exercise with students

from regional universities in the area and the Montana Army National Guard. Restricted to contracted Military Science students. Course Attributes: ROTC Course

- MSL 303 - Leadership Laboratory
  Credits: 1. (R–4) Offered autumn and spring. Prereq., consent of instr. Coreq., MSL 301, 302, 401, or 402. Practical application of skills learned in the classroom. Course Attributes: ROTC Course
- MSL 305 - Leadership Development and Assessment Course
  Credits: 3. Offered every term. Prereq., consent of instr. Required study and internship in military tactics, leadership and organizational behavior. Supervised by active duty military officers. Participants attend course of study at Fort Knox, KY for four weeks of intense evaluation and training to assess their ability to serve as a 2nd LT in the US Army, US Army Reserves, or the National Guard.
- MSL 391 - Special Topics
  Credits: 1 TO 9. (R–9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics. Course Attributes: ROTC Course
- MSL 401 - Adaptive Leadership
  Credits: 3. Offered autumn. Prereq., consent of instr.; coreq., MSL 303. The application of leadership principles and techniques involved in leading young men and women in today's Army. Students explore training management. methods of effective staff collaboration and developmental counseling techniques. Develops student proficiency in planning and executing complex operations, functioning as a member of a staff and mentoring subordinates. Restricted to contracted Military Science students. Course Attributes: ROTC Course
- MSL 402 - Leadership in a Complex World
  Credits: 3. Offered spring. Prereq., consent of instr., coreq., MSL 303. Study includes case study of military law and practical exercises on establishing an ethical command climate. Examines the role communications, values and ethics play in effective leadership. Students complete a semester long Senior Leadership Project that requires them to plan, organize, collaborate, analyze and demonstrate their leadership skills. Restricted to contracted Military Science students. Course Attributes: ROTC Course
- MSL 492 - Coop Education/Internship
  Credits: 1 TO 4. (R–4) Offered every term. Prereq., consent of instr. Required study and internship in military tactics, leadership and organizational behavior. Supervised by active duty military officers. Course Attributes: ROTC Course

Military Studies Minor

Minor - Military Studies (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 33

Required Cumulative GPA: 2.5

Note: A total of 24 credits of MSL (Military Science Leadership) courses are allowed toward the bachelor degree for contracted students. A total of 12 credits are allowed toward the bachelor degree for non-contracted students. Obtain a grade of "C" or better in all courses used toward the minor, and a cumulative GPA of 2.5 for Military Science courses.

Lower Core Courses

Rule: Must complete all of the following:

Note: The department may waive the Basic Course requirements for following situation courses: prior military service, Advanced Individual Training (AIT), Leader's Training Course (LTC) or Accelerated Cadet Commissioning Training (ACCT).

	Course	Credits
	MSL 101 - Leadership and Personal Dev Offered autumn. The Constitutional role of the military, military tradition, current defense posture, service roles and missions. An introduction to issues and competencies that are central to a commissioned officer's responsibilities. Establishes framework for understanding officership, leadership and army values.	3 Credits
	MSL 102 - Intro to Tactical Leadership Offered spring. Establishes foundation of basic leadership fundamentals such as problem–solving, communications, goal setting and improving listening techniques. Introduction to the principles of military leadership and organizational values through discussion, observation and practice exercises.	3 Credits
	MSL 201 - Innovative Team Leadership Offered autumn. Demonstration and practice of individual military leadership skills with emphasis on communication and observation through experiential learning exercises. Establishes framework for understanding of "life skills" such as physical fitness and time management. Examination and practical application of tasks training and military style briefings.	3 Credits
	MSL 202 - Found of Tactical Leadership Offered spring. Building successful teams through influencing actions and effective communication in setting and achieving goals. Use of creativity in the problem solving process. Introduction of individual and team aspects of military tactics in small unit operations. Practical exercises in techniques for training others as an aspect of continued leadership development.	3 Credits
Minimum Required Grade: C		12 Total Credits Required

Upper Core Courses

Rule: Must complete all of the following:

	Course	Credits
	MSL 301 - Adaptive Team Leadership Offered autumn. Prereq., consent of instr. Coreq., MSL 303. Developing personal leadership principles through the learning and application of various small unit leadership procedures. Fundamentals of leadership development, land navigation, troop leading, small units tactics, rappelling, rifle marksmanship and physical fitness. Study of the organization and operation of the U.S. Army as a profession. Students are required to attend one weekend field exercise during the semester. Restricted to contracted Military Science students.	3 Credits

	MSL 302 - Applied Team Leadership Offered spring. Prereq., consent of instr. Coreq., MSL 303. Continuation of the study and application of small unit leadership tasks. Advanced leadership skills taught including medical evacuation procedures, radio procedures, and increased involvement in planning and executing military operations in preparation for attendance at the Leader Development and Assessment Course at Fort Lewis, Washington. Students participate in rifle marksmanship instruction including qualification with the M16A2 rifle, rappelling, and attend one weekend exercise with students from regional universities in the area and the Montana Army National Guard. Restricted to contracted Military Science students.	3 Credits
	MSL 401 - Adaptive Leadership Offered autumn. Prereq., consent of instr.; coreq., MSL 303. The application of leadership principles and techniques involved in leading young men and women in today's Army. Students explore training management. methods of effective staff collaboration and developmental counseling techniques. Develops student proficiency in planning and executing complex operations, functioning as a member of a staff and mentoring subordinates. Restricted to contracted Military Science students.	3 Credits
	MSL 402 - Officership and Ethics Offered spring. Prereq., consent of instr., coreq., MSL 303. Study includes case study of military law and practical exercises on establishing an ethical command climate. Examines the role communications, values and ethics play in effective leadership. Students complete a semester long Senior Leadership Project that requires them to plan, organize, collaborate, analyze and demonstrate their leadership skills. Restricted to contracted Military Science students.	3 Credits
Minimum Required Grade: C		12 Total Credits Required

War History Requirement

Rule: Must complete 1 of the following

	Course	Credits
	HSTA 316 - American Civil War Era (AM) Civil War and Reconstruction; the triumph of the industrialist and capitalist ethic.	3 Credits
	HSTA 333 - Key Events in American Militar (R-6) (AM) The French and Indian Wars to Vietnam and beyond; chronological and topical accounts.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

History/Political Science Requirement

Rule: Must complete six credits from the following:

Note: Students must complete at least 3 credits from each discipline with at least 3 credits of upper division coursework in addition to the required history course. Student can also take HSTR 301-Political Ancient Greek Social History or HSTR 304- Ancient Rome to satisfy the History requirement.

	Course	Credits
	HSTA 316 - American Civil War Era (AM) Civil War and Reconstruction; the triumph of the industrialist and capitalist ethic.	3 Credits
	HSTA 333 - Key Events in American Militar (R-6) (AM) The French and Indian Wars to Vietnam and beyond; chronological and topical accounts.	3 Credits
	HSTR 272E - Terrorism:Viol Mod Wrld (WRLD) The rise and spread of terrorism in the modern world, from the French Revolution to the present.	3 Credits
	HSTR 374 - War, Peace, & Society (WRLD) A thematic and interdisciplinary approach to warfare and peace, sociopolitical structures and military organization, power among states, technological change, the role of the individual in organized violence, and moral views of war and peace.	3 Credits
	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
	PSCI 335 - American Foreign Policy Prereq., PSCI 230X and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Central and Southwest Asian Studies

Dr. Ardi Kia, Advisor

The University of Montana has emerged as a national and international leader in recognizing the significance of Central and Southwest Asia, and translating that awareness into a major academic program. The program builds on significant faculty experience and expertise in the region, and includes scholars from a variety of academic disciplines. The program has also organized intensive summer language training programs at UM, as well as summer study tours for K-12 teachers to Central Asia, and also hosts an annual conference that brings leading scholars, diplomats, analysts, and journalists to the UM campus.

The University of Montana offers an undergraduate major as well as a Minor in Central and Southwest Asian Studies. Arabic, Chinese, Persian, Russian and Turkish language instruction are also offered. Faculty exchanges have been organized with universities in China, Egypt, Georgia, Kazakhstan, Kyrgyzstan, Morocco, Russia and Tajikistan.

Central and Southwest Asian Studies Minor

The Central and Southwest Asian Studies Minor is available to all students. It consists of eighteen credits. Students selecting the minor are required to successfully complete HSTR 146 (HIST106)/ANTH 106H/AS 106H and six credits in foundational Central and Southwest Asian Studies courses (200-level courses). Students must then complete nine credits of additional course work at the 300- or 400- level. No language courses are required; however, students pursuing the minor are strongly encouraged to meet the University-wide general education foreign language competency requirement by completing at least the second semester of one of the following languages (100 level or higher): Chinese, Persian, Arabic, Turkish or Russian. Participation in a study-abroad program is strongly recommended.

Minor - Central & Southwest Asian Stds

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18

Required Cumulative GPA: 2.0

Note: The Central and Southwest Asian Studies minor is available to all students. No language courses are required. Participation in a study-abroad program is strongly recommended.

Lower Division Core Courses

Rule: Complete the following subcategories of courses

9 Total Credits Required

Introductory Course

Rule: Must complete the following course

	Course	Credits
	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Foundational Courses

Rule: Must complete 2 of the following courses

Note: null

	Course	Credits
	CSWA 262H - Islamic Civil: Classical Age Offered autumn. Same as ANTY 243. A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire.	3 Credits
	CSWA 264 - Islamic Civ: Modrn Era Offered spring. History of the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952.	3 Credits
	HSTR 241H - Central Asian Cult & Civ (WRLD) Same as ANTY 241H. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Core Courses

Rule: Must complete 3 courses

Note: If an independent study course is selected it must be taken for 3 credits.

	Course	Credits
	ANTY 347 - Central Asia and Its Neighbors Offered intermittently. Analysis of the human communities and cultures of Central and Southwest Asia, with particular emphasis on the importance of relationships with neighboring countries and civilizations since ancient times.	3 Credits
	ANTY 442 - Cities/Landscapes Central Asia Offered spring odd numbered years. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.	3 Credits
	ANTY 492 - Independent Study (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	CSWA 441 - Seminar: Central Asia Offered spring. Advanced analysis of the historical and contemporary issues involving the human communities, cultures, and economies in Central and Southwest Asia.	3 Credits
	CSWA 457 - Artistic Trad Cent & SW Asia Offered autumn and spring. Same as HSTR 459. Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits
	HSTR 368 - Iran Betw Two Revol (WRLD) The several intellectual traditions and philosophies some ephemeral and visionary, most eclectic and confused, and virtually all conflicting that are usually believed to underlie the varying concept of Iranian and Arab nationalism in the 20th century.	3 Credits
	HSTR 386 - Nationalism in Mod Middle East (WRLD) The socioeconomic, political, and cultural causes which resulted in the transformation of the Iranian society from a traditional Islamic entity to a modern secular state and the factors which led to the downfall of the secular state and the establishment of an Islamic republic.	3 Credits
	HSTR 492 - Independent Study (R-12) Prereq., consent of instr.	1 To 12 Credits
Minimum Required Grade: C		9 Total Credits Required

Catalog Year: 2016-2017

Degree Specific Credits: 42

Required Cumulative GPA: 2.0

Note: Students are required to complete 12 credits of Lower-Division core courses, 9 credits of Upper-Division core courses, in addition to completing the Capstone requirement. Students also must complete the second year sequence (8-10 credits) of either Arabic OR Chinese OR Russian, for a combined total of 42-44 credits. Students are strongly recommended to take a third or fourth year of language study.

Lower Division Core Courses

Rule: Must complete all of the following courses

	Course	Credits
	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	ANTY 241H - Central Asian Culture and Civ Offered autumn even numbered years. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits
	CSWA 262H - Islamic Civil: Classical Age Offered autumn. Same as ANTY 243. A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire.	3 Credits
	CSWA 264 - Islamic Civ: Modrn Era Offered spring. History of the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper-Division Core Courses

Rule: Must complete 3 of the following courses

	Course	Credits
	ANTY 347 - Central Asia and Its Neighbors Offered intermittently. Analysis of the human communities and cultures of Central and Southwest Asia, with particular emphasis on the importance of relationships with neighboring countries and civilizations since ancient times.	3 Credits
	ANTY 444 - Artistic Tradtns Central Asia Offered autumn odd-numbered years. Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits

	HSTR 368 - Iran Betw Two Revol (WRLD) The several intellectual traditions and philosophies some ephemeral and visionary, most eclectic and confused, and virtually all conflicting that are usually believed to underlie the varying concept of Iranian and Arab nationalism in the 20th century.	3 Credits
	HSTR 386 - Nationalism in Mod Middle East (WRLD) The socioeconomic, political, and cultural causes which resulted in the transformation of the Iranian society from a traditional Islamic entity to a modern secular state and the factors which led to the downfall of the secular state and the establishment of an Islamic republic.	3 Credits
	HSTR 442 - Cities/Landscps Central Asia (WRLD) Same as ANTY 442. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Language Electives

Rule: Must complete 1 of the following subcategories

18-20 Total Credits Required

Arabic

Rule: May choose to complete the following courses

	Course	Credits
	ARAB 101 - Elementary Modern Arabic I Offered autumn. Elementary Modern Standard Arabic I brings students the opportunity to learn Arabic via a communicative approach, where the emphasis is placed on the functional use of the Arabic Language. Active skills are listening, speaking, reading, and writing, plus basic cultural study.	5 Credits
	ARAB 102 - Elementary Modern Arabic II Offered spring. Elementary Modern Standard Arabic II is a continuation of ARAB 101, in that it helps students learn Arabic via a communicative approach, where the emphasis is placed on the functional use of the Arabic Language. Active skills are listening, speaking, reading, and writing, plus basic cultural study.	5 Credits
	ARAB 201 - Intermediate Modern Arabic I Offered autumn. Prereq., ARAB 102 or equiv. Course is designed to help students further develop their language skills (listening, speaking, reading, and writing) and learn more about the Arab culture and advanced grammar rules beyond the elementary level. The target proficiency level is Intermediate-Low/Mid (based on proficiency guidelines from the American Council on the Teaching of Foreign Languages).	4 Credits

	ARAB 202 - Intermediate Modern Arabic II Offered spring. Prereq., ARAB 201 or equiv. Course is a continuation of ARAB 201, in that it is designed to help students further develop their language skills (listening, speaking, reading, and writing) and learn more about the Arab culture and advanced grammar rules beyond the elementary level. The target proficiency level is Intermediate-Mid (based on proficiency guidelines from the American Council on the Teaching of Foreign Languages).	4 Credits
Minimum Required Grade: C-		18 Total Credits Required

Chinese

Rule: May choose to complete the following courses

	Course	Credits
	CHIN 101 - Elementary Chinese I Offered autumn. Emphasis on speaking, reading and writing elementary Mandarin.	5 Credits
	CHIN 102 - Elementary Chinese II Prereq., CHIN 101. Offered spring. Continuation of 101.	5 Credits
	CHIN 201 - Intermediate Chinese I Offered autumn. Prereq., CHIN 102 or equiv. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading and writing.	5 Credits
	CHIN 202 - Intermediate Chinese II Offered spring. Prereq., CHIN 201 or equiv. Continuation of 201.	5 Credits
Minimum Required Grade: C-		20 Total Credits Required

Russian

Rule: May choose to complete the following courses

	Course	Credits
	RUSS 101 - Elementary Russian I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.	5 Credits
	RUSS 102 - Elementary Russian II Offered spring. Prereq., RUSS 101 or equiv. Continuation of 101.	5 Credits
	RUSS 201 - Intermediate Russian I Offered autumn. Prereq., RUSS 102 or equiv. Continuation of active skills approach to Russian listening, speaking, reading, and writing.	4 Credits

	RUSS 202 - Intermediate Russian II Offered spring. Prereq., RUSS 201. Continuation of 201. Continuation of active skills approach to Russian listening, speaking, reading, and writing.	4 Credits
Minimum Required Grade: C-		18 Total Credits Required

Capstone Requirement

Rule: Must complete 1 of the following courses

Note: If taking HSTR 496, student is required to take the course for 3 credits and complete a 25 page research paper. Either course fulfills the Upper-Division Writing Requirement for the Major.

	Course	Credits
	ANTY 494 - Seminar: Central Asia Offered spring even-numbered years. Advanced analysis of historical and contemporary issues involving human communities, cultures, and economies of a particular region, and that region's role in the world.	3 Credits
	HSTR 496 - Independent Study (R-12) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

Modern and Classical Languages Literatures Department

Elizabeth Ametsbichler and Jannine Montauban, Co-Chairs

Instruction is offered in the following languages and literatures: Arabic, Chinese, French, German, Classical Greek, Italian, Japanese, Latin, Russian and Spanish, as well as in linguistics, foreign literatures in English translation, film, and the study of foreign cultures. Undergraduate courses have been planned to meet the needs of students who began studying a language in high school as well as those who undertake such study for the first time at the University.

The courses are intended to serve several purposes: (1) Contribute to the general education of students by giving them an opportunity to gain insight into patterns of living and thinking which are different from their own; (2) Enable students to gain proficiency in the language; (3) Prepare candidates for careers in research and college teaching by providing a solid basis for graduate studies in the various languages; (4) Prepare future teachers of foreign languages; (5) Provide language training requisite to careers in government, foreign commerce, and library work; (6) Enable students to read foreign publications and to meet graduate foreign language requirements in their field.

The Department of Modern and Classical Languages and Literatures offers undergraduate majors in Classics (Greek and Latin), French, German, Japanese, Russian, and Spanish. Within Classics, it is possible to elect options in Classical Languages (Latin and Greek), Classical Civilization, and Latin. There are undergraduate minors in Arabic and Chinese. The Master of Arts degree in Modern Languages and Literatures is offered with options in French, German, and Spanish. A master's degree with a concentration in any of the languages in which we offer a major may be obtained by means of the Master of Interdisciplinary Studies program.

High School Preparation: Credit is automatically granted for Advanced Placement scores of 3, 4, or 5. At each UM Orientation, the department offers a computerized placement/assessment examination in French, German, and Spanish. Students also can arrange individually to take the CLEP exam, administered by Testing Services in French, German, or Spanish.

These exams are not required, but serve one or more of three purposes:

1. **Exemption from the General Education Competency Requirement in Foreign Language:** if the student achieves a score that indicates a competence equivalent to the completion of French, German, or Spanish 102 (second semester). (See the General Education Requirements section of this catalog.)

2. **Placement for further study in the language:** the score achieved on this test is an accurate indicator of the course level at which language study should be resumed at the University (e.g. 102, 201, 202).
3. **Credit by examination:** A student with extensive language study may score high enough on the placement exam to qualify for University credits if she or he places into 202 or 301. By taking the course into which she or he placed (202 or 301) and receiving a B (3.00) or better, the student may then receive four by–pass credits (Pass grade only) for the preceding course (201or 202).

Students who elect not to take this exam may:

1. Satisfy the General Education Competency Requirement in Foreign Language by successfully completing a University foreign language 102 (second semester) course.
2. Estimate their placement level for further study by the approximate equating of one year of high school study to one semester of university study. Students should consult with the department in making this estimate.

Foreign Study Programs. The Department of Modern and Classical Languages and Literatures offers programs of accredited study in Argentina, Austria, China, Germany, Italy, Spain, Mexico, and Russia. Each program is supervised by a departmental faculty member, and is open to any student who meets the respective foreign language prerequisites. (There is no language prerequisite for the Study Abroad in Italy, but Italian is recommended.) Details concerning individual programs are available from the Department of Modern and Classical Languages and Literatures. The department also sponsors student exchanges with universities in France as well as work/study internships abroad for students in Japanese.

Department Faculty

Professors

Michihiro Ama, Karashima Tsukasa Associate Professor of Japanese Language and Culture
Elizabeth Ametsbichler, Professor / MCLL Co-Chair
Hiltrud Arens, Professor
Hayden Ausland, Professor
Maria Jose Bustos-Fernandez, Professor /Director Latin American Studies
M. Ione Crummy, Professor
Clary Loisel, Professor
Jannine Montauban, Professor / MCLL Co-Chair
Michel Valentin, Professor

Associate Professors

Benedicte Boisseron, Associate Professor (MCLL)
Mladen Kozul, Associate Professor
Marton Marko, Associate Professor
Ona Renner-Fahey, Associate Professor
Matthew Semanoff, Associate Professor
Clint Walker, Associate Professor
Barbara Weinlich, Visiting Associate Professor

Assistant Professors

Brian Dowdle, Assistant Professor
Khaled Huthaily, Associate Professor: Arabic & Linguistics
Pablo Requena, Ph.D.
John Trevathan, Visiting Assistant Professor
Robert Tuck, Assistant Professor

Adjunct Faculty

Seth Barnes-Smith, Teaching Assistant - French
Martina Baum-Acker, Adjunct Instructor
Diego Burgos, Adjunct
Micaela Downey, Adjunct Instructor
Martina Fontanarosa, Fulbright Teaching Assistant
Karoline Fuchs, Fulbright Teaching Assistant
Alice Harris, Adjunct Instructor
Manolita Lopez-Connor, Adjunct Instructor

Lecturers

Linda Bailey, Lecturer, Spanish
Samir Bitar, Lecturer
Zhen Cao, Senior Lecturer
Alicia Gignoux, Lecturer
Kelly Noe, Lecturer

Affiliates

Nathan Domitrovich, Undergraduate Academic Advisor
Lucia Hermo del Teso
Natalie Hymes
Surbhi Jain
Effie Koehn, Interim Director
Mary Nellis, Advisor
Eric Schluessel, Assistant Professor of History and Political Science
Marja Unkuri-Chaudhry, Director of Study Abroad, Student Exchanges, & Institutional Partnerships
Ruth Vanita, Professor

Emeritus Professors

Robert Acker, Professor Emeritus / Chair Emeritus
Christopher Anderson, Professor Emeritus
Tony Beltramo, Professor Emeritus
Timothy R. Bradstock, Professor Emeritus
Ray Corro, Professor Emeritus
Gerald Fetz, Professor Emeritus / Dean Emeritus
Linda Gillison, Professor Emerita
Judith N Rabinovitch, Karashima Tsukasa Prof Emerita of Japanese Lang and Culture
Stanley Rose, Professor Emeritus
James Scott, Professor Emeritus

Arabic

Back to Top

- ### ARAB 101 - Elementary Modern Arabic I

  Credits: 5. Offered autumn. Elementary Modern Standard Arabic I brings students the opportunity to learn Arabic via a communicative approach, where the emphasis is placed on the functional use of the Arabic Language. Active skills are listening, speaking, reading, and writing, plus basic cultural study.

- ### ARAB 102 - Elementary Modern Arabic II

  Credits: 5. Offered spring. Elementary Modern Standard Arabic II is a continuation of ARAB 101, in that it helps students learn Arabic via a communicative approach, where the emphasis is placed on the functional use of the Arabic Language. Active skills are listening, speaking, reading, and writing, plus basic cultural study. Course Attributes: Foreign Language Requirement

- ### ARAB 191 - Special Topics

  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- ### ARAB 201 - Intermediate Modern Arabic I

  Credits: 4. Offered autumn. Prereq., ARAB 102 or equiv. Course is designed to help students further develop their language skills (listening, speaking, reading, and writing) and learn more about the Arab culture and advanced grammar rules beyond the elementary level. The target proficiency level is Intermediate-Low/Mid (based on proficiency guidelines from the American Council on the Teaching of Foreign Languages). Course Attributes:
  Foreign Language Requirement

- ### ARAB 202 - Intermediate Modern Arabic II

  Credits: 4. Offered spring. Prereq., ARAB 201 or equiv. Course is a continuation of ARAB 201, in that it is designed to help students further develop their language skills (listening, speaking, reading, and writing) and learn more about the Arab culture and advanced grammar rules beyond

the elementary level. The target proficiency level is Intermediate-Mid (based on proficiency guidelines from the American Council on the Teaching of Foreign Languages). Course Attributes: Foreign Language Requirement

- ARAB 291 - Special Topics
  Credits: 1 TO 8. (R–8) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- ARAB 292 - Independent Study
  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- ARAB 301 - Adv Modern Standard Arabic I
  Credits: 3. Offered autumn. Prereq., ARAB 202 or equiv. Course is designed to help students further develop their language skills (listening, speaking, reading, and writing) and learn more about the Arab culture and advanced grammar rules beyond the intermediate level. The target proficiency level is Intermediate-High (based on proficiency guidelines from the American Council on the Teaching of Foreign Languages) Course Attributes: Foreign Language Requirement
- ARAB 302 - Adv Modern Standard Arabic II
  Credits: 3. Offered spring. Prereq., ARAB 301 or equiv. Course is a continuation of ARAB 301, in that it is designed to help students further develop their language skills (listening, speaking, reading, and writing) and learn more about the Arab culture and advanced grammar rules beyond the intermediate level. The target proficiency level is Intermediate-High/Advanced-Low (based on proficiency guidelines from the American Council on the Teaching of Foreign Languages). Course Attributes: Foreign Language Requirement
- ARAB 305 - The Arab World
  Credits: 3. Offered autumn. Students explore the Arabic-speaking countries through in-depth discussions of their history, geography, peoples, economy, political systems, educational systems, and cultural components, such as music, cuisine, tradition, customs, gender relations, etc. This course is designed for everyone interested in the topic, and no previous knowledge of the Arabic language is required.
- ARAB 307 - Model Arab League Delegates
  Credits: 3. Offered spring. Students explore the Arabic speaking countries, from North Africa, the Middle East and the Peninsula through discussions of political, economic, environmental, and social issues affecting the progress of the Arab world and its development. Students will learn parliamentary procedures used in institutions such as the Arab League itself; this mode of discourse will provide the basis for which students debate topics in class in order to better understand the region.
- ARAB 317 - Model Arab League Staff
  Credits: 3. Offered spring. As staff members, students will solidify their knowledge of the history, cultures, issues, and politics of the Middle East, as well as parliamentary procedures to a level which enables them to effectively assess, lead, and guide discussion related to their assigned countries and committee topics towards positive ends.
- ARAB 391 - Special Topics
  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- ARAB 392 - Independent Study
  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.

Chinese

Back to Top

- CHIN 101 - Elementary Chinese I
  Credits: 5. Offered autumn. Emphasis on speaking, reading and writing elementary Mandarin.
- CHIN 102 - Elementary Chinese II

Credits: 5. Prereq., CHIN 101. Offered spring. Continuation of 101. Course Attributes: Foreign Language Requirement

- CHIN 191 - Special Topics
  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- CHIN 201 - Intermediate Chinese I
  Credits: 5. Offered autumn. Prereq., CHIN 102 or equiv. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading and writing. Course Attributes: Foreign Language Requirement
- CHIN 202 - Intermediate Chinese II
  Credits: 5. Offered spring. Prereq., CHIN 201 or equiv. Continuation of 201. Course Attributes: Foreign Language Requirement
- CHIN 211H - Chinese Culture and Civiliz
  Credits: 3. Offered intermittently. Same as AS and LS 211H. An introduction to the historical, intellectual, political, literary and social developments of China from early times to the present. Course Attributes: Hist & Cultural Studies (H)
- CHIN 291 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- CHIN 292 - Independent Study
  Credits: 1 TO 6. (R-6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- CHIN 301 - Advanced Chinese I
  Credits: 3. Offered autumn. Prereq., CHIN 202 or consent of instr. Advanced Chinese, with emphasis on literary style, advanced grammar, and oral expression. Course Attributes: Foreign Language Requirement
- CHIN 302 - Advanced Chinese II
  Credits: 3. Offered spring. Prereq., CHIN 301 or consent of instr. Advanced Chinese, with emphasis on literary style, advanced grammar, and oral expression. Course Attributes: Foreign Language Requirement
- CHIN 313L - Chinese Poetry in Translation
  Credits: 3. Offered intermittently. The works of major Chinese poets to 1300 A.D. Course Attributes: Lit & Artistic Studies (L)
- CHIN 314L - Traditional Chinese Literature
  Credits: 3. Offered intermittently. Same as AS, MCLG, and LS 314L. Highlights of Chinese literature to 1800; includes philosophy, poetry, prose, and fiction. Course Attributes: Lit & Artistic Studies (L)
- CHIN 380 - Chinese Folktales
  Credits: 3. Same as LS 311. Offered intermittently. The study of the aspirations, desires, loves, moral and aesthetic values of the Chinese people as expressed in their folk literature.
- CHIN 388 - Readings in Classical Chinese
  Credits: 3. Prereq., CHIN 102 or approved equivalent. Introduces the basic grammar, syntax, and vocabulary of Classical Chinese through the reading of selected short representative texts from the formative and mature periods of the language's history.
- CHIN 391 - Special Topics
  Credits: 1 TO 12. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- CHIN 392 - Independent Study
  Credits: 1 TO 6. (R-6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- CHIN 491 - Special Topics

Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- CHIN 492 - Independent Study
  Credits: 1 TO 9. (R-9) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

Classics

Back to Top

- CLAS 155L - Survey of Greek and Roman Lit
  Credits: 3. Offered every autumn. An introduction to the literature of classical Greece and Rome. Readings in English translations of ancient works by Homer, Sophocles, Herodotus, Plato, Cicero, Vergil, Livy, and Ovid (and/or similar authors). Course Attributes: Lit & Artistic Studies (L)
- CLAS 160L - Classical Mythology
  Credits: 3. Offered every spring and intermittently in summer. Deities and myths of the Greeks and Romans, with emphasis on those of most importance to Western literature and art. Course Attributes: Lit & Artistic Studies (L)
- CLAS 170 - Myth Seminar: Honors
  Credits: 1. Offered every spring. Coreq., CLAS 160L. Research, writing, and discussion about the mythologies of the Greeks and Romans in a small group setting. Course Attributes: Honors Course
- CLAS 180H - Env & Nat in Classical World
  Credits: 3. An interdisciplinary survey of Greek and Roman attitudes towards the environment. The course examines the intellectual and literary history of Classical environmental thought through literature as well as geography, anthropology, archaeology, art history. Topics covered include cosmogony, deforestation, evolution, famine, pre-industrial peasant economy, and human interaction with the landscape through engineering and agriculture. Offered Intermittently. Course Attributes: Hist & Cultural Studies (H) Writing Course-Intermediate
- CLAS 191 - Special Topics
  Credits: 1 TO 6. (R 6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one time offerings of current topics. Course Attributes: Writing Course-Intermediate
- CLAS 192 - Independent Study
  Credits: 1 TO 6. (R-6) Offered autumn and spring.
- CLAS 193 - Study Abroad
  Credits: 1. An orientation to the winter session travel program in Greece. It prepares students for overseas travel through an overview of the major historical periods of Ancient Greece. This overview includes an introduction to Greek art and architecture, history, literature, and philosophy. Students will also begin preparations for individual research projects that will present at various sites in Greece. This class will also help students prepare paperwork required by the University for overseas travel programs.
- CLAS 198 - Internship
  Credits: 1 TO 6. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums Internship graduation limit 6
- CLAS 251L - The Epic
  Credits: 3. (R–6) Offered intermittently. Reading, study and discussion of epic poems. Selections will vary from Western and non–Western traditions. Course Attributes: Lit & Artistic Studies (L) Writing Course-Intermediate
- CLAS 252L - Greek Drama: Politics on Stage
  Credits: 3. (R–6) Offered intermittently. A study of the literary, artistic and political dimensions of Greek Tragedy and Comedy. Selections will vary. Course Attributes: Lit & Artistic Studies (L)

Writing Course-Intermediate

- CLAS 291 - Special Topics
  Credits: 1 TO 6. (R 6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.
- CLAS 292 - Independent Study
  Credits: 1 TO 6. (R-6) Offered autumn and spring.
- CLAS 320 - Women in Antiquity
  Credits: 3. Offered intermittently. Prereq., any one MCLG course in Classical Civilization or LATN 102 or GRK 102 or consent of instructor. Examination of varied sources from Ancient Greece, the Hellenistic World, and republican and imperial Rome to clarify the place of women in communities. Women's contribution to community and the mechanisms by which communities attempted to socialize female populations.
- CLAS 360H - Ancient Greek Civ and Culture
  Credits: 3. Offered intermittently. Prereq., consent of instr. Slide–lecture course. Ancient Greek works of art and architecture, related to and explained by contemporary ideas and values of Greek society. Course Attributes: Hist & Cultural Studies (H)
- CLAS 365E - The Roots of Western Ethics
  Credits: 3. Offered intermittently. Studies of the origins of Western ethical thinking in the writings of Greek writers and their application to current situations. Course Attributes: Ethical & Human Values Course
- CLAS 391 - Special Topics
  Credits: 1 TO 9. (R 9) Offered intermittently. Experimental offering of visiting professors, experimental offerings of new courses or one time offerings of current topics.
- CLAS 392 - Independent Study
  Credits: 1 TO 6. (R-6) Offered autumn and spring.
- CLAS 393 - Study Abroad
  Credits: 3. Prereq., CLAS 193. Site visits include Athens, Knossos, Mycenae, Corinth, Olympia, Delphi and others. Lectures on location in museums and archaeological sites. Course Attributes: Faculty-Led Study Abroad
- CLAS 594 - Graduate Seminar
  Credits: 1 TO 6. (R 6) Offered intermittently. Level: Graduate
- CLAS 596 - Independent Study
  Credits: 1 TO 6. (R 6) Offered intermittently. Level: Graduate Course Attributes: Service Learning/Volunteer
- CLAS 598 - Internship
  Credits: 1 TO 9. (R 9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Level: Graduate Course Attributes: Internships/Practicums

Film

Back to Top

- FILM 308 - Russian Cinema and Culture
  Credits: 3. Offered intermittently. Topically arranged introduction to the cinema of Russia and the former Soviet Union, with particular emphasis on contemporary Russian cinema. Screening preceded by brief cultural and historical background lectures and followed by group and paired discussion. All films screened with English subtitles. No knowledge of Russian is necessary.

French

Back to Top

- FRCH 101 - Elementary French I

  Credits: 4. Offered autumn. Active skills: listening, speaking, reading and writing plus basic cultural analysis.

- FRCH 102 - Elementary French II

  Credits: 4. Prereq., FRCH 101. Offered spring. Continuation of 101. Course Attributes: Foreign Language Requirement

- FRCH 191 - Special Topics

  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- FRCH 201 - Intermediate French I

  Credits: 4. Offered autumn. Prereq., FRCH 102 or equiv. Expansion of active skills: listening, speaking, reading, writing plus further cultural analysis. Course Attributes: Foreign Language Requirement

- FRCH 202 - Intermediate French II

  Credits: 4. Offered spring. Continuation of 201. PRereq., FRCH 201 or equiv. Course Attributes: Foreign Language Requirement

- FRCH 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- FRCH 292 - Independent Study

  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.

- FRCH 294 - Seminar/Workshop

  Credits: 1 TO 10. (R-10) Offered intermittently. University omnibus option for independent work. See index. Course Attributes: Omnibus Course

- FRCH 300 - Intro to Literature in French

  Credits: 3. Offered intermittently. Prereq., FRCH 201, or consent of instruct. Introduction to literature on special current topics with a focus on reading and written skills in French.

- FRCH 301 - Adv Grammar/Oral Writ Exprsn

  Credits: 3. (R-6) Prereq. 202 or equivalent. Advanced grammar review including literary tenses; developmental and written skills in French. Course Attributes: Foreign Language Requirement

- FRCH 310 - Fr. Lit. Cult. Mid. Age Renass

  Credits: 3. Offered autumn. Prereq., FRCH 202 or equiv. and coreq., FRCH 301. French literature of the Middle Ages and Renaissance with a focus on cultural identity.

- FRCH 311 - Fr. Lit. Cult. 17th 18th Cent.

  Credits: 3. Offered spring. Prereq., FRCH 301 or consent of instr. French literature of the 17th and 18th centuries within its cultural context.

- FRCH 312 - Fr. Lit. Cult. Long 19th Cent.

  Credits: 3. Offered autumn. Prereq., FRCH 301 or consent of instr. French literature from the French Revolution to the First World War within its cultural context.

- FRCH 313 - French Lit. Cult. 20th Cent.

  Credits: 3. Offered spring. Prereq. FRCH 301 or consent of instr. Survey of literature and culture of 20th Century France and Francophone countries, with a focus on the significance of plural cultural identities.

- FRCH 338 - The French Cinema

  Credits: 3. (R–6) Offered intermittently. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realism, Nouvelle Vogue, etc.) With an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.

- FRCH 339 - Surv African Cinema

Credits: 3. Offered intermittently. A diachronic survey of African cinema accompanied by interpretation and evaluation of textual dimensions of films through filmic critical theory.

- FRCH 350 - French Civ & Culture
  Credits: 3. (R-6) Offered spring. Prereq., FRCH 301 or consent of instr. Chronological/topical study of French culture.
- FRCH 391 - Special Topics
  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- FRCH 392 - Independent Study
  Credits: 1 TO 3. (R–3) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- FRCH 420 - Studies in French Prose
  Credits: 3. Offered intermittently. Prereq., FRCH 301 and one of 310, 311, 312, or 313 or consent of instructor. Evolution of textuality from the Renaissance to the 20th century: the novel.
- FRCH 421 - Adv Stylistics & Oral Arg
  Credits: 3. (R-6) Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Intensive analysis of usage and style in written and oral argumentation at various linguistic levels.
- FRCH 430 - Studies in French Drama
  Credits: 3. Offered intermittently. Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Evolution of theatre from the Renaissance to the 20th century or performance of a French play in French.
- FRCH 440 - Studies in French Poetry
  Credits: 3. Offered intermittently. Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Evolution of textuality from the Renaissance to the 20th century: poetry and essays.
- FRCH 491 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- FRCH 492 - Independent Study
  Credits: 1 TO 9. (R-9) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- FRCH 494 - Seminar/Workshop
  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Studies in major authors, periods, genres, and/or cultural studies.
- FRCH 594 - Graduate Seminar
  Credits: 3. (R–6) Offered autumn and spring. Prereq., graduate standing. A review and discussion of current research. Topics vary. Level: Graduate
- FRCH 595 - Special Topics
  Credits: 1 TO 6. (R–6) Offered intermittently. Prereq., graduate standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics. Level: Graduate
- FRCH 596 - Independent Study
  Credits: 1 TO 6. (R–6) Offered intermittently. Prereq., graduate standing. Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course Attributes: Service Learning/Volunteer
- FRCH 599 - Professional Paper
  Credits: 1 TO 6. (R–6) Offered intermittently. Prereq., graduate standing. Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate
- FRCH 699 - Thesis

Credits: 1 TO 9. (R–9) Offered intermittently. Prereq., graduate standing. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

Greek

Back to Top

- GRK 101 - Elementary Greek I
  Credits: 3. Offered autumn. Introduction to Classical Greek is the first courses of a two-semester sequence, designed to enable the student to read Greek authors in the original Greek as soon as possible. Based upon selected texts from Tragedians, Plato, Xenophon, Menander, New Testament, and other major authors.
- GRK 102 - Elementary Greek II
  Credits: 3. Offered spring. Prereq., GRK 101 or equivalent. Continuation of 101. Greek grammar, vocabulary, readings of ancient Greek writings with the aid of a lexicon. Course Attributes: Foreign Language Requirement
- GRK 191 - Special Topics
  Credits: 1 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- GRK 201 - Intermediate Greek I
  Credits: 3. Offered autumn. Prereq., GRK 102 or equiv. Attic prose and poetry Plato, Thucydides, Euripides. Course Attributes: Foreign Language Requirement
- GRK 202 - Intermediate Greek II
  Credits: 3. Offered spring. Prereq., GRK 201 (211) or equiv. Readings from Homer's Iliad and/or Odyssey. Course Attributes: Foreign Language Requirement
- GRK 292 - Independent Study
  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- GRK 300 - Major Greek Writers
  Credits: 3. (R–12) Offered autumn and spring. Prereq., GRK 202 (212) or equivalent. Homer, lyric poets, Aeschylus, Sophocles, Euripides, Aristophanes, Herodotus, Thucydides, Xenophon, Plato, Aristotle, Hellenistic philosophers, New Testament, etc. Selection to fit students' interests and programs.
- GRK 391 - Special Topics
  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- GRK 392 - Independent Study
  Credits: 1 TO 9. (R–9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.
- GRK 492 - Independent Study
  Credits: 1 TO 9. (R–9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

German

Back to Top

- GRMN 101 - Elementary German I
  Credits: 4. Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.
- GRMN 102 - Elementary German II
  Credits: 4. Offered spring. Prereq., GRMN 101. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading, and writing. Course Attributes: Foreign Language Requirement

- GRMN 106H - Intro Germ Cult Civ

  Credits: 3. This course provides an introductory overview of major developments, ideas, and influences involving German-speaking culture from its documented origins in the Roman era to today in English. Students will become familiar with the chronology and significance of key historical events in Central Europe as well as with major figures in such areas as politics, literature, art, and philosophy. Attention will also be given to important contributions that German-speaking culture has made globally. Course Attributes: Hist & Cultural Studies (H)

- GRMN 191 - Special Topics

  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- GRMN 201 - Intermediate German I

  Credits: 4. Offered autumn. Prereq., GRMN 102 or equiv. Continuation of active skills approach to German listening, speaking, reading, and writing. Course Attributes:
  Foreign Language Requirement

- GRMN 202 - Intermediate German II

  Credits: 4. Offered spring. Prereq., GRMN 201 or equiv. Continuation of 201. Course Attributes:
  Foreign Language Requirement

- GRMN 291 - Special Topics

  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- GRMN 292 - Independent Study

  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.

- GRMN 301 - German: Oral and Written Exp

  Credits: 3. Offered autumn. Prereq., GRMN 202 or equiv. Native or near–native speakers of German may not apply credit for this course toward a German major or minor. Course Attributes: Foreign Language Requirement

- GRMN 302 - German Oral & Written Expr II

  Credits: 3. Offered spring. Prereq., consent of instructor. Native or near–native speakers of German may not apply credit for this course toward a German major or minor. Course Attributes: Foreign Language Requirement

- GRMN 305 - Practicum in Germ Lang

  Credits: 4. Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Concentration on grammar topics and advanced language usage.

- GRMN 311 - Intro German Literature

  Credits: 3. Offered autumn. Prereq., GRMN 202 or equiv. Reading and discussion of selected works of German literature. Instruction in the fundamentals of textual analysis and terminology and discussion of works in historical context. Taught primarily in German.

- GRMN 312 - Intro German Lit: Dram/Poetry

  Credits: 3. Offered spring. Prereq., GRMN 202. Reading and discussion of selected, well-known German-language plays and poems. Instruction in the fundamentals of textual analysis, including terminology of various genres, and in German literary history. Practice in literary interpretation. Taught primarily in German and Austrian Theater.

- GRMN 317L - Intro Multicultural Lit German

  Credits: 3. Offered intermittently. Introduction to multicultural literature created during recent decades in Germany. Study topics include immigration, citizenship, multilingualism, identity; significant literary and cultural movements and selected writers in contemporary Germany. Course Attributes: Lit & Artistic Studies (L)

- GRMN 322L - Survey of German Cinema

  Credits: 3. Offered intermittently. The development of the German film from its beginnings in the late 19th century to the present. Topics include Expressionism, New Objectivity, the Nazi film, the German contribution to Hollywood, the post–war film in East and West Germany, and film in unified Germany. Course Attributes: Lit & Artistic Studies (L)

- GRMN 340L - Nature Environ German Lit Film

  Credits: 3. An examination of the historical role of nature and the environment in the German literary and cinematic traditions. Course begins with the Roman Germanic periods and covers literary and cinematic works in cultural and historical context up until the present day. Attention given to the role of environmentalism in Central European culture today in light of themes of nature and the environment in German literature and film historically. Course Attributes: Lit & Artistic Studies (L) Democracy and Citizenship (Y)

- GRMN 350 - German Culture & Civilization

  Credits: 3. Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Introduction to cultural topics, current events, and historical topics of Germany and Austria. Course content supplemented with on-site visits.

- GRMN 351H - German Culture to 1900

  Credits: 3. Offered intermittently in spring. Overview of major events and currents in German culture to 1900 with emphasis on the arts, literature, and intellectual movements. Lectures in English. Course Attributes: Hist & Cultural Studies (H) Writing Course-Advanced Democracy and Citizenship (Y)

- GRMN 352H - Germ Cult 1900-Present

  Credits: 3. Offered intermittently in spring. Overview of major events and trends in culture of German-speaking world from 1900 to the present with emphasis on the arts, literature, film, intellectual movements, and social and political developments. Lectures in English. Credit not allowed for both MCLG 331H and GRMN 352H. Course Attributes: Hist & Cultural Studies (H) Writing Course-Advanced Democracy and Citizenship (Y)

- GRMN 391 - Special Topics

  Credits: 1 TO 9. (R–9) Offered intermittently. Prereq., GRMN 202 or equiv. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- GRMN 392 - Independent Study

  Credits: 1 TO 12. (R–9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- GRMN 398 - Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- GRMN 431 - Germ Lit 1760 to 1832

  Credits: 3. Offered autumn. Prereq., consent of instructor. Readings, study, and discussion of writers, texts, and contexts in German literature from 1760 to 1832, including Enlightenment, Storm and Stress, Romanticism, and Classicism.

- GRMN 441 - 19th Century German Literature

  Credits: 3. Offered autumn. Prereq., consent of instructor. Readings, study, and discussion of writers, texts, and contexts in German literature from 1832 to 1900.

- GRMN 451 - 20th Cent German Lit to 1945

  Credits: 3. Offered spring. Prereq., GRMN 311 and 312 or consent of instructor. Readings, study, and discussion of writers, text, and contexts in German literature from 1900 to 1945.

- GRMN 452 - 20th Cent Grmn Lit Since 1945

  Credits: 3. Prereq., GRMN 311 and 312 or consent of instr. Readings, study, and discussion of writers, text, and contexts in German literature from 1945 to 1990.

- GRMN 453 - German Lit Since Unification

  Credits: 3. Offered intermittently. Prereq., GRMN 311 and 312 or consent of instructor. An introduction to current literature in Germany that has been produced since the fall of the Berlin wall and the process of unification in 1989/90.

- GRMN 491 - Special Topics

  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- GRMN 492 - Independent Study
  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- GRMN 494 - Seminar in German Studies
  Credits: 1 TO 12. (R-12) Offered autumn. Prereq., GRMN 311 and 312. Advanced studies in major topics in German literature and culture.
- GRMN 594 - Graduate Seminar
  Credits: 3. (R–6) Offered intermittently. Prereq., graduate standing. A review and discussion of current research. Topics vary. Level: Graduate
- GRMN 595 - Special Topics
  Credits: 1 TO 6. (R–6) Offered intermittently. Prereq., graduate standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics. Level: Graduate
- GRMN 596 - Independent Study
  Credits: 1 TO 6. (R–6) Offered intermittently. Prereq., graduate standing. Out–of–class independent work of a research nature which involves intensive use of the University or other libraries; also, research carried on in another country under the direction of a University professor. Level: Graduate Course Attributes: Service Learning/Volunteer
- GRMN 599 - Professional Paper
  Credits: 1 TO 6. (R–6) Offered intermittently. Prereq., graduate standing. Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate
- GRMN 696 - Independent Study
  Credits: 1 TO 6. (R 6) Offered intermittently. Prereq., graduate standing. Out of class independent work of a research nature which involves intensive use of the University or other libraries; also, research carried on in another country under the direction of a University professor. Level: Graduate
- GRMN 699 - Thesis
  Credits: 1 TO 9. (R–9) Offered intermittently. Prereq., graduate standing. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

Italian

Back to Top

- ITLN 101 - Elementary Italian I
  Credits: 4. Offered autumn. An introduction to Italian language and culture, with emphasis on the skills of reading, writing, comprehension, and speaking.
- ITLN 191 - Special Topcis
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- ITLN 201 - Intermediate Italian I
  Credits: 4. Offered autumn. Prereq., ITAL 102 or equiv. Expansion of active skills? listening, speaking, reading, writing, plus further cultural analysis.
- ITLN 291 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- ITLN 391 - Special Topics
  Credits: 1 TO 3. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- ITLN 491 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Japanese

Back to Top

- JPNS 101 - Elementary Japanese I
  Credits: 5. Offered autumn. Understanding of grammar and basic sentence structures are taught as a foundation for oral comprehension. The students will learn Hiragana and Katakana, two syllabic writing systems, and approximately 400 Kanji ideographs.
- JPNS 102 - Elementary Japanese II
  Credits: 5. Offered spring. Prereq., JPNS 101. Continuation of 101. Course Attributes: Foreign Language Requirement
- JPNS 150H - Japanese Cult & Civiliz
  Credits: 3. Offered intermittently. Same as AS and LS 210H. The historical, religious, artistic, literary and social developments in Japan from earliest times to the present. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)
- JPNS 191 - Special Topics
  Credits: 1 TO 6. (R–6) Offered spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- JPNS 201 - Intermediate Japanese I
  Credits: 5. Offered autumn. Prereq., JPNS 102 or equiv. Reading and writing kanji; building oral/aural fluency. Course Attributes: Foreign Language Requirement
- JPNS 202 - Intermediate Japanese II
  Credits: 5. Offered spring. Prereq., JPNS 201 or equiv. Continuation of JPNS 201. Course Attributes: Foreign Language Requirement
- JPNS 291 - Special Topics
  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- JPNS 292 - Independent Study
  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- JPNS 301 - Advanced Japanese
  Credits: 4. Offered autumn. Prereq., JPNS 202 or equiv. Development of greater reading and speaking proficiency. Vocabulary enhancement and kanji (Chinese characters) are emphasized. Course Attributes: Foreign Language Requirement
- JPNS 302 - Advanced Japanese
  Credits: 4. Offered spring. Prereq., JPNS 301 or equiv. Continuation of 301. Course Attributes: Foreign Language Requirement
- JPNS 306 - Japanese for Business/Tour
  Credits: 3. Offered autumn alternate years. Prereq., JPNS 202 or equiv. Vocabulary and idiom of oral and written communication in business and tourism. Professional, ethical practices and special etiquette.
- JPNS 311 - Jpns Clasc Lit Engl Trans
  Credits: 3. Offered intermittently. Prereq., Composition course WRIT 101 or 201 (or transfer equiv.) with a grade of C- or better; and one approved Gen Ed writing course or WRIT 201, with a C- or better. Introduction to the classical literature of the Japanese court, ca. 7th to 14th century. Kojiki, Man'yoshu, Kokinshu, Genji Monogatari, and other major classics of the period. Course Attributes: Writing Course-Advanced
- JPNS 312 - Jpns Lit Medieval to Mod
  Credits: 3. Offered spring alternate years. Prereq., Composition course WRIT 101 or 201 (or transfer equiv.) with a grade of C- or better; and one approved Gen Ed writing course or WRIT 201, with a C- or better. Introduction to the literature of Japan from the 15th to the 20th century. Course Attributes: Writing Course-Advanced

- JPNS 371 - Japanese Film and Anime

  Credits: 3. This course introduces students to salient events in the hundred-year history of Japanese cinema, including the age of silent film, the golden age of film directors, the New Wave, and contemporary Japanese cinema. Students will learn about Japanese cinema as the artistic expression of individual directors; they will gain a better understanding of the history of Japanese society and popular culture; and they will appreciate some of the reasons for the long-standing interest in Japan in the history of Western film studies.

- JPNS 390 - Supervised Internship

  Credits: 1 TO 12. Offered intermittently. Paid work experience in Japan, combined with language/culture course work by correspondence directed by UM department staff. Course Attributes: Internships/Practicums Research & Creative Schlrshp

- JPNS 391 - Special Topics

  Credits: 1 TO 12. (R–12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- JPNS 392 - Independent Study

  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.

- JPNS 398 - Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- JPNS 411 - Mod Jpns Wrtrs/Thinkers

  Credits: 3. (R–6) Offered autumn or spring. Prereq., JPNS 202. Introduction to the important writers, thinkers, and poets of the 20th century. Readings include a wide range of topics in the humanities, including literature, philosophy, and the arts.

- JPNS 412 - Intro Classical Japanese

  Credits: 3. Offered intermittently. Prereq., JPNS 202. Introduction to the language of the Japanese court, ca. 7th to 14th century. Essential features of grammar, sentence structure, vocabulary, and orthography.

- JPNS 415 - Adv Jpns for Professionals

  Credits: 3. Offered spring even–numbered years. Prereq., JPNS 202. A high–level professional language course covering all coordinated reading, writing, and speaking skills. Intended for majors hoping to enter the Japanese job market and prepare for professional testing in Japan.

- JPNS 431 - Post-War Japanese Lit

  Credits: 3. Offered spring odd–numbered years. Introduction to issues, literature, and criticism of Japanese literature from the postwar (1945) through the contemporary period, using texts in English translation. Course Attributes: Writing Course-Upper-Division

- JPNS 491 - Special Topics

  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- JPNS 492 - Independent Study

  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.

Latin

Back to Top

- LATN 101 - Elementary Latin I

  Credits: 3. Offered autumn. Latin I is the first course of a two-semester sequence, designed to enable the student to read authors in the original Latin as soon as possible. Based upon selected texts from Plautus, Vergil, Catullus, Livy, Ovid, Tacitus, and other major authors.

- LATN 102 - Elementary Latin II
  Credits: 3. Offered spring. Prereq., LATN 101. Continuation of 101. Latin grammar, vocabulary, readings. Course Attributes: Foreign Language Requirement
- LATN 191 - Special Topics
  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- LATN 201 - Intermediate Latin I
  Credits: 3. Offered autumn. Prereq., LATN 102 or equiv. Selections of Latin prose from the classical period, with complementary exercises in elementary composition. Course Attributes: Foreign Language Requirement
- LATN 202 - Intermediate Latin II
  Credits: 3. Offered spring. Prereq., LATN 201 or equiv. Latin epic poetry: Vergil's Aeneid. Course Attributes: Foreign Language Requirement
- LATN 292 - Independent Study
  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- LATN 311 - Major Latin Authors
  Credits: 3. (R–18) Offered autumn and spring. Prereq., LATN 202 or equiv. Plautus, Terence, Lucretius, Livy, Cicero, Vergil, Horace, Ovid, Tacitus, Juvenal, Pliny, Martial, etc.; also, Early Church fathers, Medieval and Renaissance Latin. Selection to suit students' needs and interests.
- LATN 391 - Special Topics
  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- LATN 392 - Independent Study
  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- LATN 492 - Independent Study
  Credits: 1 TO 12. (R–12) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

Mod & Class Literature-General

Back to Top

- MCLG 100H - Intro Latin American Studies
  Credits: 3. Offered autumn or spring. Same as ANTY 103H. Multi–disciplinary survey and introduction to Latin America from pre–Columbian times to the present. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)
- MCLG 110 - Introduction to European Studies
  Credits: 3. Offered autumn. This course offers an introduction to key concepts and themes of European Studies. It examines the phenomenon of Europe as a geographic region as well as an historical cultural construct.
- MCLG 113 - Paris is Always a Good Idea
  Credits: 3. This is an introductory course on Paris conducted in English. The course is designed to increase our understanding of French culture—its artists, architecture, literature, revolutions, neighborhoods, and multiculturalism—through a cultural and historical exploration of the City of Lights. Students will be invited to explore the myths and ideas that frame ‘Paris’ during any given period through analyses of texts, films, songs, and iconography.
- MCLG 191 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- MCLG 195 - Special Topics

Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one–time offerings of current topics.

- MCLG 291 - Special Topcis

  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- MCLG 311 - Jpns Clasc Lit Engl Trans

  Credits: 3. Offered autumn alternate years. Prereq., Composition course WRIT 101 or 201 (or transfer equiv.) with a grade of C- or better; and one approved Gen Ed writing course or WRIT 201, with a C- or better. Introduction to the classical literature of the Japanese court, ca. 7th to 14th century. Kojiki, Man'yoshu, Kokinshu, Genji Monogatari, and other major classics of the period. Course Attributes: Writing Course-Upper-Division

- MCLG 315 - Major Hispanic Authors

  Credits: 3. Offered autumn. The intensive study of the life times, and works of a major Hispanic author. Course Attributes: Writing Course-Advanced

- MCLG 339 - Surv African Cinema

  Credits: 3. A diachronic survey of primarily Francophone African cinema accompanied by interpretation and evaluation of films through filmic critical theory. Students taking the course for French credit must read and write in French.

- MCLG 358 - Lat Amer Civ Thru Lit/Film

  Credits: 3. Offered spring. The development of the traditional society of Latin American civilization through the interaction of European, Indian and African elements. Credit not allowed for both LS/MCLG 358 and 359.

- MCLG 395 - Special Topics

  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offering of visiting professors, experimental offerings of new courses or one–time offerings of current topics.

- MCLG 396 - Independent Study

  Credits: 1 TO 9. (R–9) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.

- MCLG 410 - Methods Tchng Foreign Language

  Credits: 3. Offered spring. Fundamental concepts, objectives and techniques in the teaching of foreign languages.

- MCLG 440 - Stds in Comparative Lit

  Credits: 3. (R–9) Offered intermittently. Prereq., consent of instr. Same as LIT 430 and LS 455. The study of important literary ideas, genres, trends and movements. Credit not allowed for the same topic in more than one course numbered 440, 494, LIT 430 or LS 455.

- MCLG 494 - Sem in Foreign Literatures

  Credits: 1 TO 3. (R-9) Offered Spring. Same as RUSS 494. The topic of the seminar alternates between 1.) The Russian Novel and 2.) Dostoevsky and 3.) Women and Gender in Russian Culture. May be taken for honors credit through the Davidson Honors College. No knowledge of Russian is necessary, but Russian majors will be required to do selected readings in the original Russian. Fulfills the Upper-Division Writing Expectation for Russian majors. Course Attributes: Writing Course-Advanced

- MCLG 495 - Special Topics

  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one–time offerings of current topics.

- MCLG 496 - Independent Study

  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.

- MCLG 522 - Sem in Comparative Lit

  Credits: 3. (R–9) Offered intermittently. Prereq., graduate standing. Same as LIT 522. Topics will vary. Level: Graduate

- MCLG 594 - Graduate Seminar

Credits: 1 TO 6. (R–6) Offered intermittently. A review and discussion of current research. Topics vary. Level: Graduate

Mod & Class Lang-Linguistics

Back to Top

- MCLX 395 - Special Topics
  Credits: 1 TO 6. (R 6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.
- MCLX 495 - Special Topics
  Credits: 1 TO 6. (R 6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.

Russian

Back to Top

- RUSS 101 - Elementary Russian I
  Credits: 4. Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.
- RUSS 102 - Elementary Russian II
  Credits: 4. Offered spring. Prereq., RUSS 101 or equiv. Continuation of 101. Course Attributes: Foreign Language Requirement
- RUSS 105H - Intro to Russian Culture
  Credits: 3. Offered autumn. Fulfills both the Historical and Cultural (H) and American and European (Y) General Education Perspectives. A chronological survey of Russian culture from its beginnings to the contemporary period. Course Attributes: Hist & Cultural Studies (H) Democracy and Citizenship (Y)
- RUSS 191 - Special Topics
  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- RUSS 192 - Independent Study
  Credits: 1 TO 6. (R–6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.
- RUSS 193 - Study tours / Study abroad
  Credits: 1 TO 12. (R-10) Offered intermittently. University omnibus option for independent work. Course Attributes: Faculty-Led Study Abroad
- RUSS 201 - Intermediate Russian I
  Credits: 4. Offered autumn. Prereq., RUSS 102 or equiv. Continuation of active skills approach to Russian listening, speaking, reading, and writing. Course Attributes: Foreign Language Requirement
- RUSS 202 - Intermediate Russian II
  Credits: 4. Offered spring. Prereq., RUSS 201. Continuation of 201. Continuation of active skills approach to Russian listening, speaking, reading, and writing. Course Attributes: Foreign Language Requirement
- RUSS 292 - Independent Study
  Credits: 1 TO 6. (R-6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- RUSS 293 - Study tours / Study abroad
  Credits: 1 TO 12. (R-10) Offered intermittently. University omnibus option for independent work. Course Attributes: Faculty-Led Study Abroad
- RUSS 301 - Russian: Oral & Written Expr I

Credits: 3. Offered autumn. Prereq., RUSS 202 or consent of instr. Emphasis on active use of Russian. Intensive practice in conversation and writing. Course Attributes: Foreign Language Requirement

- RUSS 302 - Russian:Oral & Written Expr II

  Credits: 3. Prereq., RUSS 301 or consent of instr. A continued emphasis on active use of Russian. Intensive practice in conversation and writing. Continuation of 301. Course Attributes: Foreign Language Requirement

- RUSS 306L - Evil and the Supernatural

  Credits: 3. Offered alternate years. A survey of 19th-and 20th century Russian literature in translation. This course will focus on texts exploring evil and the supernatural. May include the works of Pushkin, Gogol, Dostoevsky, Tolstoy, Chekhov, Bulgakov and others. No knowledge of Russian is necessary. Course Attributes: Lit & Artistic Studies (L)

- RUSS 307L - Beauty, Power and Pride

  Credits: 3. Offered alternate years. Survey of Russian literature up to the present day. Texts focus on the themes of beauty, power and pride as a lens for exploring elements of Russian identity. Course Attributes: Lit & Artistic Studies (L)

- RUSS 371 - SRAS: The New Great Game

  Credits: 3. Offered every term. Prereq., consent of instructor. Restricted to students in the SRAS program. Taught at The London School in Bishkek, Kyrgyzstan. This course offers an overview of the New Great Game as a renewed struggle for hegemony and control over natural resources in Central Asia between competing global powers, the Central Asian republics themselves, and neighboring states.

- RUSS 372 - SRAS: Understnding Cent Asia

  Credits: 3. Offered every term. Prereq., consent of instructor. Restricted to students in the SRAS program. Taught at The London School in Bishkek, Kyrgyzstan. The course offers a broad overview of the cultural and social, as well as the historical and religious, dimensions of Central Asia, including Kyrgyzstan, Kazakhstan, Uzbekistan, Turkmenistan, and Tajikistan, in addition to Afghanistan and Xinjiang because of their influential role in greater Eurasia.

- RUSS 391 - Special Topics

  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- RUSS 392 - Independent Study

  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.

- RUSS 393 - Study tours / Study abroad

  Credits: 1 TO 12. Offered intermittently. University omnibus option for independent work. Course Attributes: Faculty-Led Study Abroad

- RUSS 398 - Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of department. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- RUSS 411 - 19th-Century Russian Authors

  Credits: 3. Offered intermittently. Prereq., RUSS 202 or consent of instructor. A study of various authors; may include Pushkin, Dostoevsky, Tolstoy, etc.

- RUSS 412 - 20th-Century Russian Authors

  Credits: 3. Offered intermittently. Prereq., RUSS 202 or consent of instructor. A study of various authors; may include Bulgakov, Nabokov, Solzhenitsyn, etc.

- RUSS 424 - Russian Short Story

  Credits: 3. Offered intermittently. Prereq., RUSS 202 or consent of instructor. A chronological study of the Russian short story, 19th and 20th centuries.

- RUSS 440 - Russian Poetry

Credits: 3. Offered intermittently. Prereq., RUSS 202 or consent of instructor. The evolution of Russian poetry from the end of the 18th century to the contemporary period.

- RUSS 491 - Special Topics
  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- RUSS 492 - Independent Study
  Credits: 1 TO 6. (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- RUSS 493 - Study tours / Study abroad
  Credits: 1 TO 12. (R-10) Offered intermittently. University omnibus option for independent work. Course Attributes: Faculty-Led Study Abroad
- RUSS 494 - Seminar in Russian Studies
  Credits: 1 TO 3. (R–9) Offered intermittently. Prereq., consent of instructor. Topics of the seminar include 1.) The Russian Novel and 2.) Dostoevsky and 3.) Women and Gender in Russian Culture. May be taken for honors credit through the Davidson Honors College. No knowledge of Russian is necessary, but Russian majors will be required to do selected readings in the original Russian. Fulfills the upper-division writing expectation for Russian majors. Topics announced in class schedules. Course Attributes: Writing Course-Advanced
- RUSS 596 - Independent Study
  Credits: 1 TO 6. (R–6) Offered intermittently. Level: Graduate

Spanish

Back to Top

- SPNS 101 - Elementary Spanish I
  Credits: 5. Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading and writing.
- SPNS 102 - Elementary Spanish II
  Credits: 5. Offered spring. Prereq., SPNS 101. Continuation of 101. Course Attributes: Foreign Language Requirement
- SPNS 191 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- SPNS 201 - Intermediate Spanish I
  Credits: 4. Offered autumn. Prereq., SPNS 102. Continued practice in the oral skills with added emphasis on grammar and reading proficiency. Course Attributes: Foreign Language Requirement
- SPNS 202 - Intermediate Spanish II
  Credits: 4. Offered spring. Prereq., SPNS 201. Continuation of 201. Course Attributes: Foreign Language Requirement
- SPNS 291 - Special Topics
  Credits: 1 TO 6. (R 6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.
- SPNS 292 - Independent Study
  Credits: 1 TO 6. (R-6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.
- SPNS 301 - Spanish: Oral and Written Expr
  Credits: 3. Offered autumn and spring. Prereq., SPNS 202 or equiv. Development of oral and written skills with an emphasis on Hispanic cultural context. Course Attributes: Foreign Language Requirement
- SPNS 305 - Spanish Phonetics

Credits: 3. Offered once each academic year. Prereq., SPNS 202 or consent of instr. A practical and theoretical exploration of the Spanish sound system.

- SPNS 306 - Commercial Spanish

  Credits: 3. (R–6) Offered intermittently. Prereq., SPNS 301. The use of business concepts and terminology in Spanish. Conducted entirely in Spanish. Investigation of cultural attitudes, resources of the Hispanic world, ways in which Hispanics conduct business, practice in business letter writing.

- SPNS 308 - Intensive Spanish Abroad

  Credits: 1 TO 9. (R–9) Offered spring. Prereq., SPNS 202 or equiv. Intensive Spanish language course to coincide with intensive language course given at an institute or college during the Spanish Study Abroad Program. Credits vary according to the hours and intensity of the foreign language course and are determined by the director of the program.

- SPNS 321 - Advanced Conversations

  Credits: 3. Offered intermittently. Prereq., SPNS 202. Intensive practice in oral Spanish through individual presentations, vocabulary and grammar work, and film discussion and analysis.

- SPNS 326 - Contemporary Spanish Lit

  Credits: 3. Offered autumn and spring. Prereq., SPNS 202 or equiv. The study of contemporary works by peninsular authors, including an introduction to literary genres.

- SPNS 331 - Contemp Latin Amer Lit

  Credits: 3. Offered autumn and spring. Prereq., SPNS 202 or equiv. The study of representative works by Latin-American authors with emphasis on the 20th century. Includes an introduction to literary genres.

- SPNS 355 - Topics in Spanish Lit/Culture

  Credits: 1 TO 9. (R–9) Offered intermittently in spring. Prereq., SPNS 326 or SPNS 331 or consent of instr.

- SPNS 391 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- SPNS 392 - Independent Study

  Credits: 1 TO 6. Course material appropriate to the needs and objectives of the individual student.

- SPNS 398 - Internship

  Credits: 1 TO 6. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship may count toward graduation. Course Attributes: Internship graduation limit 6

- SPNS 400 - Spanish: Applied Linguistics

  Credits: 3. Offered autumn. Prereq., SPNS 305 and LING 270 or 470. Topics in linguistics applied to the Spanish Language with an emphasis on morphology, syntax and semantics.

- SPNS 408 - Spanish: Adv Comp & Conversat

  Credits: 3. Offered spring. Prereq., SPNS 301 or consent of instr. Intensive practice in writing on different levels of usage and style, combined with guided oral practice.

- SPNS 432 - Latin American Literature

  Credits: 3. (R–6) Offered regularly. Prereq. SPNS 326 or 331 or consent of instr. Emphasis on major works of the 20th century.

- SPNS 465 - Spanish Lit:Renaiss/Goldn Age

  Credits: 3. (R-6) Offered autumn even-numbered years. Prereq., SPNS 326 or 331 or consent of instr.

- SPNS 466 - Spanish Lit:Modern & Contemp

  Credits: 3. (R-6) Offered spring even-numbered years. Prereq., SPNS 326 or 331 or consent of instr.

- SPNS 599 - Professional Paper

Credits: 1 TO 6. (R–6) Offered intermittently. Prereq., graduate standing. Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate

- SPNS 699 - Thesis
  Credits: 1 TO 9. (R–9) Offered intermittently. Prereq., graduate standing. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

Classical Civilization

Bachelor of Arts - Classics; Classical Civilization Option; Track: Classical Civilization

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.5

Note: Degree requires 43-53 credits to complete.

Lower Division Core Courses

Rule: Must complete 9 credits from the following:

Note: Must select either CLAS 251L or 252L. Only 1 will be accepted toward the fulfillment of the required major credits.

	Course	Credits
	CLAS 155L - Survey of Greek and Roman Lit Offered every autumn. An introduction to the literature of classical Greece and Rome. Readings in English translations of ancient works by Homer, Sophocles, Herodotus, Plato, Cicero, Vergil, Livy, and Ovid (and/or similar authors).	3 Credits
	CLAS 160L - Classical Mythology Offered every spring and intermittently in summer. Deities and myths of the Greeks and Romans, with emphasis on those of most importance to Western literature and art.	3 Credits
	CLAS 251L - The Epic (R–6) Offered intermittently. Reading, study and discussion of epic poems. Selections will vary from Western and non–Western traditions.	3 Credits
	CLAS 252L - Greek Drama: Politics on Stage (R–6) Offered intermittently. A study of the literary, artistic and political dimensions of Greek Tragedy and Comedy. Selections will vary.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Degree Electives I

Rule: Must complete 12 credits from the following courses

	Course	Credits

	ARTH 407 - Roman and Early Christian Art Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Roman art and architecture from prehistory to the Early Christian period.	3 Credits
	CLAS 320 - Women in Antiquity Offered intermittently. Prereq., any one MCLG course in Classical Civilization or LATN 102 or GRK 102 or consent of instructor. Examination of varied sources from Ancient Greece, the Hellenistic World, and republican and imperial Rome to clarify the place of women in communities. Women's contribution to community and the mechanisms by which communities attempted to socialize female populations.	3 Credits
	CLAS 360H - Ancient Greek Civ and Culture Offered intermittently. Prereq., consent of instr. Slide–lecture course. Ancient Greek works of art and architecture, related to and explained by contemporary ideas and values of Greek society.	3 Credits
	CLAS 365E - The Roots of Western Ethics Offered intermittently. Studies of the origins of Western ethical thinking in the writings of Greek writers and their application to current situations.	3 Credits
	HSTR 301H - Ancient Greek Social Hist (EU) Offered intermittently. Various aspects of personal, social, and political life of classical times in Greece. Primary readings in various ancient authors supplemented by some audio-visual or other informational presentations.	3 Credits
	HSTR 302H - Ancient Greece (EU) Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians.	3 Credits
	HSTR 304H - Ancient Rome (EU) Offered intermittently. Roman history from the time of the Kings through the early Empire. Based on the writings of the Roman historians.	3 Credits
	PHL 363 - Ancient Greek and Roman Phil Offered intermittently. Examination of the thought of the philosophers of Greece and Rome as expressed in original works read in English translation. Ancient philosophy studied within its historical, linguistic and cultural setting. Cannot receive credit for both PHL 363 and MCLG 362H.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Degree Electives II

Rule: Must complete 9 additional credits from the following courses to total 21 credits when added to the 9 credits completed in Degree Electives I.

	Course	**Credits**
	GRK 202 - Intermediate Greek II Offered spring. Prereq., GRK 201 (211) or equiv. Readings from Homer's Iliad and/or Odyssey.	3 Credits

	GRK 300 - Major Greek Writers (R–12) Offered autumn and spring. Prereq., GRK 202 (212) or equivalent. Homer, lyric poets, Aeschylus, Sophocles, Euripides, Aristophanes, Herodotus, Thucydides, Xenophon, Plato, Aristotle, Hellenistic philosophers, New Testament, etc. Selection to fit students' interests and programs.	3 Credits
	GRK 392 - Independent Study (R–9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	LATN 202 - Intermediate Latin II Offered spring. Prereq., LATN 201 or equiv. Latin epic poetry: Vergil's Aeneid.	3 Credits
	LATN 311 - Major Latin Authors (R–18) Offered autumn and spring. Prereq., LATN 202 or equiv. Plautus, Terence, Lucretius, Livy, Cicero, Vergil, Horace, Ovid, Tacitus, Juvenal, Pliny, Martial, etc.; also, Early Church fathers, Medieval and Renaissance Latin. Selection to suit students' needs and interests.	3 Credits
	PHL 465 - Plato Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
	PHL 466 - Aristotle Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Language Component

Rule: Student must complete one of the following options:

13-20 Total Credits Required

Option One: Latin

Rule: May complete all of the following:

	Course	**Credits**
	LATN 101 - Elementary Latin I Offered autumn. Latin I is the first course of a two-semester sequence, designed to enable the student to read authors in the original Latin as soon as possible. Based upon selected texts from Plautus, Vergil, Catullus, Livy, Ovid, Tacitus, and other major authors.	5 Credits
	LATN 102 - Elementary Latin II Offered spring. Prereq., LATN 101. Continuation of 101. Latin grammar, vocabulary, readings.	5 Credits
	LATN 201 - Intermediate Latin I Offered autumn. Prereq., LATN 102 or equiv. Selections of Latin prose from the classical period, with complementary exercises in elementary composition.	4 Credits

Minimum Required Grade: C-	14 Total Credits Required

Option Two: Greek

Rule: May complete all of the following:

	Course	Credits
	GRK 101 - Elementary Greek I Offered autumn. Introduction to Classical Greek is the first courses of a two-semester sequence, designed to enable the student to read Greek authors in the original Greek as soon as possible. Based upon selected texts from Tragedians, Plato, Xenophon, Menander, New Testament, and other major authors.	5 Credits
	GRK 102 - Elementary Greek II Offered spring. Prereq., GRK 101 or equivalent. Continuation of 101. Greek grammar, vocabulary, readings of ancient Greek writings with the aid of a lexicon.	5 Credits
	GRK 201 - Intermediate Greek I Offered autumn. Prereq., GRK 102 or equiv. Attic prose and poetry Plato, Thucydides, Euripides.	3 Credits
Minimum Required Grade: C-		13 Total Credits Required

Option Three: Latin and Greek

Rule: May complete all of the following:

	Course	Credits
	GRK 101 - Elementary Greek I Offered autumn. Introduction to Classical Greek is the first courses of a two-semester sequence, designed to enable the student to read Greek authors in the original Greek as soon as possible. Based upon selected texts from Tragedians, Plato, Xenophon, Menander, New Testament, and other major authors.	5 Credits
	GRK 102 - Elementary Greek II Offered spring. Prereq., GRK 101 or equivalent. Continuation of 101. Greek grammar, vocabulary, readings of ancient Greek writings with the aid of a lexicon.	5 Credits
	LATN 101 - Elementary Latin I Offered autumn. Latin I is the first course of a two-semester sequence, designed to enable the student to read authors in the original Latin as soon as possible. Based upon selected texts from Plautus, Vergil, Catullus, Livy, Ovid, Tacitus, and other major authors.	5 Credits

	LATN 102 - Elementary Latin II Offered spring. Prereq., LATN 101. Continuation of 101. Latin grammar, vocabulary, readings.	5 Credits
Minimum Required Grade: C-		20 Total Credits Required

Classical Languages

Bachelor of Arts - Classics; Classical Languages Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 59
Required Cumulative GPA: 2.5
Note: Degree requires 59-62 credits to complete.

Required Lower Division Classes

Rule: Complete 3 of the following courses
Note: Must select either CLAS 251L or 252L. Only 1 will be accepted toward the fulfillment of the required major credits.

	Course	Credits
	CLAS 155L - Survey of Greek and Roman Lit Offered every autumn. An introduction to the literature of classical Greece and Rome. Readings in English translations of ancient works by Homer, Sophocles, Herodotus, Plato, Cicero, Vergil, Livy, and Ovid (and/or similar authors).	3 Credits
	CLAS 160L - Classical Mythology Offered every spring and intermittently in summer. Deities and myths of the Greeks and Romans, with emphasis on those of most importance to Western literature and art.	3 Credits
	CLAS 251L - The Epic (R–6) Offered intermittently. Reading, study and discussion of epic poems. Selections will vary from Western and non–Western traditions.	3 Credits
	CLAS 252L - Greek Drama: Politics on Stage (R–6) Offered intermittently. A study of the literary, artistic and political dimensions of Greek Tragedy and Comedy. Selections will vary.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Degree Electives

Rule: Complete 6 credits from the following courses

	Course	Credits

	ARTH 407 - Roman and Early Christian Art Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Roman art and architecture from prehistory to the Early Christian period.	3 Credits
	CLAS 320 - Women in Antiquity Offered intermittently. Prereq., any one MCLG course in Classical Civilization or LATN 102 or GRK 102 or consent of instructor. Examination of varied sources from Ancient Greece, the Hellenistic World, and republican and imperial Rome to clarify the place of women in communities. Women's contribution to community and the mechanisms by which communities attempted to socialize female populations.	3 Credits
	CLAS 360H - Ancient Greek Civ and Culture Offered intermittently. Prereq., consent of instr. Slide–lecture course. Ancient Greek works of art and architecture, related to and explained by contemporary ideas and values of Greek society.	3 Credits
	CLAS 365E - The Roots of Western Ethics Offered intermittently. Studies of the origins of Western ethical thinking in the writings of Greek writers and their application to current situations.	3 Credits
	HSTR 301H - Ancient Greek Social Hist (EU) Offered intermittently. Various aspects of personal, social, and political life of classical times in Greece. Primary readings in various ancient authors supplemented by some audio-visual or other informational presentations.	3 Credits
	HSTR 302H - Ancient Greece (EU) Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians.	3 Credits
	HSTR 304H - Ancient Rome (EU) Offered intermittently. Roman history from the time of the Kings through the early Empire. Based on the writings of the Roman historians.	3 Credits
	PHL 363H - Ancient Greek and Roman Phil Offered intermittently. Examination of the thought of the philosophers of Greece and Rome as expressed in original works read in English translation. Ancient philosophy studied within its historical, linguistic and cultural setting.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Language Emphasis Requirements

Rule: Must complete the following subcategories

38 Total Credits Required

Language Emphasis Core

Rule: All courses are required

	Course	Credits

	GRK 101 - Elementary Greek I Offered autumn. Introduction to Classical Greek is the first courses of a two-semester sequence, designed to enable the student to read Greek authors in the original Greek as soon as possible. Based upon selected texts from Tragedians, Plato, Xenophon, Menander, New Testament, and other major authors.	3 Credits
	GRK 102 - Elementary Greek II Offered spring. Prereq., GRK 101 or equivalent. Continuation of 101. Greek grammar, vocabulary, readings of ancient Greek writings with the aid of a lexicon.	3 Credits
	LATN 101 - Elementary Latin I Offered autumn. Latin I is the first course of a two-semester sequence, designed to enable the student to read authors in the original Latin as soon as possible. Based upon selected texts from Plautus, Vergil, Catullus, Livy, Ovid, Tacitus, and other major authors.	3 Credits
	LATN 102 - Elementary Latin II Offered spring. Prereq., LATN 101. Continuation of 101. Latin grammar, vocabulary, readings.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Language Emphasis Electives

Rule: For a Latin emphasis: complete 12 credits in Latin beyond LATN 102 plus 3 credits in Greek beyond GRK 102. For a Greek emphasis: complete 12 credits in Greek beyond GRK 102 plus 3 credits in Latin beyond LATN 102.

	Course	**Credits**
	GRK 191 - Special Topics (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	GRK 201 - Intermediate Greek I Offered autumn. Prereq., GRK 102 or equiv. Attic prose and poetry Plato, Thucydides, Euripides.	3 Credits
	GRK 202 - Intermediate Greek II Offered spring. Prereq., GRK 201 (211) or equiv. Readings from Homer's Iliad and/or Odyssey.	3 Credits
	GRK 292 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	GRK 300 - Major Greek Writers (R–12) Offered autumn and spring. Prereq., GRK 202 (212) or equivalent. Homer, lyric poets, Aeschylus, Sophocles, Euripides, Aristophanes, Herodotus, Thucydides, Xenophon, Plato, Aristotle, Hellenistic philosophers, New Testament, etc. Selection to fit students' interests and programs.	3 Credits

	GRK 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	GRK 392 - Independent Study (R–9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	GRK 492 - Independent Study (R–9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	LATN 191 - Special Topics (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 6 Credits
	LATN 201 - Intermediate Latin I Offered autumn. Prereq., LATN 102 or equiv. Selections of Latin prose from the classical period, with complementary exercises in elementary composition.	3 Credits
	LATN 202 - Intermediate Latin II Offered spring. Prereq., LATN 201 or equiv. Latin epic poetry: Vergil's Aeneid.	3 Credits
	LATN 292 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	LATN 311 - Major Latin Authors (R–18) Offered autumn and spring. Prereq., LATN 202 or equiv. Plautus, Terence, Lucretius, Livy, Cicero, Vergil, Horace, Ovid, Tacitus, Juvenal, Pliny, Martial, etc.; also, Early Church fathers, Medieval and Renaissance Latin. Selection to suit students' needs and interests.	3 Credits
	LATN 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	LATN 392 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	LATN 492 - Independent Study (R–12) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 12 Credits
Minimum Required Grade: C-		18 Total Credits Required

Latin B.A.

Bachelor of Arts - Classics; Latin Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 50

Required Cumulative GPA: 2.5

Note: Degree requires 50-62 credits to complete.

Lower Division Core

Rule: Complete all of the following:

Note: Must select either CLAS 251L or 252L. Only 1 will be accepted toward the fulfillment of the required major credits.

	Course	Credits
	CLAS 155L - Survey of Greek and Roman Lit Offered every autumn. An introduction to the literature of classical Greece and Rome. Readings in English translations of ancient works by Homer, Sophocles, Herodotus, Plato, Cicero, Vergil, Livy, and Ovid (and/or similar authors).	3 Credits
	CLAS 160L - Classical Mythology Offered every spring and intermittently in summer. Deities and myths of the Greeks and Romans, with emphasis on those of most importance to Western literature and art.	3 Credits
	CLAS 251L - The Epic (R–6) Offered intermittently. Reading, study and discussion of epic poems. Selections will vary from Western and non–Western traditions.	3 Credits
	CLAS 252L - Greek Drama: Politics on Stage (R–6) Offered intermittently. A study of the literary, artistic and political dimensions of Greek Tragedy and Comedy. Selections will vary.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Upper Division Core

Rule: Complete all of the following courses

	Course	Credits
	ARTH 407 - Roman and Early Christian Art Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Roman art and architecture from prehistory to the Early Christian period.	3 Credits
	HSTR 304H - Ancient Rome (EU) Offered intermittently. Roman history from the time of the Kings through the early Empire. Based on the writings of the Roman historians.	3 Credits

Minimum Required Grade: C-	6 Total Credits Required

Degree Electives

Rule: Complete 9 credits from the following courses

	Course	Credits
	CLAS 320 - Women in Antiquity Offered intermittently. Prereq., any one MCLG course in Classical Civilization or LATN 102 or GRK 102 or consent of instructor. Examination of varied sources from Ancient Greece, the Hellenistic World, and republican and imperial Rome to clarify the place of women in communities. Women's contribution to community and the mechanisms by which communities attempted to socialize female populations.	3 Credits
	CLAS 360H - Ancient Greek Civ and Culture Offered intermittently. Prereq., consent of instr. Slide–lecture course. Ancient Greek works of art and architecture, related to and explained by contemporary ideas and values of Greek society.	3 Credits
	CLAS 365E - The Roots of Western Ethics Offered intermittently. Studies of the origins of Western ethical thinking in the writings of Greek writers and their application to current situations.	3 Credits
	HSTR 301H - Ancient Greek Social Hist (EU) Offered intermittently. Various aspects of personal, social, and political life of classical times in Greece. Primary readings in various ancient authors supplemented by some audio-visual or other informational presentations.	3 Credits
	HSTR 302H - Ancient Greece (EU) Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians.	3 Credits
	PHL 363H - Ancient Greek and Roman Phil Offered intermittently. Examination of the thought of the philosophers of Greece and Rome as expressed in original works read in English translation. Ancient philosophy studied within its historical, linguistic and cultural setting.	3 Credits
	PHL 465 - Plato Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
	PHL 466 - Aristotle Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Language Requirements

Rule: Must complete the following subcategories

26 Total Credits Required

Language Core

Rule: Must complete all of the following courses

Note: Proficiency at the level of LATN 201 substitutes for LATN 101 and 102.

	Course	Credits
	LATN 101 - Elementary Latin I Offered autumn. Latin I is the first course of a two-semester sequence, designed to enable the student to read authors in the original Latin as soon as possible. Based upon selected texts from Plautus, Vergil, Catullus, Livy, Ovid, Tacitus, and other major authors.	3 Credits
	LATN 102 - Elementary Latin II Offered spring. Prereq., LATN 101. Continuation of 101. Latin grammar, vocabulary, readings.	3 Credits
	LATN 201 - Intermediate Latin I Offered autumn. Prereq., LATN 102 or equiv. Selections of Latin prose from the classical period, with complementary exercises in elementary composition.	3 Credits
	LATN 202 - Intermediate Latin II Offered spring. Prereq., LATN 201 or equiv. Latin epic poetry: Vergil's Aeneid.	3 Credits
Minimum Required Grade: C-		17 Total Credits Required

Language Electives

Rule: Must complete 9 credits in Latin beyond LATN 202

Note: GRK 101-102 may be substituted for 4 of the 15 additional credits beyond LATN 202.

	Course	Credits
	LATN 292 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	LATN 311 - Major Latin Authors (R–18) Offered autumn and spring. Prereq., LATN 202 or equiv. Plautus, Terence, Lucretius, Livy, Cicero, Vergil, Horace, Ovid, Tacitus, Juvenal, Pliny, Martial, etc.; also, Early Church fathers, Medieval and Renaissance Latin. Selection to suit students' needs and interests.	3 Credits
	LATN 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	LATN 392 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits

	LATN 492 - Independent Study (R–12) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 12 Credits
Minimum Required Grade: C-		9 Total Credits Required

Teaching Latin

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Bachelor of Arts - Classics; Track: Teaching Latin

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 53

Required Cumulative GPA: 2.5

Note: Degree requires 58-62 credits to complete. Students must gain admission to Teacher Education Program. An overall minimum grade point average of 3.0 is required for upper division work. Students must meet the requirements for teaching licensure.

Lower Division Core

Rule: Complete 9 credits from the following list of courses:

Note: Must select either CLAS 251L or 252L. Only 1 will be accepted toward the fulfillment of the required major credits

	Course	**Credits**
	CLAS 155L - Survey of Greek and Roman Lit Offered every autumn. An introduction to the literature of classical Greece and Rome. Readings in English translations of ancient works by Homer, Sophocles, Herodotus, Plato, Cicero, Vergil, Livy, and Ovid (and/or similar authors).	3 Credits
	CLAS 160L - Classical Mythology Offered every spring and intermittently in summer. Deities and myths of the Greeks and Romans, with emphasis on those of most importance to Western literature and art.	3 Credits
	CLAS 251L - The Epic (R–6) Offered intermittently. Reading, study and discussion of epic poems. Selections will vary from Western and non–Western traditions.	3 Credits
	CLAS 252L - Greek Drama: Politics on Stage (R–6) Offered intermittently. A study of the literary, artistic and political dimensions of Greek Tragedy and Comedy. Selections will vary.	3 Credits

Minimum Required Grade: C-	9 Total Credits Required

Upper Division Core

Rule: Complete all of the following courses

	Course	Credits
	ARTH 407 - Roman and Early Christian Art Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Roman art and architecture from prehistory to the Early Christian period.	3 Credits
	HSTR 304H - Ancient Rome (EU) Offered intermittently. Roman history from the time of the Kings through the early Empire. Based on the writings of the Roman historians.	3 Credits
	MCLG 410 - Methods Tchg For Lang Offered spring. Fundamental concepts, objectives and techniques in the teaching of foreign languages.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Degree Electives

Rule: Complete 9 credits from the following courses

	Course	Credits
	CLAS 320 - Women in Antiquity Offered intermittently. Prereq., any one MCLG course in Classical Civilization or LATN 102 or GRK 102 or consent of instructor. Examination of varied sources from Ancient Greece, the Hellenistic World, and republican and imperial Rome to clarify the place of women in communities. Women's contribution to community and the mechanisms by which communities attempted to socialize female populations.	3 Credits
	CLAS 360H - Ancient Greek Civ and Culture Offered intermittently. Prereq., consent of instr. Slide–lecture course. Ancient Greek works of art and architecture, related to and explained by contemporary ideas and values of Greek society.	3 Credits
	CLAS 365E - The Roots of Western Ethics Offered intermittently. Studies of the origins of Western ethical thinking in the writings of Greek writers and their application to current situations.	3 Credits
	HSTR 301H - Ancient Greek Social Hist (EU) Offered intermittently. Various aspects of personal, social, and political life of classical times in Greece. Primary readings in various ancient authors supplemented by some audio-visual or other informational presentations.	3 Credits

	HSTR 302H - Ancient Greece (EU) Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians.	3 Credits
	PHL 363H - Ancient Greek and Roman Phil Offered intermittently. Examination of the thought of the philosophers of Greece and Rome as expressed in original works read in English translation. Ancient philosophy studied within its historical, linguistic and cultural setting.	3 Credits
	PHL 465 - Plato Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
	PHL 466 - Aristotle Offered intermittently. Prereq., upper-division standing, PHL 210E, and PHL 261Y, or consent of instr. Reading and interpretation of selected works.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Language Requirements

Rule: Must complete the following subcategories

26 Total Credits Required

Language Core

Rule: Must complete all of the following courses

Note: Proficiency at the level of LATN 201 substitutes for LATN 101-102.

	Course	**Credits**
	LATN 101 - Elementary Latin I Offered autumn. Latin I is the first course of a two-semester sequence, designed to enable the student to read authors in the original Latin as soon as possible. Based upon selected texts from Plautus, Vergil, Catullus, Livy, Ovid, Tacitus, and other major authors.	3 Credits
	LATN 102 - Elementary Latin II Offered spring. Prereq., LATN 101. Continuation of 101. Latin grammar, vocabulary, readings.	3 Credits
	LATN 201 - Intermediate Latin I Offered autumn. Prereq., LATN 102 or equiv. Selections of Latin prose from the classical period, with complementary exercises in elementary composition.	3 Credits
	LATN 202 - Intermediate Latin II Offered spring. Prereq., LATN 201 or equiv. Latin epic poetry: Vergil's Aeneid.	3 Credits
Minimum Required Grade: C-		17 Total Credits Required

Language Electives

Rule: Must complete 9 credits in Latin beyond LATN 202

Note: GRK 101-102 may be substituted for 4 of the 15 additional credits beyond LATN 202.

	Course	Credits
	LATN 292 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	LATN 311 - Major Latin Authors (R–18) Offered autumn and spring. Prereq., LATN 202 or equiv. Plautus, Terence, Lucretius, Livy, Cicero, Vergil, Horace, Ovid, Tacitus, Juvenal, Pliny, Martial, etc.; also, Early Church fathers, Medieval and Renaissance Latin. Selection to suit students' needs and interests.	3 Credits
	LATN 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	LATN 392 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	LATN 492 - Independent Study (R–12) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 12 Credits
Minimum Required Grade: C-		9 Total Credits Required

French B.A.

Bachelor of Arts - French

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 30

Required Cumulative GPA: 2.5

Note: Students are required to maintain a minimum overall GPA of 2.5 in all upper-division French courses presented in fulfillment of requirements for the French major. Must complete a minimum of 30 French upper division credits. French 101 through 202, or equivalent, are a prerequisite for this major.

Upper Division Core

Rule: Must complete all of the following courses:

	Course	Credits
	FRCH 301 - Adv Grammar/Oral Writ Exprsn (R-6) Prereq. 202 or equivalent. Advanced grammar review including literary tenses; developmental and written skills in French.	3 Credits

	FRCH 350 - French Civ & Culture (R-6) Offered spring. Prereq., FRCH 301 or consent of instr. Chronological/topical study of French culture.	3 Credits
	FRCH 421 - Adv Stylistics & Oral Arg (R-6) Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Intensive analysis of usage and style in written and oral argumentation at various linguistic levels.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Survey Course Electives

Rule: Must complete 3 of the following courses

	Course	Credits
	FRCH 310 - Fr. Lit. Cult. Mid. Age Renass Offered autumn. Prereq., FRCH 202 or equiv. and coreq., FRCH 301. French literature of the Middle Ages and Renaissance with a focus on cultural identity.	3 Credits
	FRCH 311 - Fr. Lit. Cult. 17th 18th Cent. Offered spring. Prereq., FRCH 301 or consent of instr. French literature of the 17th and 18th centuries within its cultural context.	3 Credits
	FRCH 312 - Fr. Lit. Cult. Long 19th Cent. Offered autumn. Prereq., FRCH 301 or consent of instr. French literature from the French Revolution to the First World War within its cultural context.	3 Credits
	FRCH 313 - French Lit. Cult. 20th Cent. Offered spring. Prereq. FRCH 301 or consent of instr. Survey of literature and culture of 20th Century France and Francophone countries, with a focus on the significance of plural cultural identities.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Degree Electives

Rule: Must complete at least 6 credits from the following courses

	Course	Credits
	FRCH 300 - Into to Literature in French Offered intermittently. Prereq., FRCH 201, or consent of instruct. Introduction to literature on special current topics with a focus on reading and written skills in French.	3 Credits
	FRCH 338 - The French Cinema (R–6) Offered intermittently. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realism, Nouvelle Vogue, etc.) With an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.	3 Credits

	FRCH 339 - Surv African Cinema Offered intermittently. A diachronic survey of African cinema accompanied by interpretation and evaluation of textual dimensions of films through filmic critical theory.	3 Credits
	FRCH 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	FRCH 392 - Independent Study (R–3) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Literature and/or Culture Courses

Rule: Must complete 6 credits from the following courses

	Course	Credits
	FRCH 420 - Studies in French Prose Offered intermittently. Prereq., FRCH 301 and one of 310, 311, 312, or 313 or consent of instructor. Evolution of textuality from the Renaissance to the 20th century: the novel.	3 Credits
	FRCH 430 - Studies in French Drama Offered intermittently. Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Evolution of theatre from the Renaissance to the 20th century or performance of a French play in French.	3 Credits
	FRCH 440 - Studies in French Poetry Offered intermittently. Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Evolution of textuality from the Renaissance to the 20th century: poetry and essays.	3 Credits
	FRCH 491 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	FRCH 492 - Independent Study (R-9) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	FRCH 494 - Seminar/Workshop (R-12) Offered autumn and spring. Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Studies in major authors, periods, genres, and/or cultural studies.	1 To 12 Credits
Minimum Required Grade: C-		6 Total Credits Required

Teaching French

Extended Major Teaching Field of French: For an endorsement in the extended major teaching field of French, a student must complete the requirements for the B.A. with a major in French including FRCH 421, LING 270, and MCLG 410. Study in a French speaking country, provided either through the university's Study Abroad Program or an experience considered to be equivalent, also is required.
French qualifies for a single field endorsement. However, there is a limited demand in the majority of Montana high schools for teachers with a single endorsement in French. Students should complete the requirements for a second teaching endorsement (major or minor) in another field in more demand in high schools.

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Bachelor of Arts - French; Track: Teaching French

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.5

Note: Students are required to maintain a minimum overall GPA of 3.00 in all upper-division French courses presented in fulfillment of requirements for the French teaching major. Students must complete a minimum of 30 French upper division credits. French 101 through 202, or equivalent, are a prerequisite for this major. Study in a French language country, provided either through the University's Study Abroad Program or an experience considered to be equivalent, also is required.

Upper Division Core

Rule: Must complete all of the following courses:

	Course	Credits
	FRCH 301 - Adv Grammar/Oral Writ Exprsn (R-6) Prereq. 202 or equivalent. Advanced grammar review including literary tenses; developmental and written skills in French.	3 Credits
	FRCH 350 - French Civ & Culture (R-6) Offered spring. Prereq., FRCH 301 or consent of instr. Chronological/topical study of French culture.	3 Credits
	FRCH 421 - Adv Stylistics & Oral Arg (R-6) Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Intensive analysis of usage and style in written and oral argumentation at various linguistic levels.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Survey Course Electives

Rule: Must complete 3 of the following courses

	Course	Credits
	FRCH 310 - Fr. Lit. Cult. Mid. Age Renass Offered autumn. Prereq., FRCH 202 or equiv. and coreq., FRCH 301. French literature of the Middle Ages and Renaissance with a focus on cultural identity.	3 Credits
	FRCH 311 - Fr. Lit. Cult. 17th 18th Cent. Offered spring. Prereq., FRCH 301 or consent of instr. French literature of the 17th and 18th centuries within its cultural context.	3 Credits
	FRCH 312 - Fr. Lit. Cult. Long 19th Cent. Offered autumn. Prereq., FRCH 301 or consent of instr. French literature from the French Revolution to the First World War within its cultural context.	3 Credits
	FRCH 313 - French Lit. Cult. 20th Cent. Offered spring. Prereq. FRCH 301 or consent of instr. Survey of literature and culture of 20th Century France and Francophone countries, with a focus on the significance of plural cultural identities.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Degree Electives

Rule: Must complete at least 6 credits from the following courses

	Course	Credits
	FRCH 300 - Into to Literature in French Offered intermittently. Prereq., FRCH 201, or consent of instruct. Introduction to literature on special current topics with a focus on reading and written skills in French.	3 Credits
	FRCH 338 - The French Cinema (R–6) Offered intermittently. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realism, Nouvelle Vogue, etc.) With an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.	3 Credits
	FRCH 339 - Surv African Cinema Offered intermittently. A diachronic survey of African cinema accompanied by interpretation and evaluation of textual dimensions of films through filmic critical theory.	3 Credits
	FRCH 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	FRCH 392 - Independent Study (R–3) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 3 Credits

Minimum Required Grade: C-	6 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching.

400-Level Literature and/or Culture Courses

Rule: Must complete at least 6 credits from the following courses

	Course	Credits
	FRCH 420 - Studies in French Prose Offered intermittently. Prereq., FRCH 301 and one of 310, 311, 312, or 313 or consent of instructor. Evolution of textuality from the Renaissance to the 20th century: the novel.	3 Credits
	FRCH 430 - Studies in French Drama Offered intermittently. Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Evolution of theatre from the Renaissance to the 20th century or performance of a French play in French.	3 Credits
	FRCH 440 - Studies in French Poetry Offered intermittently. Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Evolution of textuality from the Renaissance to the 20th century: poetry and essays.	3 Credits
	FRCH 491 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	FRCH 492 - Independent Study (R-9) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	FRCH 494 - Seminar/Workshop (R-12) Offered autumn and spring. Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Studies in major authors, periods, genres, and/or cultural studies.	1 To 12 Credits
Minimum Required Grade: C-		6 Total Credits Required

Teaching Track

Rule: Must complete all of the following courses

	Course	Credits

	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
	MCLG 410 - Methods Tchg For Lang Offered spring. Fundamental concepts, objectives and techniques in the teaching of foreign languages.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

German B.A.

Bachelor of Arts - German

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 46

Required Cumulative GPA: 2.5

Note: Students are required to maintain a minimum overall GPA of 2.5 in all upper-division GRMN courses presented in fulfillment of requirements for the German major.

Language Core

Rule: Must complete all of the following courses:

	Course	**Credits**
	GRMN 101 - Elementary German I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	GRMN 102 - Elementary German II Offered spring. Prereq., GRMN 101. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	GRMN 201 - Intermediate German I Offered autumn. Prereq., GRMN 102 or equiv. Continuation of active skills approach to German listening, speaking, reading, and writing.	4 Credits
	GRMN 202 - Intermediate German II Offered spring. Prereq., GRMN 201 or equiv. Continuation of 201.	4 Credits
Minimum Required Grade: C-		16 Total Credits Required

> *Lower Division Elective*
>
> **Rule:** Must take the following course

	Course	Credits
	GRMN 106H - Intro Germ Cult Civ This course provides an introductory overview of major developments, ideas, and influences involving German-speaking culture from its documented origins in the Roman era to today in English. Students will become familiar with the chronology and significance of key historical events in Central Europe as well as with major figures in such areas as politics, literature, art, and philosophy. Attention will also be given to important contributions that German-speaking culture has made globally.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core Courses

Rule: Must complete all of the following subcategories
Minimum Required Grade: C-
21-22 Total Credits Required

Subcategory 1

Rule: Must complete all of the following courses

	Course	Credits
	GRMN 301 - German: Oral and Written Exp Offered autumn. Prereq., GRMN 202 or equiv. Native or near–native speakers of German may not apply credit for this course toward a German major or minor.	3 Credits
	GRMN 311 - Intro German Lit Offered autumn. Prereq., GRMN 202 or equiv. Reading and discussion of selected works of German literature. Instruction in the fundamentals of textual analysis and terminology and discussion of works in historical context. Taught primarily in German.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Subcategory 2

Rule: Must complete 1 of the following courses

	Course	Credits
	GRMN 302 - German Oral & Written Expr II Offered spring. Prereq., consent of instructor. Native or near–native speakers of German may not apply credit for this course toward a German major or minor.	3 Credits

	GRMN 305 - Practicum in Germ Lang Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Concentration on grammar topics and advanced language usage.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Subcategory 3

Rule: Must complete 1 of the following courses

	Course	Credits
	GRMN 312 - Intro German Lit: Dram/Poetry Offered spring. Prereq., GRMN 202. Reading and discussion of selected, well-known German-language plays and poems. Instruction in the fundamentals of textual analysis, including terminology of various genres, and in German literary history. Practice in literary interpretation. Taught primarily in German and Austrian Theater.	3 Credits
	GRMN 318 - Intro to Germ & Aust Theat Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Introduction to the basics of German–speaking theater. Students read, discuss, and analyze plays before seeing them performed on stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subcategory 4

Rule: Must complete 1 of the following courses

	Course	Credits
	LING 270 - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subcategory 5

Rule: Must complete at least 2 3-credit courses in literature at the 400 level.

	Course	Credits

	GRMN 431 - Germ Lit 1760 to 1832 Offered autumn. Prereq., consent of instructor. Readings, study, and discussion of writers, texts, and contexts in German literature from 1760 to 1832, including Enlightenment, Storm and Stress, Romanticism, and Classicism.	3 Credits
	GRMN 441 - 19th Century German Literature Offered autumn. Prereq., consent of instructor. Readings, study, and discussion of writers, texts, and contexts in German literature from 1832 to 1900.	3 Credits
	GRMN 451 - 20th Cent German Lit to 1945 Offered spring. Prereq., GRMN 311 and 312 or consent of instructor. Readings, study, and discussion of writers, text, and contexts in German literature from 1900 to 1945.	3 Credits
	GRMN 452 - 20th Cent Grmn Lit Since 1945 Prereq., GRMN 311 and 312 or consent of instr. Readings, study, and discussion of writers, text, and contexts in German literature from 1945 to 1990.	3 Credits
	GRMN 491 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		6 Total Credits Required

German Culture, Film, and Literature Electives

Rule: Must complete 3 of the following courses; may substitute a 400-level course with consent of instructor

Note: The upper-division writing expectation must be met by successfully completing either GRMN 351H or GRMN 352H.

__	**Course**	**Credits**
	GRMN 317L - Intro Multicultural Lit German Offered intermittently. Introduction to multicultural literature created during recent decades in Germany. Study topics include immigration, citizenship, multilingualism, identity; significant literary and cultural movements and selected writers in contemporary Germany.	3 Credits
	GRMN 322L - Survey of German Cinema Offered intermittently. The development of the German film from its beginnings in the late 19th century to the present. Topics include Expressionism, New Objectivity, the Nazi film, the German contribution to Hollywood, the post–war film in East and West Germany, and film in unified Germany.	3 Credits

	GRMN 340L - Nature Environ German Lit Film An examination of the historical role of nature and the environment in the German literary and cinematic traditions. Course begins with the Roman Germanic periods and covers literary and cinematic works in cultural and historical context up until the present day. Attention given to the role of environmentalism in Central European culture today in light of themes of nature and the environment in German literature and film historically.	3 Credits
	GRMN 350 - German Culture & Civilization Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Introduction to cultural topics, current events, and historical topics of Germany and Austria. Course content supplemented with on-site visits.	3 Credits
	GRMN 351H - German Culture to 1900 Offered intermittently in spring. Overview of major events and currents in German culture to 1900 with emphasis on the arts, literature, and intellectual movements. Lectures in English.	3 Credits
	GRMN 352H - Germ Cult 1900-Pres Offered intermittently in spring. Overview of major events and trends in culture of German-speaking world from 1900 to the present with emphasis on the arts, literature, film, intellectual movements, and social and political developments. Lectures in English. Credit not allowed for both MCLG 331H and GRMN 352H.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Optional Lower-Division Elective

	Course	**Credits**
	GRMN 106H - Intro Germ Cult Civ This course provides an introductory overview of major developments, ideas, and influences involving German-speaking culture from its documented origins in the Roman era to today in English. Students will become familiar with the chronology and significance of key historical events in Central Europe as well as with major figures in such areas as politics, literature, art, and philosophy. Attention will also be given to important contributions that German-speaking culture has made globally.	3 Credits
Minimum Required Grade: C-		

Teaching German

Extended Major Teaching Field of German: For an endorsement in the extended major teaching field of German, a student must complete the requirements for the B.A. with a major in German which includes LING 270S, plus MCLG 410. Study in a German language country, provided either through the University's Study Abroad Program or an experience considered to be equivalent, also is required. German qualifies for a single field endorsement. However, there is a limited demand in the majority of Montana high schools for teachers with a single endorsement in German. Students are encouraged to complete the requirements for a second teaching endorsement (major or minor) in another field in more demand in high schools.

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Bachelor of Arts - German; Track: Teaching German

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 46

Required Cumulative GPA: 2.5

Note: Students are required to maintain a minimum overall GPA of 3.0 in all upper-division GRMN courses presented in fulfillment of requirements for the German teaching major. Study in a German language country is also required. The program may be provided through the University's Study Abroad Program or an equivalent experience.

Language Core

Rule: Must complete all of the following courses:

Note: Students with language background may be exempt from the GRMN 101-202 requirements. Please see the Department of Modern and Classical Languages and Literatures for additional information.

	Course	Credits
	GRMN 101 - Elementary German I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	GRMN 102 - Elementary German II Offered spring. Prereq., GRMN 101. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	GRMN 201 - Intermediate German I Offered autumn. Prereq., GRMN 102 or equiv. Continuation of active skills approach to German listening, speaking, reading, and writing.	4 Credits
	GRMN 202 - Intermediate German II Offered spring. Prereq., GRMN 201 or equiv. Continuation of 201.	4 Credits
Minimum Required Grade: C-		16 Total Credits Required

Lower Division Elective

Rule: Must take the following course

	Course	Credits

	GRMN 106H - Intro Germ Cult Civ This course provides an introductory overview of major developments, ideas, and influences involving German-speaking culture from its documented origins in the Roman era to today in English. Students will become familiar with the chronology and significance of key historical events in Central Europe as well as with major figures in such areas as politics, literature, art, and philosophy. Attention will also be given to important contributions that German-speaking culture has made globally.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core Courses

Rule: Must complete all of the following subcategories
Minimum Required Grade: C-
18-19 Total Credits Required

Subcategory 1

Rule: Must complete all of the following courses

	Course	Credits
	GRMN 301 - German: Oral and Written Exp Offered autumn. Prereq., GRMN 202 or equiv. Native or near–native speakers of German may not apply credit for this course toward a German major or minor.	3 Credits
	GRMN 311 - Intro German Lit Offered autumn. Prereq., GRMN 202 or equiv. Reading and discussion of selected works of German literature. Instruction in the fundamentals of textual analysis and terminology and discussion of works in historical context. Taught primarily in German.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Subcategory 2

Rule: Must complete 1 of the following courses

	Course	Credits
	GRMN 302 - German Oral & Written Expr II Offered spring. Prereq., consent of instructor. Native or near–native speakers of German may not apply credit for this course toward a German major or minor.	3 Credits
	GRMN 305 - Practicum in Germ Lang Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Concentration on grammar topics and advanced language usage.	4 Credits

Minimum Required Grade: C-	3-4 Total Credits Required

Subcategory 3

Rule: Must complete 1 of the following courses

	Course	Credits
	GRMN 312 - Intro German Lit: Dram/Poetry Offered spring. Prereq., GRMN 202. Reading and discussion of selected, well-known German-language plays and poems. Instruction in the fundamentals of textual analysis, including terminology of various genres, and in German literary history. Practice in literary interpretation. Taught primarily in German and Austrian Theater.	3 Credits
	GRMN 318 - Intro to Germ & Aust Theat Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Introduction to the basics of German–speaking theater. Students read, discuss, and analyze plays before seeing them performed on stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subcategory 4

Rule: Must complete at least 2 3-credit courses in literature at the 400 level.

	Course	Credits
	GRMN 431 - Germ Lit 1760 to 1832 Offered autumn. Prereq., consent of instructor. Readings, study, and discussion of writers, texts, and contexts in German literature from 1760 to 1832, including Enlightenment, Storm and Stress, Romanticism, and Classicism.	3 Credits
	GRMN 441 - 19th Century German Literature Offered autumn. Prereq., consent of instructor. Readings, study, and discussion of writers, texts, and contexts in German literature from 1832 to 1900.	3 Credits
	GRMN 451 - 20th Cent German Lit to 1945 Offered spring. Prereq., GRMN 311 and 312 or consent of instructor. Readings, study, and discussion of writers, text, and contexts in German literature from 1900 to 1945.	3 Credits
	GRMN 452 - 20th Cent Grmn Lit Since 1945 Prereq., GRMN 311 and 312 or consent of instr. Readings, study, and discussion of writers, text, and contexts in German literature from 1945 to 1990.	3 Credits

	GRMN 491 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		6 Total Credits Required

German Culture, Film, and Literature Electives

Rule: Must complete 3 of the following courses; may substitute a 400-level course with consent of instructor

Note: The upper-division writing expectation must be met by successfully completing either GRMN 351H or GRMN 352H.

	Course	Credits
	GRMN 317L - Intro Multicultural Lit German Offered intermittently. Introduction to multicultural literature created during recent decades in Germany. Study topics include immigration, citizenship, multilingualism, identity; significant literary and cultural movements and selected writers in contemporary Germany.	3 Credits
	GRMN 322L - Survey of German Cinema Offered intermittently. The development of the German film from its beginnings in the late 19th century to the present. Topics include Expressionism, New Objectivity, the Nazi film, the German contribution to Hollywood, the post–war film in East and West Germany, and film in unified Germany.	3 Credits
	GRMN 340L - Nature Environ German Lit Film An examination of the historical role of nature and the environment in the German literary and cinematic traditions. Course begins with the Roman Germanic periods and covers literary and cinematic works in cultural and historical context up until the present day. Attention given to the role of environmentalism in Central European culture today in light of themes of nature and the environment in German literature and film historically.	3 Credits
	GRMN 350 - German Culture & Civilization Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Introduction to cultural topics, current events, and historical topics of Germany and Austria. Course content supplemented with on-site visits.	3 Credits
	GRMN 351H - German Culture to 1900 Offered intermittently in spring. Overview of major events and currents in German culture to 1900 with emphasis on the arts, literature, and intellectual movements. Lectures in English.	3 Credits
	GRMN 352H - Germ Cult 1900-Pres Offered intermittently in spring. Overview of major events and trends in culture of German-speaking world from 1900 to the present with emphasis on the arts, literature, film, intellectual movements, and social and political developments. Lectures in English. Credit not allowed for both MCLG 331H and GRMN 352H.	3 Credits

	GRMN 391 - Special Topics (R–9) Offered intermittently. Prereq., GRMN 202 or equiv. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		6 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching.

Teaching Track

Rule: Must complete the following courses

	Course	Credits
	LING 270S - Introduction to Linguistics Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Japanese B.A.

Bachelor of Arts - Japanese

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 55

Required Cumulative GPA: 2.5

Note: Students are required to maintain a minimum GPA of 2.5 in all their upper-division JPNS courses presented in fulfillment of requirements for the Japanese major. All other courses taken to satisfy the requirements of the major or minor must be completed with a grade of C- or better; the minimum GPA required is 2.00 in all lower division work attempted in the major.

Lower Division Core Courses

Rule: Complete the following subcategories of courses:

29 Total Credits Required

Language Core

Rule: Must complete all of the following courses:

	Course	Credits
	JPNS 101 - Elementary Japanese I Offered autumn. Understanding of grammar and basic sentence structures are taught as a foundation for oral comprehension. The students will learn Hiragana and Katakana, two syllabic writing systems, and approximately 400 Kanji ideographs.	5 Credits
	JPNS 102 - Elementary Japanese II Offered spring. Prereq., JPNS 101. Continuation of 101.	5 Credits
	JPNS 201 - Intermediate Japanese I Offered autumn. Prereq., JPNS 102 or equiv. Reading and writing kanji; building oral/aural fluency.	5 Credits
	JPNS 202 - Intermediate Japanese II Offered spring. Prereq., JPNS 201 or equiv. Continuation of JPNS 201.	5 Credits
Minimum Required Grade: C-		20 Total Credits Required

Culture and Civilization Core

Rule: Must complete the following course:

	Course	Credits
	JPNS 150H - Japanese Cult & Civiliz Offered intermittently. Same as AS and LS 210H. The historical, religious, artistic, literary and social developments in Japan from earliest times to the present.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

East Asian Studies

Note: Student must complete at least 2 East Asian studies or history courses on Japan or East Asia at any level that are not taught in the Modern and Classical Languages and Literature department for a total of 6 additional credits.

Upper Division Core Courses

Rule: Must complete all of the following courses:

Note: Either JPNS 412 or JPNS 415 may be taken to complete the 14 credits.
JPNS 411 is repeatable once.

	Course	Credits
	JPNS 301 - Advanced Japanese Offered autumn. Prereq., JPNS 202 or equiv. Development of greater reading and speaking proficiency. Vocabulary enhancement and kanji (Chinese characters) are emphasized.	4 Credits

	JPNS 302 - Advanced Japanese Offered spring. Prereq., JPNS 301 or equiv. Continuation of 301.	4 Credits
	JPNS 411 - Mod Jpns Wrtrs/Thinkers (R–6) Offered autumn or spring. Prereq., JPNS 202. Introduction to the important writers, thinkers, and poets of the 20th century. Readings include a wide range of topics in the humanities, including literature, philosophy, and the arts.	3 Credits
	JPNS 412 - Intro Classical Japanese Offered intermittently. Prereq., JPNS 202. Introduction to the language of the Japanese court, ca. 7th to 14th century. Essential features of grammar, sentence structure, vocabulary, and orthography.	3 Credits
	JPNS 415 - Adv Jpns for Professionals Offered spring even–numbered years. Prereq., JPNS 202. A high–level professional language course covering all coordinated reading, writing, and speaking skills. Intended for majors hoping to enter the Japanese job market and prepare for professional testing in Japan.	3 Credits
Minimum Required Grade: C-		14 Total Credits Required

Major Electives

Rule: Must complete 12 credits from the following courses:

Note: JPNS 392 may be taken for up to 3 credits only.
Only 3 credits from JPNS 390 (Supervised Internship) or JPNS 392 (Independent Study) may count towards the 9 credits.
Japanese 391 may only be counted as an elective when the course is a Japanese literature, Japanese pedagogy/linguistics, or Japanese cultural course not part of basic Japanese language instruction.

	Course	**Credits**
	JPNS 311 - Jpns Clasc Lit Engl Trans Offered intermittently. Prereq., Composition course WRIT 101 or 201 (or transfer equiv.) with a grade of C- or better; and one approved Gen Ed writing course or WRIT 201, with a C- or better. Introduction to the classical literature of the Japanese court, ca. 7th to 14th century. Kojiki, Man'yoshu, Kokinshu, Genji Monogatari, and other major classics of the period.	3 Credits
	JPNS 312 - Jpns Lit Medieval to Mod Offered spring alternate years. Prereq., Composition course WRIT 101 or 201 (or transfer equiv.) with a grade of C- or better; and one approved Gen Ed writing course or WRIT 201, with a C- or better. Introduction to the literature of Japan from the 15th to the 20th century.	3 Credits
	JPNS 371 - Japanese Film and Anime This course introduces students to salient events in the hundred-year history of Japanese cinema, including the age of silent film, the golden age of film directors, the New Wave, and contemporary Japanese cinema. Students will learn about Japanese cinema as the artistic expression of individual directors; they will gain a better understanding of the history of Japanese society and popular culture; and they will appreciate some of the reasons for the long-standing interest in Japan in the history of Western film studies.	3 Credits

	JPNS 390 - Supervised Internship Offered intermittently. Paid work experience in Japan, combined with language/culture course work by correspondence directed by UM department staff.	1 To 12 Credits
	JPNS 391 - Special Topics (R–12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 12 Credits
	JPNS 392 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	JPNS 412 - Intro Classical Japanese Offered intermittently. Prereq., JPNS 202. Introduction to the language of the Japanese court, ca. 7th to 14th century. Essential features of grammar, sentence structure, vocabulary, and orthography.	3 Credits
	JPNS 431 - Post-War Japanese Lit Offered spring odd–numbered years. Introduction to issues, literature, and criticism of Japanese literature from the postwar (1945) through the contemporary period, using texts in English translation.	3 Credits
	JPNS 491 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	JPNS 492 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
Minimum Required Grade: C-		12 Total Credits Required

Russian B.A.

Bachelor of Arts - Russian

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 48

Required Cumulative GPA: 2.5

Note: Students are required to maintain a minimum overall GPA of 2.5 in all upper-division courses presented in fulfillment of requirements for the Russian major. Must complete a minimum of 27 upper division credits in Russian courses and electives.

Lower Division Core Courses

Rule: Complete the following subcategories of courses

21 Total Credits Required

Language

Rule: Must complete all of the following courses:

	Course	Credits
	RUSS 101 - Elementary Russian I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	RUSS 102 - Elementary Russian II Offered spring. Prereq., RUSS 101 or equiv. Continuation of 101.	4 Credits
	RUSS 201 - Intermediate Russian I Offered autumn. Prereq., RUSS 102 or equiv. Continuation of active skills approach to Russian listening, speaking, reading, and writing.	4 Credits
	RUSS 202 - Intermediate Russian II Offered spring. Prereq., RUSS 201. Continuation of 201. Continuation of active skills approach to Russian listening, speaking, reading, and writing.	4 Credits
Minimum Required Grade: C-		16 Total Credits Required

Culture

Rule: Must complete the following course

	Course	Credits
	RUSS 105H - Intro to Russian Culture Offered autumn. Fulfills both the Historical and Cultural (H) and American and European (Y) General Education Perspectives. A chronological survey of Russian culture from its beginnings to the contemporary period.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core Courses

Rule: Must complete the following subcategories

Note: Student must complete at least 27 credits of upper-division work in Russian courses and electives, 15 credits of which must be in the target language.

27 Total Credits Required

Expression

Rule: Must complete all of the following courses:

Note: RUSS 494 must be taken for 3 credits and will fulfill the upper division writing requirement.

	Course	Credits

	RUSS 301 - Russian: Oral & Written Expr I Offered autumn. Prereq., RUSS 202 or consent of instr. Emphasis on active use of Russian. Intensive practice in conversation and writing.	3 Credits
	RUSS 302 - Russian:Oral Written Expr II Prereq., RUSS 301 or consent of instr. A continued emphasis on active use of Russian. Intensive practice in conversation and writing. Continuation of 301.	3 Credits
	RUSS 494 - Seminar in Russian Studies (R–9) Offered intermittently. Prereq., consent of instructor. Topics of the seminar include 1.) The Russian Novel and 2.) Dostoevsky and 3.) Women and Gender in Russian Culture. May be taken for honors credit through the Davidson Honors College. No knowledge of Russian is necessary, but Russian majors will be required to do selected readings in the original Russian. Fulfills the upper-division writing expectation for Russian majors. Topics announced in class schedules.	1 To 3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Translation

Rule: Must complete 2 of the following courses

	Course	**Credits**
	FILM 308 - Russian Cinema and Culture Offered intermittently. Topically arranged introduction to the cinema of Russia and the former Soviet Union, with particular emphasis on contemporary Russian cinema. Screening preceded by brief cultural and historical background lectures and followed by group and paired discussion. All films screened with English subtitles. No knowledge of Russian is necessary.	3 Credits
	RUSS 306L - Evil and the Supernatural Offered alternate years. A survey of 19th-and 20th century Russian literature in translation. This course will focus on texts exploring evil and the supernatural. May include the works of Pushkin, Gogol, Dostoevsky, Tolstoy, Chekhov, Bulgakov and others. No knowledge of Russian is necessary.	3 Credits
	RUSS 307L - Beauty, Power and Pride Offered alternate years. Survey of Russian literature up to the present day. Texts focus on the themes of beauty, power and pride as a lens for exploring elements of Russian identity.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Language

Rule: Must complete 3 of the following courses

	Course	Credits
	RUSS 411 - 19th Century Russian Authors Offered intermittently. Prereq., RUSS 202 or consent of instructor. A study of various authors; may include Pushkin, Dostoevsky, Tolstoy, etc.	3 Credits
	RUSS 412 - 20th Century Russian Authors Offered intermittently. Prereq., RUSS 202 or consent of instructor. A study of various authors; may include Bulgakov, Nabokov, Solzhenitsyn, etc.	3 Credits
	RUSS 424 - Russian Short Story Offered intermittently. Prereq., RUSS 202 or consent of instructor. A chronological study of the Russian short story, 19th and 20th centuries.	3 Credits
	RUSS 440 - Russian Poetry Offered intermittently. Prereq., RUSS 202 or consent of instructor. The evolution of Russian poetry from the end of the 18th century to the contemporary period.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

History

Rule: Must complete 1 of the following courses

	Course	Credits
	HSTR 357 - Russia to 1881 (EU) Emphasis on the autocratic political tradition, Westernization, and territorial expansion.	3 Credits
	HSTR 358 - Russia Since 1881 (EU) Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system.	3 Credits
	HSTR 458 - Russian Revolution 1900-1930 (EU) Offered spring. The causes, course, character, and consequences of the Bolshevik Revolution.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Russian

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Bachelor of Arts - Russian; Track: Teaching Russian

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 51

Required Cumulative GPA: 2.5

Note: Students are required to maintain a minimum overall GPA of 3.00 in all upper-division courses presented in fulfillment of requirements for the Russian teaching major. Must complete a minimum of 27 upper division credits in Russian courses and electives.

Lower Division Core Courses

Rule: Complete the following subcategories of courses

19 Total Credits Required

Language

Rule: Must complete all of the following courses:

	Course	Credits
	RUSS 101 - Elementary Russian I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	RUSS 102 - Elementary Russian II Offered spring. Prereq., RUSS 101 or equiv. Continuation of 101.	4 Credits
	RUSS 201 - Intermediate Russian I Offered autumn. Prereq., RUSS 102 or equiv. Continuation of active skills approach to Russian listening, speaking, reading, and writing.	4 Credits
	RUSS 202 - Intermediate Russian II Offered spring. Prereq., RUSS 201. Continuation of 201. Continuation of active skills approach to Russian listening, speaking, reading, and writing.	4 Credits
Minimum Required Grade: C-		16 Total Credits Required

Culture

Rule: Must complete the following course

	Course	Credits

	RUSS 105H - Intro to Russian Culture Offered autumn. Fulfills both the Historical and Cultural (H) and American and European (Y) General Education Perspectives. A chronological survey of Russian culture from its beginnings to the contemporary period.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core Courses

Rule: Must complete the following subcategories

Note: Student must complete at least 27 credits of upper-division work in Russian courses and electives, 15 credits of which must be in the target language.

27 Total Credits Required

Expression

Rule: Must complete all of the following courses:

Note: RUSS 494 must be taken for 3 credits and will fulfill the upper division writing requirement.

	Course	**Credits**
	RUSS 301 - Russian: Oral & Written Expr I Offered autumn. Prereq., RUSS 202 or consent of instr. Emphasis on active use of Russian. Intensive practice in conversation and writing.	3 Credits
	RUSS 302 - Russian:Oral Written Expr II Prereq., RUSS 301 or consent of instr. A continued emphasis on active use of Russian. Intensive practice in conversation and writing. Continuation of 301.	3 Credits
	RUSS 494 - Seminar in Russian Studies (R–9) Offered intermittently. Prereq., consent of instructor. Topics of the seminar include 1.) The Russian Novel and 2.) Dostoevsky and 3.) Women and Gender in Russian Culture. May be taken for honors credit through the Davidson Honors College. No knowledge of Russian is necessary, but Russian majors will be required to do selected readings in the original Russian. Fulfills the upper-division writing expectation for Russian majors. Topics announced in class schedules.	1 To 3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Translation

Rule: Must complete 2 of the following courses

	Course	**Credits**

	MCLG 308 - Russian Cinema and Culture Offered alternate years. Same as RUSS 308, LS 308, FILM 308 . Topically arranged introduction to the cinema of Russia and the former Soviet Union, with particular emphasis on contemporary Russian cinema. All films screened with English subtitles. No knowledge of Russian is necessary.	3 Credits
	RUSS 306L - Evil and the Supernatural Offered alternate years. A survey of 19th-and 20th century Russian literature in translation. This course will focus on texts exploring evil and the supernatural. May include the works of Pushkin, Gogol, Dostoevsky, Tolstoy, Chekhov, Bulgakov and others. No knowledge of Russian is necessary.	3 Credits
	RUSS 307L - Beauty, Power and Pride Offered alternate years. Survey of Russian literature up to the present day. Texts focus on the themes of beauty, power and pride as a lens for exploring elements of Russian identity.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Language

Rule: Must complete 3 of the following courses

	Course	**Credits**
	RUSS 411 - 19th Century Russian Authors Offered intermittently. Prereq., RUSS 202 or consent of instructor. A study of various authors; may include Pushkin, Dostoevsky, Tolstoy, etc.	3 Credits
	RUSS 412 - 20th Century Russian Authors Offered intermittently. Prereq., RUSS 202 or consent of instructor. A study of various authors; may include Bulgakov, Nabokov, Solzhenitsyn, etc.	3 Credits
	RUSS 424 - Russian Short Story Offered intermittently. Prereq., RUSS 202 or consent of instructor. A chronological study of the Russian short story, 19th and 20th centuries.	3 Credits
	RUSS 440 - Russian Poetry Offered intermittently. Prereq., RUSS 202 or consent of instructor. The evolution of Russian poetry from the end of the 18th century to the contemporary period.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

History

Rule: Must complete 1 of the following courses

	Course	**Credits**

	HSTR 357 - Russia to 1881 (EU) Emphasis on the autocratic political tradition, Westernization, and territorial expansion.	3 Credits
	HSTR 358 - Russia Since 1881 (EU) Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system.	3 Credits
	HSTR 458 - Russian Revolution 1900-1930 (EU) Offered spring. The causes, course, character, and consequences of the Bolshevik Revolution.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching. This major does not qualify as a single field endorsement. Individuals must complete a second teaching major or minor in another content area.

Teaching Track Course

Rule: Must complete the following course

	Course	Credits
	MCLG 410 - Methods Tchg For Lang Offered spring. Fundamental concepts, objectives and techniques in the teaching of foreign languages.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Spanish B.A.

Bachelor of Arts - Spanish

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 51

Required Cumulative GPA: 2.5

Note: Students are required to maintain a minimum overall GPA of 2.5 in all upper-division courses presented in fulfillment of requirements for the Spanish major.

Lower Division Core Courses

Rule: Must complete all of the following courses:

	Course	Credits

	SPNS 101 - Elementary Spanish I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading and writing.	5 Credits
	SPNS 102 - Elementary Spanish II Offered spring. Prereq., SPNS 101. Continuation of 101.	5 Credits
	SPNS 201 - Intermediate Spanish I Offered autumn. Prereq., SPNS 102. Continued practice in the oral skills with added emphasis on grammar and reading proficiency.	4 Credits
	SPNS 202 - Intermediate Spanish II Offered spring. Prereq., SPNS 201. Continuation of 201.	4 Credits
Minimum Required Grade: C-		18 Total Credits Required

Upper Division Core Courses

Rule: Must complete all of the following courses

Note: The sequential order of the following required courses must be followed:
1) SPNS 326 and SPNS 331 must be taken before any 400-level literature course
2) SPNS 301 must be taken before SPNS 408

	Course	Credits
	SPNS 301 - Spanish: Oral and Written Expr Offered autumn and spring. Prereq., SPNS 202 or equiv. Development of oral and written skills with an emphasis on Hispanic cultural context.	3 Credits
	SPNS 326 - Contemporary Spanish Lit Offered autumn and spring. Prereq., SPNS 202 or equiv. The study of contemporary works by peninsular authors, including an introduction to literary genres.	3 Credits
	SPNS 331 - Contemp Latin Amer Lit Offered autumn and spring. Prereq., SPNS 202 or equiv. The study of representative works by Latin-American authors with emphasis on the 20th century. Includes an introduction to literary genres.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Additional Upper Division Spanish Electives

Rule: Must complete 21 credits of upper-division courses in Spanish.

Note: The student must take at least 3 400-level courses. SPNS 408 may not count towards this requirement.

Minimum Required Grade: C-

21 Total Credits Required

Upper Division Writing

Rule: Must complete the following course

Note: This course fulfills the upper division writing requirement.

	Course	Credits

	MCLG 315 - Major Hispanic Authors Offered autumn. The intensive study of the life times, and works of a major Hispanic author.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Spanish

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Extended Major Teaching Field of Spanish: For an endorsement in the extended major teaching field of Spanish, a student must complete the requirements for the B.A. with a major in Spanish including SPNS 301, 305, 400, 408 (SPAN 301, 302, 405, 408) and MCLG 410. Study in a Spanish language country, provided either through the University's Study Abroad Program or an experience considered to be equivalent, also is required. Spanish qualifies for a single field endorsement. However, there is a limited demand in the majority of Montana high schools for teachers with a single endorsement in Spanish. Students are encouraged to complete the requirements for a second teaching endorsement (major or minor) in another field in more demand in high schools.

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Bachelor of Arts - Spanish; Track: Teaching Spanish

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 57

Required Cumulative GPA: 2.5

Note: Students are required to maintain a minimum overall GPA of 3.0 in all upper-division courses presented in fulfillment of requirements for the Spanish teaching major. Study in a Spanish language country, provided either through the University's Study Abroad Program or an experience considered to be equivalent, also is required.

Lower Division Core Courses

Rule: Must complete all of the following courses:

Note: Students with language background may be exempt from the SPNS 101-202 requirements. Please see the Department of Modern and Classical Languages and Literatures for additional information.

	Course	**Credits**
	SPNS 101 - Elementary Spanish I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading and writing.	5 Credits
	SPNS 102 - Elementary Spanish II Offered spring. Prereq., SPNS 101. Continuation of 101.	5 Credits

	SPNS 201 - Intermediate Spanish I Offered autumn. Prereq., SPNS 102. Continued practice in the oral skills with added emphasis on grammar and reading proficiency.	4 Credits
	SPNS 202 - Intermediate Spanish II Offered spring. Prereq., SPNS 201. Continuation of 201.	4 Credits
Minimum Required Grade: C-		18 Total Credits Required

Upper Division Core Courses

Rule: Must complete all of the following courses

Note: The sequential order of the following required courses must be followed:
1) SPNS 326 and SPNS 331 must be taken before any 400-level literature course
2) SPNS 301 must be taken before SPNS 408

	Course	Credits
	SPNS 301 - Spanish: Oral and Written Expr Offered autumn and spring. Prereq., SPNS 202 or equiv. Development of oral and written skills with an emphasis on Hispanic cultural context.	3 Credits
	SPNS 326 - Contemporary Spanish Lit Offered autumn and spring. Prereq., SPNS 202 or equiv. The study of contemporary works by peninsular authors, including an introduction to literary genres.	3 Credits
	SPNS 331 - Contemp Latin Amer Lit Offered autumn and spring. Prereq., SPNS 202 or equiv. The study of representative works by Latin-American authors with emphasis on the 20th century. Includes an introduction to literary genres.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Upper Division Core for Teaching Track

Rule: Complete all of the following courses

	Course	Credits
	SPNS 305 - Spanish Phonetics Offered once each academic year. Prereq., SPNS 202 or consent of instr. A practical and theoretical exploration of the Spanish sound system.	3 Credits
	SPNS 400 - Spanish: Applied Linguistics Offered autumn. Prereq., SPNS 305 and LING 270 or 470. Topics in linguistics applied to the Spanish Language with an emphasis on morphology, syntax and semantics.	3 Credits
	SPNS 408 - Spanish: Adv Comp & Conversat Offered spring. Prereq., SPNS 301 or consent of instr. Intensive practice in writing on different levels of usage and style, combined with guided oral practice.	3 Credits

Minimum Required Grade: C-	9 Total Credits Required

Additional Upper Division Spanish Electives

Rule: Must complete 12 credits of upper-division courses in Spanish.

Note: The student must take at least 2 400-level literature courses.

Minimum Required Grade: C-

12 Total Credits Required

Upper Division Writing

Rule: Must complete the following course

Note: This course fulfills the upper division writing requirement.

	Course	Credits
	MCLG 315 - Major Hispanic Authors Offered autumn. The intensive study of the life times, and works of a major Hispanic author.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching.

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching.

Teaching Methods Course

Rule: Must complete the following course

	Course	Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
	MCLG 410 - Methods Tchg For Lang Offered spring. Fundamental concepts, objectives and techniques in the teaching of foreign languages.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Arabic Studies Minor

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 30

Required Cumulative GPA: 2.0

Note: At least 9 credits must be of upper division courses. A minimum grade of C is required in all the courses taken to fulfill the minor.

Lower Core Courses

Rule: Must complete all of the following:

	Course	Credits
	ARAB 101 - Elementary Modern Arabic I Offered autumn. Elementary Modern Standard Arabic I brings students the opportunity to learn Arabic via a communicative approach, where the emphasis is placed on the functional use of the Arabic Language. Active skills are listening, speaking, reading, and writing, plus basic cultural study.	5 Credits
	ARAB 102 - Elementary Modern Arabic II Offered spring. Elementary Modern Standard Arabic II is a continuation of ARAB 101, in that it helps students learn Arabic via a communicative approach, where the emphasis is placed on the functional use of the Arabic Language. Active skills are listening, speaking, reading, and writing, plus basic cultural study.	5 Credits
	ARAB 201 - Intermediate Modern Arabic I Offered autumn. Prereq., ARAB 102 or equiv. Course is designed to help students further develop their language skills (listening, speaking, reading, and writing) and learn more about the Arab culture and advanced grammar rules beyond the elementary level. The target proficiency level is Intermediate-Low/Mid (based on proficiency guidelines from the American Council on the Teaching of Foreign Languages).	4 Credits
	ARAB 202 - Intermediate Modern Arabic II Offered spring. Prereq., ARAB 201 or equiv. Course is a continuation of ARAB 201, in that it is designed to help students further develop their language skills (listening, speaking, reading, and writing) and learn more about the Arab culture and advanced grammar rules beyond the elementary level. The target proficiency level is Intermediate-Mid (based on proficiency guidelines from the American Council on the Teaching of Foreign Languages).	4 Credits
Minimum Required Grade: C		18 Total Credits Required

Upper Core Courses

Rule: Must complete all of the following:

	Course	Credits

	ARAB 301 - Adv Modern Standard Arabic I Offered autumn. Prereq., ARAB 202 or equiv. Course is designed to help students further develop their language skills (listening, speaking, reading, and writing) and learn more about the Arab culture and advanced grammar rules beyond the intermediate level. The target proficiency level is Intermediate-High (based on proficiency guidelines from the American Council on the Teaching of Foreign Languages)	3 Credits
	ARAB 302 - Adv Modern Standard Arabic II Offered spring. Prereq., ARAB 301 or equiv. Course is a continuation of ARAB 301, in that it is designed to help students further develop their language skills (listening, speaking, reading, and writing) and learn more about the Arab culture and advanced grammar rules beyond the intermediate level. The target proficiency level is Intermediate-High/Advanced-Low (based on proficiency guidelines from the American Council on the Teaching of Foreign Languages).	3 Credits
	ARAB 305 - The Arab World Offered autumn. Students explore the Arabic-speaking countries through in-depth discussions of their history, geography, peoples, economy, political systems, educational systems, and cultural components, such as music, cuisine, tradition, customs, gender relations, etc. This course is designed for everyone interested in the topic, and no previous knowledge of the Arabic language is required.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Electives

Rule: Must complete 3 credits from the following:

Note: Independent Study: Students may count up to 3 credits from an independent study related to the Arabic language or the Arab world. Before taking an independent study outside the Arabic program, you need to consult with the advisor of the minor. Upon consent of the advisor of the academic minor, up to three credits (either taken at the University of Montana or transferred from another college or university) may be counted as part of the electives if at least 75% of the content is related to the Arab world.

	Course	**Credits**
	ARAB 307 - Model Arab League Delegates Offered spring. Students explore the Arabic speaking countries, from North Africa, the Middle East and the Peninsula through discussions of political, economic, environmental, and social issues affecting the progress of the Arab world and its development. Students will learn parliamentary procedures used in institutions such as the Arab League itself; this mode of discourse will provide the basis for which students debate topics in class in order to better understand the region.	3 Credits
	ARAB 317 - Model Arab League Staff Offered spring. As staff members, students will solidify their knowledge of the history, cultures, issues, and politics of the Middle East, as well as parliamentary procedures to a level which enables them to effectively assess, lead, and guide discussion related to their assigned countries and committee topics towards positive ends.	3 Credits

	ARAB 392 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	HSTR 262H - Islamic Civil: Classical Age (WRLD) A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire.	3 Credits
	HSTR 264 - Islamic Civ: Modrn Era (WRLD) History of the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Chinese Minor

Minor - Chinese (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 29
Required Cumulative GPA: 2.0

Lower Core Courses

Rule: Must complete all of the following:

	Course	**Credits**
	CHIN 101 - Elementary Chinese I Offered autumn. Emphasis on speaking, reading and writing elementary Mandarin.	5 Credits
	CHIN 102 - Elementary Chinese II Prereq., CHIN 101. Offered spring. Continuation of 101.	5 Credits
	CHIN 201 - Intermediate Chinese I Offered autumn. Prereq., CHIN 102 or equiv. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading and writing.	5 Credits
	CHIN 202 - Intermediate Chinese II Offered spring. Prereq., CHIN 201 or equiv. Continuation of 201.	5 Credits
Minimum Required Grade: C-		20 Total Credits Required

Upper Division Electives

Rule: Must complete 9 credits from the following:

Note: With prior approval, 3 of these credits may be in China–focused courses offered by other departments.

	Course	Credits
	CHIN 313L - Chinese Poetry in Translation Offered intermittently. The works of major Chinese poets to 1300 A.D.	3 Credits
	CHIN 314L - Traditional Chinese Literature Offered intermittently. Same as AS, MCLG, and LS 314L. Highlights of Chinese literature to 1800; includes philosophy, poetry, prose, and fiction.	3 Credits
	CHIN 380 - Chinese Folktales Same as LS 311. Offered intermittently. The study of the aspirations, desires, loves, moral and aesthetic values of the Chinese people as expressed in their folk literature.	3 Credits
	CHIN 388 - Readings in Classical Chinese Prereq., CHIN 102 or approved equivalent. Introduces the basic grammar, syntax, and vocabulary of Classical Chinese through the reading of selected short representative texts from the formative and mature periods of the language's history.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Classical Civilization Minor

Minor - Classical Civilization (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 35
Required Cumulative GPA: 2.0

Lower Division Core

Rule: Must complete all of the following:

	Course	Credits
	CLAS 155L - Survey of Greek and Roman Lit Offered every autumn. An introduction to the literature of classical Greece and Rome. Readings in English translations of ancient works by Homer, Sophocles, Herodotus, Plato, Cicero, Vergil, Livy, and Ovid (and/or similar authors).	3 Credits
	CLAS 160L - Classical Mythology Offered every spring and intermittently in summer. Deities and myths of the Greeks and Romans, with emphasis on those of most importance to Western literature and art.	3 Credits

Minimum Required Grade: C-	6 Total Credits Required

Language Requirements

Rule: Must complete 1 of the following language sequences

10 Total Credits Required

Greek

Rule: May complete the following sequence

	Course	Credits
	GRK 101 - Elementary Greek I Offered autumn. Introduction to Classical Greek is the first courses of a two-semester sequence, designed to enable the student to read Greek authors in the original Greek as soon as possible. Based upon selected texts from Tragedians, Plato, Xenophon, Menander, New Testament, and other major authors.	3 Credits
	GRK 102 - Elementary Greek II Offered spring. Prereq., GRK 101 or equivalent. Continuation of 101. Greek grammar, vocabulary, readings of ancient Greek writings with the aid of a lexicon.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Latin

Rule: May complete the following sequence

	Course	Credits
	LATN 101 - Elementary Latin I Offered autumn. Latin I is the first course of a two-semester sequence, designed to enable the student to read authors in the original Latin as soon as possible. Based upon selected texts from Plautus, Vergil, Catullus, Livy, Ovid, Tacitus, and other major authors.	3 Credits
	LATN 102 - Elementary Latin II Offered spring. Prereq., LATN 101. Continuation of 101. Latin grammar, vocabulary, readings.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Degree Electives

Rule: Must complete the following subcategories

12 Total Credits Required

Electives I

Rule: Must complete 9 credits from the following:courses

	Course	Credits
	ARTH 407 - Roman and Early Christian Art Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Roman art and architecture from prehistory to the Early Christian period.	3 Credits
	CLAS 251L - The Epic (R–6) Offered intermittently. Reading, study and discussion of epic poems. Selections will vary from Western and non–Western traditions.	3 Credits
	CLAS 252L - Greek Drama: Politics on Stage (R–6) Offered intermittently. A study of the literary, artistic and political dimensions of Greek Tragedy and Comedy. Selections will vary.	3 Credits
	CLAS 320 - Women in Antiquity Offered intermittently. Prereq., any one MCLG course in Classical Civilization or LATN 102 or GRK 102 or consent of instructor. Examination of varied sources from Ancient Greece, the Hellenistic World, and republican and imperial Rome to clarify the place of women in communities. Women's contribution to community and the mechanisms by which communities attempted to socialize female populations.	3 Credits
	CLAS 360H - Ancient Greek Civ and Culture Offered intermittently. Prereq., consent of instr. Slide–lecture course. Ancient Greek works of art and architecture, related to and explained by contemporary ideas and values of Greek society.	3 Credits
	CLAS 365E - The Roots of Western Ethics Offered intermittently. Studies of the origins of Western ethical thinking in the writings of Greek writers and their application to current situations.	3 Credits
	GRK 201 - Intermediate Greek I Offered autumn. Prereq., GRK 102 or equiv. Attic prose and poetry Plato, Thucydides, Euripides.	3 Credits
	GRK 202 - Intermediate Greek II Offered spring. Prereq., GRK 201 (211) or equiv. Readings from Homer's Iliad and/or Odyssey.	3 Credits
	GRK 300 - Major Greek Writers (R–12) Offered autumn and spring. Prereq., GRK 202 (212) or equivalent. Homer, lyric poets, Aeschylus, Sophocles, Euripides, Aristophanes, Herodotus, Thucydides, Xenophon, Plato, Aristotle, Hellenistic philosophers, New Testament, etc. Selection to fit students' interests and programs.	3 Credits
	LATN 201 - Intermediate Latin I Offered autumn. Prereq., LATN 102 or equiv. Selections of Latin prose from the classical period, with complementary exercises in elementary composition.	3 Credits

	LATN 202 - Intermediate Latin II Offered spring. Prereq., LATN 201 or equiv. Latin epic poetry: Vergil's Aeneid.	3 Credits
	LATN 311 - Major Latin Authors (R–18) Offered autumn and spring. Prereq., LATN 202 or equiv. Plautus, Terence, Lucretius, Livy, Cicero, Vergil, Horace, Ovid, Tacitus, Juvenal, Pliny, Martial, etc.; also, Early Church fathers, Medieval and Renaissance Latin. Selection to suit students' needs and interests.	3 Credits
	PHL 363H - Ancient Greek and Roman Phil Offered intermittently. Examination of the thought of the philosophers of Greece and Rome as expressed in original works read in English translation. Ancient philosophy studied within its historical, linguistic and cultural setting.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Electives II

Rule: Must complete 3 credits from the following courses

	Course	Credits
	HSTR 301X - Ancient Greek Social History (EU) Offered intermittently. Various aspects of personal, social, and political life of classical times in Greece. Primary readings in various ancient authors supplemented by some audio-visual or other informational presentations.	3 Credits
	HSTR 302H - Ancient Greece (EU) Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians.	3 Credits
	HSTR 304H - Ancient Rome (EU) Offered intermittently. Roman history from the time of the Kings through the early Empire. Based on the writings of the Roman historians.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

French Minor

Minor - French (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 15

Required Cumulative GPA: 2.0

Note: French 101-202, or equivalent, are prerequisites to the minor in French.

Upper Division Core

Rule: Must complete all of the following:

	Course	Credits
	FRCH 301 - Adv Grammar/Oral Writ Exprsn (R-6) Prereq. 202 or equivalent. Advanced grammar review including literary tenses; developmental and written skills in French.	3 Credits
	FRCH 350 - French Civ & Culture (R-6) Offered spring. Prereq., FRCH 301 or consent of instr. Chronological/topical study of French culture.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Degree Electives

Rule: Must complete the following subcategories

9 Total Credits Required

300-level courses

Rule: Must complete 2 of the following courses

	Course	Credits
	FRCH 310 - Fr. Lit. Cult. Mid. Age Renass Offered autumn. Prereq., FRCH 202 or equiv. and coreq., FRCH 301. French literature of the Middle Ages and Renaissance with a focus on cultural identity.	3 Credits
	FRCH 311 - Fr. Lit. Cult. 17th 18th Cent. Offered spring. Prereq., FRCH 301 or consent of instr. French literature of the 17th and 18th centuries within its cultural context.	3 Credits
	FRCH 312 - Fr. Lit. Cult. Long 19th Cent. Offered autumn. Prereq., FRCH 301 or consent of instr. French literature from the French Revolution to the First World War within its cultural context.	3 Credits
	FRCH 313 - French Lit. Cult. 20th Cent. Offered spring. Prereq. FRCH 301 or consent of instr. Survey of literature and culture of 20th Century France and Francophone countries, with a focus on the significance of plural cultural identities.	3 Credits
	FRCH 338 - The French Cinema (R–6) Offered intermittently. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realism, Nouvelle Vogue, etc.) With an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.	3 Credits

Minimum Required Grade: C-	6 Total Credits Required

400-level courses

Rule: Must complete 1 of the following courses

	Course	Credits
	FRCH 420 - Studies in French Prose Offered intermittently. Prereq., FRCH 301 and one of 310, 311, 312, or 313 or consent of instructor. Evolution of textuality from the Renaissance to the 20th century: the novel.	3 Credits
	FRCH 421 - Adv Stylistics & Oral Arg (R-6) Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Intensive analysis of usage and style in written and oral argumentation at various linguistic levels.	3 Credits
	FRCH 430 - Studies in French Drama Offered intermittently. Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Evolution of theatre from the Renaissance to the 20th century or performance of a French play in French.	3 Credits
	FRCH 440 - Studies in French Poetry Offered intermittently. Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Evolution of textuality from the Renaissance to the 20th century: poetry and essays.	3 Credits
	FRCH 491 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	FRCH 492 - Independent Study (R-9) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	FRCH 494 - Seminar/Workshop (R-12) Offered autumn and spring. Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Studies in major authors, periods, genres, and/or cultural studies.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching French Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Minor Teaching Field of French: For an endorsement in the minor teaching field of French, a student must complete FRCH 101, 102, 201, 202, 301, 350, 421 (FREN 101,102, 201, 202, 301, 302, 401) LING 270, and MCLG 410. Study in a French-language country, provided either through the University's Study Abroad Programs or an experience considered to be equivalent, also is required.

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - French (Minor); Track: Teaching French

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 15

Required Cumulative GPA: 2.5

Note: French 101-202, or equivalent, are prerequisites to the minor in French. Study in a French-language country, provided either through the University's Study Abroad Programs or an experience considered to be equivalent, also is required. An overall minimum grade point average of 3.0 is required for upper division work.

Upper Division Core

Rule: Must complete all of the following:

	Course	Credits
	FRCH 301 - Adv Grammar/Oral Writ Exprsn (R-6) Prereq. 202 or equivalent. Advanced grammar review including literary tenses; developmental and written skills in French.	3 Credits
	FRCH 350 - French Civ & Culture (R-6) Offered spring. Prereq., FRCH 301 or consent of instr. Chronological/topical study of French culture.	3 Credits
	FRCH 421 - Adv Stylistics & Oral Arg (R-6) Prereq., FRCH 301 and one of FRCH 310, 311, 312 or 313 or consent of instructor. Intensive analysis of usage and style in written and oral argumentation at various linguistic levels.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Teaching Licensure Requirements

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Teaching Track Requirements

Rule: Must complete all of the following:

	Course	Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
	MCLG 410 - Methods Tchg For Lang Offered spring. Fundamental concepts, objectives and techniques in the teaching of foreign languages.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

German Minor

Minor - German (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 34
Required Cumulative GPA: 2.5

Language Core

Rule: Must complete all of the following courses:

	Course	Credits
	GRMN 101 - Elementary German I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	GRMN 102 - Elementary German II Offered spring. Prereq., GRMN 101. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	GRMN 201 - Intermediate German I Offered autumn. Prereq., GRMN 102 or equiv. Continuation of active skills approach to German listening, speaking, reading, and writing.	4 Credits
	GRMN 202 - Intermediate German II Offered spring. Prereq., GRMN 201 or equiv. Continuation of 201.	4 Credits
Minimum Required Grade: C-		16 Total Credits Required

Lower Division Elective

Rule: Must take the following course

	Course	Credits
	GRMN 106H - Intro Germ Cult Civ This course provides an introductory overview of major developments, ideas, and influences involving German-speaking culture from its documented origins in the Roman era to today in English. Students will become familiar with the chronology and significance of key historical events in Central Europe as well as with major figures in such areas as politics, literature, art, and philosophy. Attention will also be given to important contributions that German-speaking culture has made globally.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core Courses

Rule: Must complete all of the following subcategories

Note: Native or near-native speakers of German must substitute 2 400-level literature courses for GRMN 301 and GRMN 302.

Minimum Required Grade: C-

12-13 Total Credits Required

Subcategory 1

Rule: Must complete all of the following courses

	Course	Credits
	GRMN 301 - German: Oral and Written Exp Offered autumn. Prereq., GRMN 202 or equiv. Native or near–native speakers of German may not apply credit for this course toward a German major or minor.	3 Credits
	GRMN 311 - Intro German Lit Offered autumn. Prereq., GRMN 202 or equiv. Reading and discussion of selected works of German literature. Instruction in the fundamentals of textual analysis and terminology and discussion of works in historical context. Taught primarily in German.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Subcategory 2

Rule: Must complete 1 of the following courses

	Course	Credits

	GRMN 302 - German Oral & Written Expr II Offered spring. Prereq., consent of instructor. Native or near–native speakers of German may not apply credit for this course toward a German major or minor.	3 Credits
	GRMN 305 - Practicum in Germ Lang Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Concentration on grammar topics and advanced language usage.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Subcategory 3

Rule: Must complete 1 of the following courses

	Course	Credits
	GRMN 312 - Intro German Lit: Dram/Poetry Offered spring. Prereq., GRMN 202. Reading and discussion of selected, well-known German-language plays and poems. Instruction in the fundamentals of textual analysis, including terminology of various genres, and in German literary history. Practice in literary interpretation. Taught primarily in German and Austrian Theater.	3 Credits
	GRMN 318 - Intro to Germ & Aust Theat Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Introduction to the basics of German–speaking theater. Students read, discuss, and analyze plays before seeing them performed on stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

German Culture, Film, and Literature Electives

Rule: Must complete 1 of the following courses

	Course	Credits
	GRMN 317L - Intro Multicultural Lit German Offered intermittently. Introduction to multicultural literature created during recent decades in Germany. Study topics include immigration, citizenship, multilingualism, identity; significant literary and cultural movements and selected writers in contemporary Germany.	3 Credits
	GRMN 322L - Survey of German Cinema Offered intermittently. The development of the German film from its beginnings in the late 19th century to the present. Topics include Expressionism, New Objectivity, the Nazi film, the German contribution to Hollywood, the post–war film in East and West Germany, and film in unified Germany.	3 Credits

	GRMN 340L - Nature Environ German Lit Film An examination of the historical role of nature and the environment in the German literary and cinematic traditions. Course begins with the Roman Germanic periods and covers literary and cinematic works in cultural and historical context up until the present day. Attention given to the role of environmentalism in Central European culture today in light of themes of nature and the environment in German literature and film historically.	3 Credits
	GRMN 350 - German Culture & Civilization Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Introduction to cultural topics, current events, and historical topics of Germany and Austria. Course content supplemented with on-site visits.	3 Credits
	GRMN 351H - German Culture to 1900 Offered intermittently in spring. Overview of major events and currents in German culture to 1900 with emphasis on the arts, literature, and intellectual movements. Lectures in English.	3 Credits
	GRMN 352H - Germ Cult 1900-Pres Offered intermittently in spring. Overview of major events and trends in culture of German-speaking world from 1900 to the present with emphasis on the arts, literature, film, intellectual movements, and social and political developments. Lectures in English. Credit not allowed for both MCLG 331H and GRMN 352H.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching German Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - German (Minor); Track: Teaching German

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 31

Required Cumulative GPA: 2.5

Note: An overall minimum grade point average of 3.0 is required for upper division work. Study in a German language country, provided either through the University's Study Abroad Program or an experience considered to be equivalent, also is required.

Language Core

Rule: Must complete all of the following courses:

Note: Students with language background may be exempt from the GRMN 101-202 requirements. Please see the Department of Modern and Classical Languages and Literatures for additional information.

	Course	Credits
	GRMN 101 - Elementary German I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	GRMN 102 - Elementary German II Offered spring. Prereq., GRMN 101. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	GRMN 201 - Intermediate German I Offered autumn. Prereq., GRMN 102 or equiv. Continuation of active skills approach to German listening, speaking, reading, and writing.	4 Credits
	GRMN 202 - Intermediate German II Offered spring. Prereq., GRMN 201 or equiv. Continuation of 201.	4 Credits
Minimum Required Grade: C-		16 Total Credits Required

Lower Division Elective

Rule: Must take the following course

	Course	Credits
	GRMN 106H - Intro Germ Cult Civ This course provides an introductory overview of major developments, ideas, and influences involving German-speaking culture from its documented origins in the Roman era to today in English. Students will become familiar with the chronology and significance of key historical events in Central Europe as well as with major figures in such areas as politics, literature, art, and philosophy. Attention will also be given to important contributions that German-speaking culture has made globally.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core Courses

Rule: Must complete all of the following subcategories

Note: Native or near-native speakers of German must substitute 2 400-level literature courses for GRMN 301 and GRMN 302.

Minimum Required Grade: C-

6 Total Credits Required

Subcategory 1

Rule: Must complete the following course

	Course	Credits
	GRMN 301 - German: Oral and Written Exp Offered autumn. Prereq., GRMN 202 or equiv. Native or near–native speakers of German may not apply credit for this course toward a German major or minor.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Subcategory 2

Rule: Must complete 1 of the following courses

	Course	Credits
	GRMN 302 - German Oral & Written Expr II Offered spring. Prereq., consent of instructor. Native or near–native speakers of German may not apply credit for this course toward a German major or minor.	3 Credits
	GRMN 305 - Practicum in Germ Lang Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Concentration on grammar topics and advanced language usage.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

German Culture, Film, and Literature Electives

Rule: Must complete 1 of the following courses

	Course	Credits
	GRMN 317L - Intro Multicultural Lit German Offered intermittently. Introduction to multicultural literature created during recent decades in Germany. Study topics include immigration, citizenship, multilingualism, identity; significant literary and cultural movements and selected writers in contemporary Germany.	3 Credits
	GRMN 322L - Survey of German Cinema Offered intermittently. The development of the German film from its beginnings in the late 19th century to the present. Topics include Expressionism, New Objectivity, the Nazi film, the German contribution to Hollywood, the post–war film in East and West Germany, and film in unified Germany.	3 Credits

	GRMN 340L - Nature Environ German Lit Film An examination of the historical role of nature and the environment in the German literary and cinematic traditions. Course begins with the Roman Germanic periods and covers literary and cinematic works in cultural and historical context up until the present day. Attention given to the role of environmentalism in Central European culture today in light of themes of nature and the environment in German literature and film historically.	3 Credits
	GRMN 350 - German Culture & Civilization Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Germany and Austria. Introduction to cultural topics, current events, and historical topics of Germany and Austria. Course content supplemented with on-site visits.	3 Credits
	GRMN 351H - German Culture to 1900 Offered intermittently in spring. Overview of major events and currents in German culture to 1900 with emphasis on the arts, literature, and intellectual movements. Lectures in English.	3 Credits
	GRMN 352H - Germ Cult 1900-Pres Offered intermittently in spring. Overview of major events and trends in culture of German-speaking world from 1900 to the present with emphasis on the arts, literature, film, intellectual movements, and social and political developments. Lectures in English. Credit not allowed for both MCLG 331H and GRMN 352H.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. Individuals completing a teaching minor must also complete a teaching major in another content area. A minor GPA of 2.75 is required to be eligible for student teaching.

Teaching Track Requirements

Rule: Must complete both of the following

	Course	**Credits**
	LING 270S - Introduction to Linguistics Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
	MCLG 410 - Methods Tchng Foreign Language Offered spring. Fundamental concepts, objectives and techniques in the teaching of foreign languages.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Minor - Greek (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 25
Required Cumulative GPA: 2.5

Required Lower Division Courses

Rule: Must complete all of the following courses:

	Course	Credits
	GRK 101 - Elementary Greek I Offered autumn. Introduction to Classical Greek is the first courses of a two-semester sequence, designed to enable the student to read Greek authors in the original Greek as soon as possible. Based upon selected texts from Tragedians, Plato, Xenophon, Menander, New Testament, and other major authors.	3 Credits
	GRK 102 - Elementary Greek II Offered spring. Prereq., GRK 101 or equivalent. Continuation of 101. Greek grammar, vocabulary, readings of ancient Greek writings with the aid of a lexicon.	3 Credits
	GRK 201 - Intermediate Greek I Offered autumn. Prereq., GRK 102 or equiv. Attic prose and poetry Plato, Thucydides, Euripides.	3 Credits
	GRK 202 - Intermediate Greek II Offered spring. Prereq., GRK 201 (211) or equiv. Readings from Homer's Iliad and/or Odyssey.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Required Upper Division Courses

Rule: Must complete 9 credits from the following courses:

	Course	Credits
	GRK 300 - Major Greek Writers (R–12) Offered autumn and spring. Prereq., GRK 202 (212) or equivalent. Homer, lyric poets, Aeschylus, Sophocles, Euripides, Aristophanes, Herodotus, Thucydides, Xenophon, Plato, Aristotle, Hellenistic philosophers, New Testament, etc. Selection to fit students' interests and programs.	3 Credits
	GRK 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits

	GRK 392 - Independent Study (R–9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	GRK 492 - Independent Study (R–9) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
Minimum Required Grade: C-		9 Total Credits Required

Japanese Minor

Minor - Japanese (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 32
Required Cumulative GPA: 2.0

Lower Division Core Courses

Rule: Must complete all of the following courses:

	Course	**Credits**
	JPNS 101 - Elementary Japanese I Offered autumn. Understanding of grammar and basic sentence structures are taught as a foundation for oral comprehension. The students will learn Hiragana and Katakana, two syllabic writing systems, and approximately 400 Kanji ideographs.	5 Credits
	JPNS 102 - Elementary Japanese II Offered spring. Prereq., JPNS 101. Continuation of 101.	5 Credits
	JPNS 150H - Japanese Cult & Civiliz Offered intermittently. Same as AS and LS 210H. The historical, religious, artistic, literary and social developments in Japan from earliest times to the present.	3 Credits
	JPNS 201 - Intermediate Japanese I Offered autumn. Prereq., JPNS 102 or equiv. Reading and writing kanji; building oral/aural fluency.	5 Credits
	JPNS 202 - Intermediate Japanese II Offered spring. Prereq., JPNS 201 or equiv. Continuation of JPNS 201.	5 Credits
Minimum Required Grade: C-		23 Total Credits Required

Upper Division Elective Courses

Rule: Must complete 9 credits from the following courses:

Note: JPNS 392 may be taken for up to 3 credits only.
Only 3 credits from JPNS 390 (Supervised Internship) or JPNS 392 (Independent Study) may count toward the 9 credits.
If offered, JPNS 191 or JPNS 291 may be taken in place of 1 of the above electives.
Also permitted in substitution would be 1 course from outside the department if it has a substantial Japan-related element.

	Course	Credits
	JPNS 311 - Jpns Clasc Lit Engl Trans Offered intermittently. Prereq., Composition course WRIT 101 or 201 (or transfer equiv.) with a grade of C- or better; and one approved Gen Ed writing course or WRIT 201, with a C- or better. Introduction to the classical literature of the Japanese court, ca. 7th to 14th century. Kojiki, Man'yoshu, Kokinshu, Genji Monogatari, and other major classics of the period.	3 Credits
	JPNS 312 - Jpns Lit Medieval to Mod Offered spring alternate years. Prereq., Composition course WRIT 101 or 201 (or transfer equiv.) with a grade of C- or better; and one approved Gen Ed writing course or WRIT 201, with a C- or better. Introduction to the literature of Japan from the 15th to the 20th century.	3 Credits
	JPNS 371 - Japanese Film and Anime This course introduces students to salient events in the hundred-year history of Japanese cinema, including the age of silent film, the golden age of film directors, the New Wave, and contemporary Japanese cinema. Students will learn about Japanese cinema as the artistic expression of individual directors; they will gain a better understanding of the history of Japanese society and popular culture; and they will appreciate some of the reasons for the long-standing interest in Japan in the history of Western film studies.	3 Credits
	JPNS 390 - Supervised Internship Offered intermittently. Paid work experience in Japan, combined with language/culture course work by correspondence directed by UM department staff.	1 To 12 Credits
	JPNS 391 - Special Topics (R–12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 12 Credits
	JPNS 392 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	JPNS 411 - Mod Jpns Wrtrs/Thinkers (R–6) Offered autumn or spring. Prereq., JPNS 202. Introduction to the important writers, thinkers, and poets of the 20th century. Readings include a wide range of topics in the humanities, including literature, philosophy, and the arts.	3 Credits
	JPNS 412 - Intro Classical Japanese Offered intermittently. Prereq., JPNS 202. Introduction to the language of the Japanese court, ca. 7th to 14th century. Essential features of grammar, sentence structure, vocabulary, and orthography.	3 Credits

	JPNS 431 - Post-War Japanese Lit Offered spring odd–numbered years. Introduction to issues, literature, and criticism of Japanese literature from the postwar (1945) through the contemporary period, using texts in English translation.	3 Credits
	JPNS 491 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		9 Total Credits Required

Latin Minor

Minor - Latin (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 26
Required Cumulative GPA: 2.5

Required Lower Division Courses

Rule: Must complete all of the following courses:

	Course	**Credits**
	LATN 101 - Elementary Latin I Offered autumn. Latin I is the first course of a two-semester sequence, designed to enable the student to read authors in the original Latin as soon as possible. Based upon selected texts from Plautus, Vergil, Catullus, Livy, Ovid, Tacitus, and other major authors.	3 Credits
	LATN 102 - Elementary Latin II Offered spring. Prereq., LATN 101. Continuation of 101. Latin grammar, vocabulary, readings.	3 Credits
	LATN 201 - Intermediate Latin I Offered autumn. Prereq., LATN 102 or equiv. Selections of Latin prose from the classical period, with complementary exercises in elementary composition.	3 Credits
	LATN 202 - Intermediate Latin II Offered spring. Prereq., LATN 201 or equiv. Latin epic poetry: Vergil's Aeneid.	3 Credits
Minimum Required Grade: C-		17 Total Credits Required

Required Upper Division Courses

Rule: Must complete nine credits from the following courses:

	Course	Credits
	LATN 311 - Major Latin Authors (R–18) Offered autumn and spring. Prereq., LATN 202 or equiv. Plautus, Terence, Lucretius, Livy, Cicero, Vergil, Horace, Ovid, Tacitus, Juvenal, Pliny, Martial, etc.; also, Early Church fathers, Medieval and Renaissance Latin. Selection to suit students' needs and interests.	3 Credits
	LATN 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	LATN 392 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	LATN 492 - Independent Study (R–12) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 12 Credits
Minimum Required Grade: C-		9 Total Credits Required

Teaching Latin Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - Latin (Minor); Track: Teaching Latin

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 29

Required Cumulative GPA: 2.5

Note: An overall minimum grade point average of 3.0 is required for upper-division work.

Required Lower Division Courses

Rule: Must complete all of the following courses:

	Course	Credits

	LATN 101 - Elementary Latin I Offered autumn. Latin I is the first course of a two-semester sequence, designed to enable the student to read authors in the original Latin as soon as possible. Based upon selected texts from Plautus, Vergil, Catullus, Livy, Ovid, Tacitus, and other major authors.	3 Credits
	LATN 102 - Elementary Latin II Offered spring. Prereq., LATN 101. Continuation of 101. Latin grammar, vocabulary, readings.	3 Credits
	LATN 201 - Intermediate Latin I Offered autumn. Prereq., LATN 102 or equiv. Selections of Latin prose from the classical period, with complementary exercises in elementary composition.	3 Credits
	LATN 202 - Intermediate Latin II Offered spring. Prereq., LATN 201 or equiv. Latin epic poetry: Vergil's Aeneid.	3 Credits
Minimum Required Grade: C-		17 Total Credits Required

Required Upper Division Courses

Rule: Must complete nine credits from the following courses:

	Course	Credits
	LATN 311 - Major Latin Authors (R–18) Offered autumn and spring. Prereq., LATN 202 or equiv. Plautus, Terence, Lucretius, Livy, Cicero, Vergil, Horace, Ovid, Tacitus, Juvenal, Pliny, Martial, etc.; also, Early Church fathers, Medieval and Renaissance Latin. Selection to suit students' needs and interests.	3 Credits
	LATN 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	LATN 392 - Independent Study (R–6) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	LATN 492 - Independent Study (R–12) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 12 Credits
Minimum Required Grade: C-		9 Total Credits Required

Teaching Licensure Requirements

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Teaching Methods Course

Rule: Complete the following course.

	Course	Credits
	MCLG 410 - Methods Tchg For Lang Offered spring. Fundamental concepts, objectives and techniques in the teaching of foreign languages.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Latin American Studies Minor

Minor - Latin American Studies (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 32
Required Cumulative GPA: 2.5

Required Lower Division Courses

Rule: Must complete all of the following courses:

	Course	Credits
	MCLG 100H - Intro Latin American Studies Offered autumn or spring. Same as ANTY 103H. Multi–disciplinary survey and introduction to Latin America from pre–Columbian times to the present.	3 Credits
	SPNS 101 - Elementary Spanish I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading and writing.	5 Credits
	SPNS 102 - Elementary Spanish II Offered spring. Prereq., SPNS 101. Continuation of 101.	5 Credits
	SPNS 201 - Intermediate Spanish I Offered autumn. Prereq., SPNS 102. Continued practice in the oral skills with added emphasis on grammar and reading proficiency.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Minor Electives

Rule: Must complete 15 credits from the following courses:

Note: SPNS 494 may count when topic is related to Latin American literature such as Latin American drama, poetry, novel, short story, Argentinian literature, or 19th Century Latin American Literature.

	Course	Credits

	ANTY 354H - Mesoamerican Prehistory Offered spring odd-numbered years. The development of civilization and prehistoric states in the New World. Prehistoric lifeways and the effects of European contact on these cultures.	3 Credits
	ARTH 433H - Acient American Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of ancient American art and architecture from prehistory to 1492.	3 Credits
	ARTH 434H - Latin American Art Offered intermittently. Prereq., ARTH 200H or 201H or consent of instructor. Same as NAS 368H. Exploration of themes in the development of Latin American art from the colonial period to the present including Renaissance ideals in the "New World", syncretism of European, African, and indigenous roots, the Black Legend, and the advent of such movements as Academism, Modernism, Social Realism, Magic Realism and Post-Modernism.	3 Credits
	ARTH 494 - Sem Art Hist & Crit (R-9) Offered intermittently. Prereq., ARTH 200H or 201H, a 300-level art history course and consent of instructor. Upper-division seminar in varying topics of art history and criticism.	3 Credits
	ENST 493 - Study Abroad: Envir Justice LA Offered intermittently. Two week travel seminar to one or more Latin American countries to examine Latin American perspectives on environmental justice and efforts toward sustainable development within the context of the global economy and U. S. foreign policy. Required one-credit seminar offered spring semester to provide background readings.	3 Credits
	HSTR 230H - Colonial Latin America (WRLD) Offered autumn. Latin America from conquest by Spain and Portugal to wars for independence. Focus on social relations, imperial and local politics, hegemony, resistance, and change.	3 Credits
	HSTR 231H - Modern Latin America (WRLD) Offered spring. Latin America from wars of independence to the present. Focus on social relations, development models, politics, and popular movements.	3 Credits
	HSTR 334 - Latin America: Reform and Revo (WRLD) Different ideologies and projects in Latin America aimed at gradual or radical transformation of political systems and/or socio-economic relations. From the Haitian Revolution to the Bolivarian vision of Hugo Chavez.	3 Credits
	HSTR 335 - Lat Am Workers & Labor (WRLD) Study of the experiences and agency of diverse working people in Latin America. Influence of race, ethnicity, gender, religion, and generation on working class identity and movements. Labor organizations and politics in historic context.	3 Credits

	HSTR 435 - Lat Am Human Rgts & Memory (WRLD) The legacy of state violence and ongoing struggles for truth and justice in select Latin American case studies. Different uses of memory and narration in bearing witness to social and political conflict and human rights violations.	3 Credits
	HSTR 437 - US-Latin America Relations (WRLD) Prereq., HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Research and writing seminar on U.S.-Latin American relations from the late 18th century through the 20th century.	3 Credits
	MCLG 358 - Lat Amer Civ Thru Lit/Film Offered spring. The development of the traditional society of Latin American civilization through the interaction of European, Indian and African elements. Credit not allowed for both LS/MCLG 358 and 359.	3 Credits
	PSCI 325 - Politics of Latin America Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.	3 Credits
	PSCI 327 - Politics of Mexico Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
	S W 323 - Women & Soc Action Amer Offered intermittently. Prereq., one of SW 100, SOCI 101S, or ANTY 101H or consent of instr. Same as WS 323. Focus on women's experiences of and contributions to social change in North, South and Central America in the mid to late-20th century. Through case studies, testimonials, discussions with activists and Internet connections examine social constructions of gender, compare forms of social action in diverse cultural, political and historical contexts, link practice to theories of social participation, and reflect on lessons learned from women's experiences.	3 Credits
	SPNS 331 - Contemp Latin Amer Lit Offered autumn and spring. Prereq., SPNS 202 or equiv. The study of representative works by Latin-American authors with emphasis on the 20th century. Includes an introduction to literary genres.	3 Credits
	SPNS 359 - Span Amer Civ Lit & Film Offered spring in odd-numbered years. Prereq., at least one upper–division class in Spanish and SPNS 301. Same as MCLG and LS 358. The development of the traditional society of Spanish American civilization through the interaction of European, Indian, and African elements. Credit not allowed for both LS/MCLG 358 and SPAN 359.	3 Credits
	SPNS 432 - Latin American Literature (R–6) Offered regularly. Prereq. SPNS 326 or 331 or consent of instr. Emphasis on major works of the 20th century.	3 Credits

	SPNS 494 - Seminar (R–12) Offered regularly. Prereq., SPNS 326 or 331. Studies in major authors, periods, or genres.	1 To 12 Credits
Minimum Required Grade: C-		15 Total Credits Required

Russian Minor

Minor - Russian (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 28
Required Cumulative GPA: 2.5

Lower Division Core Requirements

Rule: Must complete all four courses or have equivalent courses

	Course	**Credits**
	RUSS 101 - Elementary Russian I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	RUSS 102 - Elementary Russian II Offered spring. Prereq., RUSS 101 or equiv. Continuation of 101.	4 Credits
	RUSS 201 - Intermediate Russian I Offered autumn. Prereq., RUSS 102 or equiv. Continuation of active skills approach to Russian listening, speaking, reading, and writing.	4 Credits
	RUSS 202 - Intermediate Russian II Offered spring. Prereq., RUSS 201. Continuation of 201. Continuation of active skills approach to Russian listening, speaking, reading, and writing.	4 Credits
Minimum Required Grade: C		16 Total Credits Required

Upper Division Credits

Rule: Must complete 12 upper division credits in Russian-related courses taught by MCLL faculty or equivalent
Minimum Required Grade: C-
12 Total Credits Required

Teaching Russian Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - Russian (Minor); Track: Teaching Russian

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 28

Required Cumulative GPA: 2.5

Note: An overall minimum grade point average of 3.0 is required for upper division work.

Lower Division Core Requirements

Rule: Must complete all four courses or have equivalent courses

	Course	Credits
	RUSS 101 - Elementary Russian I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	RUSS 102 - Elementary Russian II Offered spring. Prereq., RUSS 101 or equiv. Continuation of 101.	4 Credits
	RUSS 201 - Intermediate Russian I Offered autumn. Prereq., RUSS 102 or equiv. Continuation of active skills approach to Russian listening, speaking, reading, and writing.	4 Credits
	RUSS 202 - Intermediate Russian II Offered spring. Prereq., RUSS 201. Continuation of 201. Continuation of active skills approach to Russian listening, speaking, reading, and writing.	4 Credits
Minimum Required Grade: C		16 Total Credits Required

Upper Division Credits

Rule: Complete all of the following courses.

	Course	Credits
	RUSS 301 - Russian: Oral & Written Expr I Offered autumn. Prereq., RUSS 202 or consent of instr. Emphasis on active use of Russian. Intensive practice in conversation and writing.	3 Credits
	RUSS 302 - Russian:Oral Written Expr II Prereq., RUSS 301 or consent of instr. A continued emphasis on active use of Russian. Intensive practice in conversation and writing. Continuation of 301.	3 Credits

	RUSS 306L - Evil and the Supernatural Offered alternate years. A survey of 19th-and 20th century Russian literature in translation. This course will focus on texts exploring evil and the supernatural. May include the works of Pushkin, Gogol, Dostoevsky, Tolstoy, Chekhov, Bulgakov and others. No knowledge of Russian is necessary.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Teaching Licensure Requirements

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Teaching Methods Course

Rule: Complete the following course.

	Course	Credits
	MCLG 410 - Methods Tchg For Lang Offered spring. Fundamental concepts, objectives and techniques in the teaching of foreign languages.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Russian Studies Minor

Minor - Russian Studies (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 30
Required Cumulative GPA: 2.5

Lower Division Core Courses

Rule: Must complete the following subcategories

21 Total Credits Required

Language

Rule: Must complete all of the following courses

	Course	Credits

	RUSS 101 - Elementary Russian I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	RUSS 102 - Elementary Russian II Offered spring. Prereq., RUSS 101 or equiv. Continuation of 101.	4 Credits
	RUSS 201 - Intermediate Russian I Offered autumn. Prereq., RUSS 102 or equiv. Continuation of active skills approach to Russian listening, speaking, reading, and writing.	4 Credits
	RUSS 202 - Intermediate Russian II Offered spring. Prereq., RUSS 201. Continuation of 201. Continuation of active skills approach to Russian listening, speaking, reading, and writing.	4 Credits
Minimum Required Grade: C-		16 Total Credits Required

Culture

Rule: Must complete the following course

	Course	Credits
	MCLG 105H - Intro to Russian Culture Offered autumn. Fulfills both the Historical and Cultural (H) and American and European (y) General Education Perspectives. Same as RUSS 105H and LS 105H. A chronological survey of Russian culture from its beginnings to the contemporary period.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Degree Electives

Rule: Must complete the following subcategories

9 Total Credits Required

History

Rule: Must complete 1 of the following courses

	Course	Credits
	HSTR 357 - Russia to 1881 (EU) Emphasis on the autocratic political tradition, Westernization, and territorial expansion.	3 Credits
	HSTR 358 - Russia Since 1881 (EU) Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system.	3 Credits

	HSTR 458 - Russian Revolution 1900-1930 (EU) Offered spring. The causes, course, character, and consequences of the Bolshevik Revolution.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Russian Electives

Rule: Must complete 6 credits of upper-division coursework

Note: 3 of the 6 credits must be taken in the MCLL department and 3 credits from a third department/discipline.

Spanish Minor

Minor - Spanish (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.5

Lower Division Core

Rule: Must complete all of the following courses:

	Course	Credits
	SPNS 101 - Elementary Spanish I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading and writing.	5 Credits
	SPNS 102 - Elementary Spanish II Offered spring. Prereq., SPNS 101. Continuation of 101.	5 Credits
	SPNS 201 - Intermediate Spanish I Offered autumn. Prereq., SPNS 102. Continued practice in the oral skills with added emphasis on grammar and reading proficiency.	4 Credits
	SPNS 202 - Intermediate Spanish II Offered spring. Prereq., SPNS 201. Continuation of 201.	4 Credits
Minimum Required Grade: C-		18 Total Credits Required

Upper Division Core

Rule: Must complete all of the following subcategories

6 Total Credits Required

Expression

Rule: Must complete the following course

	Course	Credits
	SPNS 301 - Spanish: Oral and Written Expr Offered autumn and spring. Prereq., SPNS 202 or equiv. Development of oral and written skills with an emphasis on Hispanic cultural context.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Literature

Rule: Must complete 1 of the following courses

	Course	Credits
	SPNS 326 - Contemporary Spanish Lit Offered autumn and spring. Prereq., SPNS 202 or equiv. The study of contemporary works by peninsular authors, including an introduction to literary genres.	3 Credits
	SPNS 331 - Contemp Latin Amer Lit Offered autumn and spring. Prereq., SPNS 202 or equiv. The study of representative works by Latin-American authors with emphasis on the 20th century. Includes an introduction to literary genres.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Electives

Rule: Must complete the following subcategories

12 Total Credits Required

Literature and Linguistics

Rule: Must complete 1 of the following courses

	Course	Credits
	SPNS 400 - Spanish: Applied Linguistics Offered autumn. Prereq., SPNS 305 and LING 270 or 470. Topics in linguistics applied to the Spanish Language with an emphasis on morphology, syntax and semantics.	3 Credits
	SPNS 432 - Latin American Literature (R–6) Offered regularly. Prereq. SPNS 326 or 331 or consent of instr. Emphasis on major works of the 20th century.	3 Credits
	SPNS 465 - Spanish Lit:Renaiss/Goldn Age (R-6) Offered autumn even-numbered years. Prereq., SPNS 326 or 331 or consent of instr.	3 Credits

	SPNS 466 - Spanish Lit:Modern & Contemp (R-6) Offered spring even-numbered years. Prereq., SPNS 326 or 331 or consent of instr.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Additional Electives

Rule: Must complete 9 credits of additional upper division SPNS electives

Teaching Spanish Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Minor Teaching Field of Spanish: For an endorsement in the minor teaching field of Spanish, a student must complete SPNS 101 through 202 or equivalent, 301, 305, 326 or 331, 400 (SPAN 101 through 202, 301-302, 311L or 312, 405) and MCLG 410. Study in a Spanish-language country, provided either through the University's Study Abroad Program or an experience considered to be equivalent, also is required.

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - Spanish (Minor); Track: Teaching Spanish

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.5

Note: An overall minimum grade point average of 3.0 is required for upper division work. Study in a Spanish language country, provided either through the University's Study Abroad Program or an experience considered to be equivalent, also is required.

Lower Division Core

Rule: Must complete all of the following courses:

Note: Students with language background may be exempt from the SPNS 101-202 requirements. Please see the Department of Modern and Classical Languages and Literatures for additional information.

	Course	**Credits**
	SPNS 101 - Elementary Spanish I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading and writing.	5 Credits
	SPNS 102 - Elementary Spanish II Offered spring. Prereq., SPNS 101. Continuation of 101.	5 Credits

	SPNS 201 - Intermediate Spanish I Offered autumn. Prereq., SPNS 102. Continued practice in the oral skills with added emphasis on grammar and reading proficiency.	4 Credits
	SPNS 202 - Intermediate Spanish II Offered spring. Prereq., SPNS 201. Continuation of 201.	4 Credits
Minimum Required Grade: C-		18 Total Credits Required

Upper Division Core

Rule: Must complete all of the following subcategories

12 Total Credits Required

Expression

Rule: Must complete the following course

	Course	Credits
	SPNS 301 - Spanish: Oral and Written Expr Offered autumn and spring. Prereq., SPNS 202 or equiv. Development of oral and written skills with an emphasis on Hispanic cultural context.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Literature

Rule: Must complete 1 of the following courses

	Course	Credits
	SPNS 326 - Contemporary Spanish Lit Offered autumn and spring. Prereq., SPNS 202 or equiv. The study of contemporary works by peninsular authors, including an introduction to literary genres.	3 Credits
	SPNS 331 - Contemp Latin Amer Lit Offered autumn and spring. Prereq., SPNS 202 or equiv. The study of representative works by Latin-American authors with emphasis on the 20th century. Includes an introduction to literary genres.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Phonetics and Linguistics

Rule: Must complete all of the following

	Course	Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
	SPNS 305 - Spanish Phonetics Offered once each academic year. Prereq., SPNS 202 or consent of instr. A practical and theoretical exploration of the Spanish sound system.	3 Credits
	SPNS 400 - Spanish: Applied Linguistics Offered autumn. Prereq., SPNS 305 and LING 270 or 470. Topics in linguistics applied to the Spanish Language with an emphasis on morphology, syntax and semantics.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Teaching Licensure Requirements

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Teaching Methods Course

Rule: Complete the following course

	Course	Credits
	MCLG 410 - Methods Tchg For Lang Offered spring. Fundamental concepts, objectives and techniques in the teaching of foreign languages.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Mathematical Sciences Department

Emily Stone, Chair

Mathematics is studied both as a tool and for its own sake. Its usefulness in the sciences - physical, biological, social, behavioral, and environmental - and in decision-making processes is so established that it is an indispensable part of many curricula.

Mathematics is chosen as a major area of study by individuals who find it challenging, fascinating, and beautiful. It is also appreciated by many who seek primarily to use mathematics as a tool.

A career in mathematics, except for teaching at the secondary level, generally requires a graduate degree as preparation. Careers include teaching, research, and the application of mathematics to diverse problems in institutions of higher learning, business, industry, and government.

The Bachelor of Arts, Master of Arts, and Doctor of Philosophy degrees are offered as well as a Bachelor of Science in Mathematical Sciences–Computer Science.

High School Preparation: For studying mathematics at the University level, it is recommended that the high school course work consist of four years of college-preparatory mathematics, including geometry, trigonometry, and college algebra or precalculus. A course in calculus or statistics is helpful, but not necessary. It is unusual to complete an undergraduate degree in mathematics in four years without the necessary background to take Calculus I (M 171) during the freshman year (preferably during the first semester at the university).

Department Faculty

Professors

Johnathan Bardsley, Professor
Jonathan Graham, Professor
Leonid Kalachev, Professor
Mark Kayll, Professor
Jenny McNulty, Associate Dean / Professor
David Patterson, Professor
Bharath Sriraman, Professor
Brian Steele, Professor
Emily Stone, Department Chair, Professor
Karel Stroethoff, Professor
Nikolaus Vonessen, Professor and Associate Chair - Undergraduate Program

Associate Professors

Jennifer Brooks, Associate Professor
Eric Chesebro, Associate Professor
Kelly McKinnie, Associate Professor
Gregory St. George, Associate Professor
Ke Wu, Associate Professor

Assistant Professors

Cory Palmer, Assistant Professor and Associate Chair - Graduate Program
Frederick Peck, Assistant Professor
Matthew Roscoe, Assistant Professor
Ekaterina Smirnova, Assistant Professor

Adjunct Faculty

Richard Darnell, Adjunct Instructor/Tutoring Services Coordinator
John Duffield, Adjunct Research Professor
Peter Golubtsov, Adjunct Professor
Solomon Harrar, Adjunct Research Professor
Daniel Johnston, Visiting Assistant Professor
Richard Lane, Adjunct Instructor
N''Djekornom Dara Laobeul, Adjunct Instructor
Michael Olear, Adjunct Instructor
Joyce Schlieter, Adjunct Instructor
James Tipton, Visiting Assistant Professor

Lecturers

Lauren Fern, Lecturer
Cindy Leary, Lecturer
Regina Souza, Lecturer
Bonnie Spence, Lecturer

Emeritus Professors

Richard Billstein, Emeritus
James Hirstein, Professor Emeritus
George McRae, Professor Emeritus

Mathematics

Back to Top

- ## M 104 - Numbers as News

  Credits: 3. Offered spring. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. An exploration of mathematics and statistics as used in the popular media. For students in the School of Journalism only.

- ## M 105 - Contemporary Mathematics

  Credits: 3. Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.

- ## M 115 - Probability and Linear Math

  Credits: 3. Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.

- ## M 118 - Math for Music Enthusiasts

  Credits: 3. Offered autumn and/or spring. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520; and elementary music background. An introduction to the interplay between mathematics and music. Course intended for Music majors/minors, and others with musical backgrounds/interests, who wish to satisfy the general education mathematics requirement.

- ## M 121 - College Algebra

  Credits: 3. Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.

- ## M 122 - College Trigonometry

  Credits: 3. Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.

- ## M 132 - Numbers and Operations for Elementary School Teachers

  Credits: 3. Offered autumn and spring. Prereq., M 095 or M 115, or ALEKS placement >= 4. The study of number and operations for prospective elementary and middle school teachers, including whole numbers, decimals, fractions, percent, integers, operations, numeration systems, and problem solving.

- ## M 133 - Geometry and Measurement for Elementary School Teachers

  Credits: 3. Offered autumn and spring. Prereq., M 132. The study of geometry and geometric measurement for prospective elementary and middle school teachers, including synthetic, transformational, and coordinate geometry, constructions, congruence and similarity, 2-dimensional and 3-dimensional measurement, and problem solving.

- ## M 151 - Precalculus

  Credits: 4. Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.

- ## M 162 - Applied Calculus

  Credits: 4. Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.

- ## M 171 - Calculus I

Credits: 4. Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.

- M 172 - Calculus II

  Credits: 4. Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.

- M 181 - Honors Calculus I

  Credits: 4. Offered autumn. Prereq., consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 171. Course Attributes: Honors Course

- M 182 - Honors Calculus II

  Credits: 4. Offered spring. Prereq., M 181 or consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 172. Course Attributes: Honors Course

- M 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.

- M 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

- M 210 - Intro to Mathematical Software

  Credits: 3. Offered spring. Prereq., one of M 162, 171, or 181, or consent of instr. Software packages useful for doing and writing mathematics. Introduction to a computer algebra system (such as Maple or Mathematica), a numerical package (such as MATLAB or R), and elementary programming. Writing and communicating mathematics using the mathematical typesetting system LaTeX.

- M 221 - Introduction to Linear Algebra

  Credits: 4. Offered autumn and spring. Prereq., M 172 or 182. Vectors in the plane and space, systems of linear equations and Gauss–Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.

- M 225 - Intro to Discrete Mathematics

  Credits: 3. Offered autumn. Prereq., one of M 162, 171, or 181 or consent of instr. Mathematical concepts used in computer science with an emphasis on mathematical reasoning and proof techniques. Elementary logic, sets, functions and relations, combinatorics, mathematical induction, recursion and algorithms. Mathematics majors should take M 307 instead of 225.

- M 234 - Higher Mathematics for Elementary School Teachers

  Credits: 3. Offered autumn and spring. Prereq., M 132. The study of algebra, number theory, probability and statistics for prospective elementary and middle school teachers, including proportional reasoning, functions, elementary number theory, statistical modeling and inference, and elementary probability theory.

- M 263 - Applied Differential Equations

  Credits: 3. Offered spring. Prereq., one of M 162, 171 or 181 and knowledge of basic trigonometry. Solution of ordinary differential equations and systems with emphasis on applications, numerical methods and computer software.

- M 273 - Multivariable Calculus

  Credits: 4. Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.

- M 291 - Special Topics

  Credits: 1 TO 3. (R-9) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- M 292 - Independent Study
  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., consent of instr. Guidance of an individual student in doing independent study on material not offered in a regular course.
- M 294 - Seminar
  Credits: 1 TO 9. (R–9) Offered autumn and spring. Prereq., consent of instr.
- M 300 - Undergraduate Mathematics Sem
  Credits: 1. (R–6) Offered every semester. Prereq., M 171 or 181. Discussion seminar focused on topics and issues of interest to students in the mathematical sciences.
- M 301 - Math Technology for Teachers
  Credits: 3. Offered autumn. Prereq., M 221. Discrete and continuous mathematical models from a variety of disciplines using appropriate technology.
- M 307 - Intro to Abstract Mathematics
  Credits: 3. Offered autumn and spring. Prereq., M 172 or 182. Designed to prepare students for upper–division proof–based mathematics courses. Topics include proof techniques, logic, sets, relations, functions and axiomatic methods. Students planning to take both M 221 and 307 are encouraged to take M 221 first.
- M 311 - Ordinary Diff Equations/System
  Credits: 3. Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.
- M 317 - ODE Computer Lab
  Credits: 1. Offered autumn. Coreq., M 311 or consent of instr. Intended primarily for student in M 311.
- M 325 - Discrete Mathematics
  Credits: 3. Offered spring. Prereq., M 171 and 225 or 307. Continuation of 225 and topics from graph theory, Boolean algebras, automata theory, coding theory, computability and formal languages.
- M 326 - Number Theory
  Credits: 3. Offered spring. Prereq., M 225 or 307. Congruences, Diophantine equations, properties of primes, quadratic residues, continued fractions, algebraic numbers.
- M 361 - Discrete Optimization
  Credits: 3. Offered spring. Prereq., one of M 162, 172 or 182 (221 or 225 recommended). Intended for non–mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.
- M 362 - Linear Optimization
  Credits: 3. Offered autumn. Prereq., one of M 162, 172 or 182 (221 recommended). Coreq., M 363 recommended. Intended for non–mathematics majors as well as majors. Introduction to linear programming and modeling techniques with applications. Topics include the simplex method, duality, sensitivity analysis and network models.
- M 363 - Linear Optimization Lab
  Credits: 1. Offered autumn. Coreq., M 362. Introduction to linear optimization software.
- M 381 - Advanced Calculus I
  Credits: 3. Offered autumn . Prereq., M 307. Rigorous development of single-variable calculus with formal proof. Functions, sequences, limits, continuity, differentiation, and integration.
- M 391 - Special Topics
  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- M 392 - Independent Study

Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., consent of instr. Guidance of an individual student in doing independent study on material not offered in a regular course.

- M 394 - Seminar
  Credits: 1 TO 9. (R–9) Offered autumn and spring. Prereq., consent of instr.

- M 398 - Internship
  Credits: 1 TO 6. Offered autumn and spring. Prereq., consent of instructor. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
  Course Attributes: Internships/Practicums

- M 412 - Partial Differential Equations
  Credits: 3. Offered spring. Prereq., M 311. Fourier series, Sturm–Liouville and boundary value problems. Partial differential equations: Cauchy problems and the method of characteristics, separation of variables and Laplace transform methods. Numerical methods and selected topics. M 418 computer lab recommended. Level: Undergraduate-Graduate

- M 414 - Deterministic Models
  Credits: 3. Offered spring. Prereq., M 263 or 311 or consent of instr. Linear and nonlinear difference and differential equations: stability, phase–plane analysis, oscillatory behavior, limit cycles, and chaos. Eigenvalues and eigenfunctions. Emphasis on models in biology. Level: Undergraduate-Graduate

- M 418 - PDE Computer Lab
  Credits: 1. Offered spring. Coreq., M 412 or consent of instr. Intended primarily for students in M 412. Level: Undergraduate-Graduate

- M 429 - History of Mathematics
  Credits: 3. Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate
  Course Attributes: Writing Course-Advanced

- M 431 - Abstract Algebra I
  Credits: 4. Offered autumn. Prereq., M 221 and 307 or consent of instr. An introduction to modern ideas of algebra through the study of groups, rings, and fields. Level: Undergraduate-Graduate

- M 432 - Abstract Algebra II
  Credits: 4. Offered spring. Prereq., M 431. Continues the investigation of groups, rings, and fields begun in M 431. Further topics include vector spaces and field extensions. Level: Undergraduate-Graduate

- M 439 - Euclidean & Non-Euclidean Geo
  Credits: 3. Offered autumn. Prereq., M 307. Euclidean geometry from a rigorous, axiomatic viewpoint and Non–Euclidean geometries chosen from Lobachevskian, projective, finite and Riemannian. Level: Undergraduate-Graduate

- M 440 - Numerical Analysis
  Credits: 4. Offered intermittently. Prereq., 311, one computer language. Error analysis; approximation and interpolation, numerical solution of linear and non-linear equations, numerical integration of ordinary and partial differential equations. Level: Undergraduate-Graduate

- M 445 - Stat/Math/Comp Modeling
  Credits: 4. Offered autumn odd-numbered years. Prereq., consent of instr. An interdisciplinary course on the integration of statistical and dynamical models with applications to biological problems. Linear and nonlinear models, estimation, systems of ordinary differential equations, numerical integration, bootstrapping, MCMC methods. Intended both for students in mathematics and the natural sciences. Level: Undergraduate-Graduate

- M 461 - Practical Big Data Analytics
  Credits: 3. Offered autumn. Prereq., STAT 341, and one of M 221 or M 273, or consent of instructor. This is a methods course supporting the Big Data Certificate Program. The course provides the students with the essential tools for the analysis of big data. The content consists of map reduce and canonical information methods for analyzing massively large data sets, windowing methods for the analysis of streaming data, an introduction to predictive analytics, and an introduction to data visualization methods. Level: Undergraduate-Graduate

- M 462 - Theoretical Basics of Big Data Analytics and Real Time Computation Algorithms

  Credits: 3. Offered spring. Prereq., M 221 and two other Mathematics / Statistics classes at the 200-level or above, or consent of instr. The main goal of this course is to provide students with a unique opportunity to acquire conceptual knowledge and theoretical background behind mathematical tools applicable to Big Data Analytics and Real Time Computations. Specific challenges of Big Data Analytics, e.g., problems of extracting, unifying, updating, and merging information, and processing of highly parallel and distributed data, will be reviewed. The tools for Big Data Analytics, such as regression analysis, linear estimation, calibration problems, real time processing of incoming (potentially infinite) data, will be studied in more detail. It will be shown how these approaches can be transformed to conform to the Big Data demands. Level: Undergraduate-Graduate

- M 467 - Big Data Analytic Projects

  Credits: 3. Offered spring. Prereq., two courses chosen from STAT 341, M 221 and M 273, and one of M 461 or M 462, or consent of instructor. This course is a practicum course aimed at developing skills needed to solve big data problems facing industry and academics. Problems are brought to the class by local technology-oriented businesses and university researchers. Lecture topics include project management, interacting with clients, and written and oral presentation of results. Additional lecture topics will be selected to address the specific problems brought to the class and may cover data reduction methods, algorithm design and predictive analytics. Level: Undergraduate-Graduate

- M 472 - Intro to Complex Analysis

  Credits: 4. Offered spring. Prereq., M 273, M 307. Analytic functions, complex integration, singularities and application to contour integration, harmonic functions, spaces of analytic functions. Level: Undergraduate-Graduate

- M 473 - Introduction to Real Analysis

  Credits: 4. Offered autumn odd-numbered years. Prereq., M 273, M 307. Theory of metric spaces and point set topology, Riemann-Stieltjes integral, sequences and series of functions. Stone-Weierstrass theorem, theorem of Arzela-Ascoli, introduction to Lebesgue integration. Level: Undergraduate-Graduate

- M 485 - Graph Theory

  Credits: 3. Offered autumn. Prereq., M 325, or M 307 and M 361, or consent of instr. Theory and applications of graphs. Topics chosen from trees, matchings, connectivity, coloring, planarity, Ramsey theory, random graphs, combinatorial designs and matroid theory. Level: Undergraduate-Graduate

- M 490 - Undergraduate Research

  Credits: 1 TO 4. (R-12) Offered every term. Prereq., consent of instr. Undergraduate research in the mathematical sciences under the direction of a faculty member. Graded credit/no credit.

- M 491 - Special Topics

  Credits: 1 TO 9. (R–9) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics. Level: Undergraduate-Graduate

- M 492 - Independent Study

  Credits: 1 TO 9. (R–9) Offered autumn and spring. Prereq., consent of instr. Guidance of an individual student in doing independent study on material not offered in a regular course

- M 494 - Seminar

  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., consent of instr.

- M 498 - Internship

  Credits: 1 TO 6. Offered autumn and spring. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- M 499 - Senior Thesis

  Credits: 1 TO 12. (R–12) Offered autumn and spring. Prereq., consent of instr. Senior thesis for mathematics majors and/or Watkins Scholars. Course Attributes: Writing Course-Advanced

- M 500 - Curr Math Curricula

  Credits: 3. Offered intermittently. Prereq., teacher certification or consent of instructor. Analysis of contemporary materials for secondary school mathematics: the goals, the mathematical content, alternative methodologies, and curriculum evaluation. Level: Graduate

- M 501 - Tech Math for Tchrs

  Credits: 3. Offered intermittently. Prereq., teacher certification or consent of instructor. Technology usage when it is appropriate and when it is not. Experience is provided with scientific calculators, graphing utilities, computers, and identification of exemplary software. Level: Graduate

- M 504 - Topics in Math Education

  Credits: 1 TO 12. (R–12) Offered intermittently. Prereq., teacher certification. Topics of current interest which may include calculus, number theory, probability and statistics, geometry, or algebra, at a level suitable for teachers. Level: Graduate

- M 510 - Prob Solv for Tchrs

  Credits: 3. Offered intermittently. Prereq., teacher certification or consent of instructor. Strategies for problem solving, problem posing in a variety of situations, modeling and applications. Problems are selected from various areas of mathematics. Level: Graduate

- M 511 - Adv Math Methods I

  Credits: 3. Offered autumn odd–numbered years. Prereq., M 311, and 412 or 414. Methods in applied mathematics related to the qualitative and quantitative solution of nonlinear and differential integral equations, dynamical systems, and perturbation methods. Applications of these methods to other sciences. Level: Graduate

- M 512 - Adv Math Methods II

  Credits: 3. Offered spring even–numbered years. Prereq., M 511. Continuation of M 511. Level: Graduate

- M 514 - Topics Applied Math

  Credits: 1 TO 12. (R–12) Offered autumn even–numbered years. Prereq., consent of instr. or M 511-512. Topics of current interest in applied mathematics, mathematical modeling, dynamic modeling, and optimal management in stochastic or deterministic environments. Level: Graduate

- M 521 - Advanced Algebra I

  Credits: 3. Offered alternate years in autumn. Prereq., M 432 or consent of instr. Topics covered include group theory, field theory and Galois theory. Level: Graduate

- M 522 - Advanced Algebra II

  Credits: 3. Offered alternate years in spring. Prereq., M 521 or consent of instr. Continuation of 521; rings, modules, commutative algebra, and further topics. Level: Graduate

- M 524 - Topics in Algebra

  Credits: 3. (R-12) Offered alternate years in fall and spring. Prereq., consent of instr. Topics chosen from algebra and related areas, for example from commutative algebra, algebraic geometry, linear algebra, group theory, ring theory, or number theory. Level: Graduate

- M 530 - Geometries for Tchrs

  Credits: 3. Offered intermittently in summer. Prereq., M 439 or equiv. Comparison of synthetic, analytic, vector, and transformational approaches to geometry. Includes classification of geometries, geometric representations, axiomatics, and the applications of modern geometries. Level: Graduate

- M 531 - Topology

  Credits: 3. Offered autumn even–numbered years. Prereq., M 473 or consent of instr. Set theory, topological spaces, metrizability, continuous mappings and selected topics. Level: Graduate

- M 532 - Algebraic Topology

  Credits: 3. Offered spring alternate years. Prereq., M 431 and M 531 or consent of instr.Introduction to algebraic topology through one or more topics chosen from the fundamental group and higher homotopy groups, singular homology, and simplicial homology. Level: Graduate

- M 551 - Real Analysis

Credits: 3. Offered spring even–numbered years. Prereq., M 473 or 472 or consent of instr. Measure theory, abstract integration theory, theory of Lp–spaces. Level: Graduate

- M 555 - Functional Analysis

  Credits: 3. Offered spring odd–numbered years. Prereq., M 473 or 472 or consent of instr. Normed linear spaces, linear functionals, separation theorems, topological linear spaces, weak topologies, dualities. Level: Graduate

- M 564 - Topics in Analysis

  Credits: 3. (R–12) Offered autumn odd–numbered years. Prereq., consent of instr. Research projects or topics in analysis. May include but not restricted to Banach algebras, Fourier analysis, Harmonic analysis, Hilbert space theory, integral equations, or operator theory. Level: Graduate

- M 570 - Calculus Mdl Sch Tchrs

  Credits: 3. Offered online in full-year format. Prereq., teacher certification or consent of instr. A first course in differential and integral calculus. Concepts, definitions, properties, and elementary applications of the calculus of single-valued real variables. Level: Graduate

- M 572 - Algebra Middle Sch Tchrs

  Credits: 3. Offered intermittently in summer. Prereq., teacher certification or consent of instr. Topics include algebraic number fields, linear algebra topics, polynomials, and applications appropriate for teachers of middle school mathematics. Level: Graduate

- M 573 - Geometry Middle Sch Tchrs

  Credits: 3. Offered intermittently in summer. Prereq., teacher certification or consent of instr. Introduction to synthetic, analytic, vector, and transformational approaches to geometry. Includes topics in 2- and 3-dimensional geometry and measurement appropriate for teachers of middle school mathematics. Level: Graduate

- M 574 - Prob & Stat Mdl Sch Tchrs

  Credits: 3. Offered intermittently in summer. Prereq., teacher certification or consent of instr. A survey of topics in probability and statistics appropriate for teachers of middle school mathematics. Level: Graduate

- M 578 - Discrete Math Mdl Sch Tchr

  Credits: 3. Offered intermittently. Prereq., teacher certification or consent of instr. Elements and operations of finite structures, combinatorics, recursion, graphs, matrices, and finite models appropriate for teachers of middle school mathematics. Level: Graduate

- M 581 - Combinatorics

  Credits: 3. Offered autumn odd–numbered years. Prereq., consent of instr. Theory and applications of discrete mathematics. Topics chosen from enumeration, combinatorial analysis, and graph theory. Level: Graduate

- M 582 - Optimization

  Credits: 3. Offered autumn even–numbered years. Prereq., consent of instr. Theory and applications of optimization. Topics chosen from linear, non–linear, and discrete optimization, including duality theory, convexity and networks. Level: Graduate

- M 584 - Topics in Combin and Optim

  Credits: 3. (R–12) Offered spring odd–numbered years. Prereq., consent of instr. Topics chosen from the areas of combinatorics and optimization. May include classical problems, current trends, research interests or other topics chosen by the instructor. Level: Graduate

- M 593 - Professional Project

  Credits: 1 TO 6. (R–6) Offered autumn and spring. Prereq., consent of advisor. Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate

- M 595 - Special Topics

  Credits: 1 TO 12. (R–12) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics. Level: Graduate

- M 596 - Independent Study

  Credits: 1 TO 12. (R–12) Offered autumn and spring. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course

Attributes: Independent Study

- M 597 - Research
  Credits: 1 TO 12. (R–12) Offered autumn and spring. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate
- M 598 - Internship
  Credits: 1 TO 12. (R–12) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Level: Graduate Course Attributes: Internships/Practicums
- M 599 - Thesis
  Credits: 1 TO 6. (R–6) Offered autumn and spring. Prereq., consent of instr. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate
- M 600 - Math Colloquium
  Credits: 1 TO 3. (R–3) Offered autumn and spring. Prereq., consent of advisor. Presentations of research topics in mathematics and related fields. Level: Graduate
- M 602 - Teach College Math
  Credits: 3. Prereq., second year standing in graduate school. Topics include publishing, grant writing, writing in mathematics classes, media use in mathematics, evaluation and assessment of curricular materials and programs, instructional methods in university mathematics courses, and other selected topics. Level: Graduate
- M 605 - Learning Theories in Math
  Credits: 3. Prereq., graduate status. How children learn mathematical content and processes. Models of mental development, concept formation, problem solving, reasoning, and creative thinking. Level: Graduate
- M 606 - Math History Topics
  Credits: 3. Examination of mathematical history topics from the latter part of the 20th century. Discussions may focus on the impact of Hilbert's Problems. Research on current mathematics. Level: Graduate
- M 609 - Math Ed Research Methods
  Credits: 3. Prereq., Consent of instr. Resources for learning of reported research, critical reviews of research, quantitative and qualitative processes. Level: Graduate
- M 610 - Gr Sem Applied Math
  Credits: 1 TO 12. (R–12) Offered autumn and spring. Prereq., consent of instr. A review and discussion of current research. Level: Graduate
- M 620 - Graduate Seminar in Algebra
  Credits: 1 TO 12. (R–12) Offered autumn and spring. Prereq., consent of instr. Level: Graduate
- M 650 - Gr Sem in Analysis
  Credits: 1 TO 12. (R–12) Offered autumn and spring. Prereq., consent of instr. A review and discussion of current research. Level: Graduate
- M 680 - Grad Sem Combin and Optim
  Credits: 1 TO 12. (R–12) Offered autumn and spring. Prereq., consent of instr. A review and discussion of current research. Level: Graduate
- M 690 - Supervised Internship
  Credits: 1 TO 12. (R–6) Offered autumn and spring. Prereq., consent of department. Supervised Teaching Internship. Level: Graduate Course Attributes: Internships/Practicums
- M 691 - Practicum
  Credits: 3. Prereq., consent of instr. Resources for learning of reported research, critical reviews of research, quantitative and qualitative processes. Level: Graduate
- M 694 - Seminar
  Credits: 1 TO 12. (R–12) Offered autumn and spring. Prereq., consent of instr. A review and discussion of current research. Topics vary. Level: Graduate

- M 699 - Dissertation
  Credits: 1 TO 9. (R–9) Offered autumn and spring. Level: Graduate

Mathematics-Statistics

Back to Top

- STAT 216 - Introduction to Statistics
  Credits: 4. Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.
- STAT 341 - Intro to Probability and Stat
  Credits: 3. Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.
- STAT 421 - Probability Theory
  Credits: 3. Offered autumn. Prereq., M 273 or consent of instructor (STAT 341 recommended). An introduction to probability, random variables and their probability distributions, estimation and hypothesis testing. This course is the foundation on which more advanced statistics courses build. Level: Undergraduate-Graduate
- STAT 422 - Mathematical Statistics
  Credits: 3. Offered spring. Prereq., STAT 421. Continuation of 421. Level: Undergraduate-Graduate
- STAT 451 - Statistical Methods I
  Credits: 3. Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate
- STAT 452 - Statistical Methods II
  Credits: 3. Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate
- STAT 457 - Computer Data Analysis I
  Credits: 1. Offered autumn. Coreq., STAT 451 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in STAT 451. Level: Undergraduate-Graduate
- STAT 458 - Computer Data Analysis II
  Credits: 1. Offered spring. Coreq., STAT 452 or consent of instr. Continuation of STAT 457. Intended primarily for students in STAT 452. Level: Undergraduate-Graduate
- STAT 491 - Special Topics
  Credits: 1 TO 9. (R 9) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics. Level: Undergraduate-Graduate
- STAT 542 - Applied Linear Models
  Credits: 3. Offered autumn even-numbered years. Prereq., STAT 422 or consent of instr. Numerical and graphical data summaries, simple linear and multiple regression and analysis of variance, including estimation, hypothesis testing, residual analysis, diagnostics, and model-building strategies. Use of the computer and real data sets integrated throughout. Level: Graduate
- STAT 543 - Appl Multiv Stat Analysis
  Credits: 4. Offered spring even-numbered years. Prereq., STAT 452 or 422, or consent of instr. Introduction to multivariate statistical methods and applications. Includes appropriate linear algebra, random vectors, multivariate normal distribution, multivariate ANOVA, principal components, clustering, discriminant analysis, and related topics. Use of the computer and real

data sets integrated throughout. Intended for students in mathematics and in other fields. Level: Graduate

- STAT 544 - Tps Probabil/Statistics
  Credits: 3. (R-12) Offered intermittently. Prereq., STAT 422 and consent of instr. May include theory of nonparametric statistics, generalized linear models, stochastic processes or other topics chosen by the instructor. Level: Graduate
- STAT 545 - Theory of Linear Models
  Credits: 3. Offered autumn odd-numbered years. Prereq., STAT 422. Multivariate normal distribution, distribution of quadratic forms, estimation and hypothesis testing in the full rank and less than full rank general linear models. Level: Graduate
- STAT 549 - Applied Sampling
  Credits: 3. Offered autumn even-numbered years. Theory and application of methods for selecting samples from populations in order to efficiently estimate parameters of interest. Includes simple random, systematic, cluster, stratified, multistage, line transect, distance and adaptive sampling. Use of the computer and real data sets integrated throughout. Intended for students in mathematics and in other fields. Level: Graduate
- STAT 640 - Gr Sem Prob & Stats
  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., consent of instr. A review and discussion of current research. Level: Graduate

Applied Mathematics

This degree option differs from the BA in Mathematics without an option only in the Option Requirements.

Bachelor of Arts - Mathematics; Applied Mathematics Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 67

Required Cumulative GPA: 2.0

Note: The degree specific credits are much lower for double-majors and for students completing an additional minor (in another subject): 42 credits for students completing a second major, and 46 credits for students completing a minor.

Mathematics Core Courses

Minimum Required Grade: C-

23 Total Credits Required

Calculus I

Rule: Take 1 of the following 2 courses.

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits

	M 181 - Honors Calculus I Offered autumn. Prereq., consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 171.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Calculus II

Rule: Take 1 of the following 2 courses.

	Course	Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 182 - Honors Calculus II Offered spring. Prereq., M 181 or consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 172.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Other Mathematics Core Courses

Rule: Take all of the following courses.

	Course	Credits
	M 210 - Intro to Mathematical Software Offered spring. Prereq., one of M 162, 171, or 181, or consent of instr. Software packages useful for doing and writing mathematics. Introduction to a computer algebra system (such as Maple or Mathematica), a numerical package (such as MATLAB or R), and elementary programming. Writing and communicating mathematics using the mathematical typesetting system LaTeX.	3 Credits
	M 221 - Introduction to Linear Algebra Offered autumn and spring. Prereq., M 172 or 182. Vectors in the plane and space, systems of linear equations and Gauss–Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits

	M 300 - Undergraduate Mathematics Sem (R–6) Offered every semester. Prereq., M 171 or 181. Discussion seminar focused on topics and issues of interest to students in the mathematical sciences.	1 Credits
	M 307 - Intro to Abstract Mathematics Offered autumn and spring. Prereq., M 172 or 182. Designed to prepare students for upper–division proof–based mathematics courses. Topics include proof techniques, logic, sets, relations, functions and axiomatic methods. Students planning to take both M 221 and 307 are encouraged to take M 221 first.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Upper-Division Mathematics Requirement

Rule: Take 23 credits in this category.

Note: (1) Students completing a minor (in another subject) need take only 20 credits.
(2) Students completing a second major need take only 18 credits.

Minimum Required Grade: C-

23 Total Credits Required

Upper-Division Elective Courses

Rule: Take 7 courses from the following list; at least 3 of them must be at the 400 level.

Note: (1) Students completing a minor (in another subject) or a second major need take only 6 courses (totaling 18 credits or more).
(2) Residency Requirement: At least 4 of the courses in this category must be taken at UM-Missoula (only 3 if M 307 is taken at UM-Missoula).
(3) Note that STAT 451 does not count toward this requirement.

	Course	**Credits**
	M 301 - Math Technology for Teachers Offered autumn. Prereq., M 221. Discrete and continuous mathematical models from a variety of disciplines using appropriate technology.	3 Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
	M 325 - Discrete Mathematics Offered spring. Prereq., M 171 and 225 or 307. Continuation of 225 and topics from graph theory, Boolean algebras, automata theory, coding theory, computability and formal languages.	3 Credits
	M 326 - Number Theory Offered spring. Prereq., M 225 or 307. Congruences, Diophantine equations, properties of primes, quadratic residues, continued fractions, algebraic numbers.	3 Credits

	M 361 - Discrete Optimization Offered spring. Prereq., one of M 162, 172 or 182 (221 or 225 recommended). Intended for non–mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.	3 Credits
	M 362 - Linear Optimization Offered autumn. Prereq., one of M 162, 172 or 182 (221 recommended). Coreq., M 363 recommended. Intended for non–mathematics majors as well as majors. Introduction to linear programming and modeling techniques with applications. Topics include the simplex method, duality, sensitivity analysis and network models.	3 Credits
	M 381 - Advanced Calculus I Offered autumn . Prereq., M 307. Rigorous development of single-variable calculus with formal proof. Functions, sequences, limits, continuity, differentiation, and integration.	3 Credits
	M 412 - Partial Differential Equations Offered spring. Prereq., M 311. Fourier series, Sturm–Liouville and boundary value problems. Partial differential equations: Cauchy problems and the method of characteristics, separation of variables and Laplace transform methods. Numerical methods and selected topics. M 418 computer lab recommended. Level: Undergraduate-Graduate	3 Credits
	M 414 - Deterministic Models Offered spring. Prereq., M 263 or 311 or consent of instr. Linear and nonlinear difference and differential equations: stability, phase–plane analysis, oscillatory behavior, limit cycles, and chaos. Eigenvalues and eigenfunctions. Emphasis on models in biology. Level: Undergraduate-Graduate	3 Credits
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 431 - Abstract Algebra I Offered autumn. Prereq., M 221 and 307 or consent of instr. An introduction to modern ideas of algebra through the study of groups, rings, and fields. Level: Undergraduate-Graduate	4 Credits
	M 432 - Abstract Algebra II Offered spring. Prereq., M 431. Continues the investigation of groups, rings, and fields begun in M 431. Further topics include vector spaces and field extensions. Level: Undergraduate-Graduate	4 Credits
	M 439 - Euclidean & Non-Euclidean Geo Offered autumn. Prereq., M 307. Euclidean geometry from a rigorous, axiomatic viewpoint and Non–Euclidean geometries chosen from Lobachevskian, projective, finite and Riemannian. Level: Undergraduate-Graduate	3 Credits

	M 440 - Numerical Analysis Offered intermittently. Prereq., 311, one computer language. Error analysis; approximation and interpolation, numerical solution of linear and non-linear equations, numerical integration of ordinary and partial differential equations. Level: Undergraduate-Graduate	4 Credits
	M 445 - Stat/Math/Comp Modeling Offered autumn odd-numbered years. Prereq., consent of instr. An interdisciplinary course on the integration of statistical and dynamical models with applications to biological problems. Linear and nonlinear models, estimation, systems of ordinary differential equations, numerical integration, bootstrapping, MCMC methods. Intended both for students in mathematics and the natural sciences. Level: Undergraduate-Graduate	4 Credits
	M 461 - Practical Big Data Analytics Offered autumn. Prereq., STAT 341, and one of M 221 or M 273, or consent of instructor. This is a methods course supporting the Big Data Certificate Program. The course provides the students with the essential tools for the analysis of big data. The content consists of map reduce and canonical information methods for analyzing massively large data sets, windowing methods for the analysis of streaming data, an introduction to predictive analytics, and an introduction to data visualization methods. Level: Undergraduate-Graduate	3 Credits
	M 462 - Theoretical Big Data Analytics Offered spring. Prereq., M 221 and two other Mathematics / Statistics classes at the 200-level or above, or consent of instr. The main goal of this course is to provide students with a unique opportunity to acquire conceptual knowledge and theoretical background behind mathematical tools applicable to Big Data Analytics and Real Time Computations. Specific challenges of Big Data Analytics, e.g., problems of extracting, unifying, updating, and merging information, and processing of highly parallel and distributed data, will be reviewed. The tools for Big Data Analytics, such as regression analysis, linear estimation, calibration problems, real time processing of incoming (potentially infinite) data, will be studied in more detail. It will be shown how these approaches can be transformed to conform to the Big Data demands. Level: Undergraduate-Graduate	3 Credits
	M 472 - Intro to Complex Analysis Offered spring. Prereq., M 273, M 307. Analytic functions, complex integration, singularities and application to contour integration, harmonic functions, spaces of analytic functions. Level: Undergraduate-Graduate	4 Credits
	M 473 - Introduction to Real Analysis Offered autumn odd-numbered years. Prereq., M 273, M 307. Theory of metric spaces and point set topology, Riemann-Stieltjes integral, sequences and series of functions. Stone-Weierstrass theorem, theorem of Arzela-Ascoli, introduction to Lebesgue integration. Level: Undergraduate-Graduate	4 Credits
	M 485 - Graph Theory Offered autumn. Prereq., M 325, or M 307 and M 361, or consent of instr. Theory and applications of graphs. Topics chosen from trees, matchings, connectivity, coloring, planarity, Ramsey theory, random graphs, combinatorial designs and matroid theory. Level: Undergraduate-Graduate	3 Credits

	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
	STAT 421 - Probability Theory Offered autumn. Prereq., M 273 or consent of instructor (STAT 341 recommended). An introduction to probability, random variables and their probability distributions, estimation and hypothesis testing. This course is the foundation on which more advanced statistics courses build. Level: Undergraduate-Graduate	3 Credits
	STAT 422 - Mathematical Statistics Offered spring. Prereq., STAT 421. Continuation of 421. Level: Undergraduate-Graduate	3 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		21 or more Total Credits Required

Upper-Division Elective Computer Labs

Rule: Computer labs from the following list are optional; if taken, they count toward the total number of credits required for the Upper-Division Mathematics Requirement.

	Course	Credits
	M 317 - ODE Computer Lab Offered autumn. Coreq., M 311 or consent of instr. Intended primarily for student in M 311.	1 Credits
	M 363 - Linear Optimization Lab Offered autumn. Coreq., M 362. Introduction to linear optimization software.	1 Credits
	M 418 - PDE Computer Lab Offered spring. Coreq., M 412 or consent of instr. Intended primarily for students in M 412. Level: Undergraduate-Graduate	1 Credits
	STAT 457 - Computer Data Analysis I Offered autumn. Coreq., STAT 451 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in STAT 451. Level: Undergraduate-Graduate	1 Credits

	STAT 458 - Computer Data Analysis II Offered spring. Coreq., STAT 452 or consent of instr. Continuation of STAT 457. Intended primarily for students in STAT 452. Level: Undergraduate-Graduate	1 Credits
Minimum Required Grade: C-		0-5 Total Credits Required

Science Requirement

Rule: Take 18 credits in at most 3 areas selected from astronomy (ASTR), biology (BIO*), chemistry (CHMY), computer science (CSCI, except CSCI TR*), economics (ECNS), forestry (FORS, WILD), geosciences (GEO), management information systems (BMIS), and physics (PHSX).

Note: (1) Students completing a minor (in another subject) or a second major are exempt from this requirement. (2) Transfer courses listed on the transcript as "CSCI TR*" may include course work in other areas such as Computer Applications (CAPP) and therefore do not count towards this requirement unless a student successfully petitions the Department of Mathematical Sciences.

Minimum Required Grade: C-

18 Total Credits Required

Advanced College Writing Requirement

Rule: Take 1 of the following 2 courses, or any other approved Advanced College Writing course.

	Course	**Credits**
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 499 - Senior Thesis (R–12) Offered autumn and spring. Prereq., consent of instr. Senior thesis for mathematics majors and/or Watkins Scholars.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

GPA Requirement

Note: (1) A cumulative GPA of 2.0 is required for all courses used to fulfill major requirements.
(2) In addition, a cumulative GPA of 2.0 is required for all mathematical sciences courses used to fulfill major requirements. (Mathematical sciences courses are those with a prefix of M or STAT.)

Foreign Language/Computer Science Requirement

Rule: Either complete the General Education Requirement "Group III: Modern and Classical Language" (not the symbolic systems exception), or take one course from the following list.

Note: Students completing a second major are exempt from this requirement.

	Course	**Credits**

	CSCI 100 - Intro to Programming Offered autumn and spring. This course covers basic programming concepts such as variables, data types, iteration, flow of control, input/output, functions, and objects. The course will also cover programming ideas such as data structures, algorithms, modularity, and debugging. Students will learn about the role computation can play in solving problems by writing interesting programs to solve useful goals. No prior programming experience is expected. (Two hours independent lab per week.) Credit not allowed for both CSCI 100 and CSCI 110.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Requirements for the Applied Mathematics Option

Rule: Complete the following subcategories
Minimum Required Grade: C-
13-14 Total Credits Required

Applied Mathematics Option: Core Courses

Rule: Take all of the following courses.

	Course	Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits

	M 412 - Partial Differential Equations Offered spring. Prereq., M 311. Fourier series, Sturm–Liouville and boundary value problems. Partial differential equations: Cauchy problems and the method of characteristics, separation of variables and Laplace transform methods. Numerical methods and selected topics. M 418 computer lab recommended. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Applied Mathematics Option: Elective Courses

Rule: Take 2 of the following courses.

Note: In addition, M 381 and 485 are also recommended.

	Course	**Credits**
	M 414 - Deterministic Models Offered spring. Prereq., M 263 or 311 or consent of instr. Linear and nonlinear difference and differential equations: stability, phase–plane analysis, oscillatory behavior, limit cycles, and chaos. Eigenvalues and eigenfunctions. Emphasis on models in biology. Level: Undergraduate-Graduate	3 Credits
	M 440 - Numerical Analysis Offered intermittently. Prereq., 311, one computer language. Error analysis; approximation and interpolation, numerical solution of linear and non-linear equations, numerical integration of ordinary and partial differential equations. Level: Undergraduate-Graduate	4 Credits
	M 445 - Stat/Math/Comp Modeling Offered autumn odd-numbered years. Prereq., consent of instr. An interdisciplinary course on the integration of statistical and dynamical models with applications to biological problems. Linear and nonlinear models, estimation, systems of ordinary differential equations, numerical integration, bootstrapping, MCMC methods. Intended both for students in mathematics and the natural sciences. Level: Undergraduate-Graduate	4 Credits
	M 472 - Intro to Complex Analysis Offered spring. Prereq., M 273, M 307. Analytic functions, complex integration, singularities and application to contour integration, harmonic functions, spaces of analytic functions. Level: Undergraduate-Graduate	4 Credits
Minimum Required Grade: C-		7-8 Total Credits Required

Mathematics Education

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Bachelor of Arts - Mathematics; Mathematics Education Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 53

Required Cumulative GPA: 2.5

Note: (1) The number of degree specific credits required is significantly higher if one also counts the additional course work required by the Teacher Education Program.
(2) Note that the Teacher Education Program requires in addition an overall cumulative GPA of at least 2.75.

Mathematical Sciences Courses Required for the Mathematics Education Option

Rule: The courses in this category must be completed with a cumulative GPA of at least 2.75.

Minimum Required Grade: C-

41-42 Total Credits Required

Calculus I

Rule: Take 1 of the following 2 courses.

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 181 - Honors Calculus I Offered autumn. Prereq., consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 171.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Calculus II

Rule: Take 1 of the following 2 courses.

	Course	Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits

	M 182 - Honors Calculus II Offered spring. Prereq., M 181 or consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 172.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Other Mathematical Sciences Core Courses for the Mathematics Education Option

Rule: Take all of the following courses.

Note: (1) Residency Requirement: At least 4 of the upper-division courses in this category must be taken at UM-Missoula (only 3 if the Elective Course is an upper-division course taken at UM-Missoula).
(2) Note that taking M 429 satisfies the Advanced College Writing Requirement for this degree.
(3) STAT 451 can be substituted for STAT 341, if STAT 451 is not selected as the elective course.

	Course	**Credits**
	M 221 - Introduction to Linear Algebra Offered autumn and spring. Prereq., M 172 or 182. Vectors in the plane and space, systems of linear equations and Gauss–Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.	4 Credits
	M 301 - Math Technology for Teachers Offered autumn. Prereq., M 221. Discrete and continuous mathematical models from a variety of disciplines using appropriate technology.	3 Credits
	M 307 - Intro to Abstract Mathematics Offered autumn and spring. Prereq., M 172 or 182. Designed to prepare students for upper–division proof–based mathematics courses. Topics include proof techniques, logic, sets, relations, functions and axiomatic methods. Students planning to take both M 221 and 307 are encouraged to take M 221 first.	3 Credits
	M 326 - Number Theory Offered spring. Prereq., M 225 or 307. Congruences, Diophantine equations, properties of primes, quadratic residues, continued fractions, algebraic numbers.	3 Credits
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 431 - Abstract Algebra I Offered autumn. Prereq., M 221 and 307 or consent of instr. An introduction to modern ideas of algebra through the study of groups, rings, and fields. Level: Undergraduate-Graduate	4 Credits
	M 439 - Euclidean & Non-Euclidean Geo Offered autumn. Prereq., M 307. Euclidean geometry from a rigorous, axiomatic viewpoint and Non–Euclidean geometries chosen from Lobachevskian, projective, finite and Riemannian. Level: Undergraduate-Graduate	3 Credits

	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
Minimum Required Grade: C-		26 Total Credits Required

Elective Course

Rule: Take one of the following:

	Course	Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
	M 325 - Discrete Mathematics Offered spring. Prereq., M 171 and 225 or 307. Continuation of 225 and topics from graph theory, Boolean algebras, automata theory, coding theory, computability and formal languages.	3 Credits
	M 361 - Discrete Optimization Offered spring. Prereq., one of M 162, 172 or 182 (221 or 225 recommended). Intended for non–mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.	3 Credits
	M 362 - Linear Optimization Offered autumn. Prereq., one of M 162, 172 or 182 (221 recommended). Coreq., M 363 recommended. Intended for non–mathematics majors as well as majors. Introduction to linear programming and modeling techniques with applications. Topics include the simplex method, duality, sensitivity analysis and network models.	3 Credits
	M 381 - Advanced Calculus I Offered autumn . Prereq., M 307. Rigorous development of single-variable calculus with formal proof. Functions, sequences, limits, continuity, differentiation, and integration.	3 Credits

	M 412 - Partial Differential Equations Offered spring. Prereq., M 311. Fourier series, Sturm–Liouville and boundary value problems. Partial differential equations: Cauchy problems and the method of characteristics, separation of variables and Laplace transform methods. Numerical methods and selected topics. M 418 computer lab recommended. Level: Undergraduate-Graduate	3 Credits
	M 414 - Deterministic Models Offered spring. Prereq., M 263 or 311 or consent of instr. Linear and nonlinear difference and differential equations: stability, phase–plane analysis, oscillatory behavior, limit cycles, and chaos. Eigenvalues and eigenfunctions. Emphasis on models in biology. Level: Undergraduate-Graduate	3 Credits
	M 432 - Abstract Algebra II Offered spring. Prereq., M 431. Continues the investigation of groups, rings, and fields begun in M 431. Further topics include vector spaces and field extensions. Level: Undergraduate-Graduate	4 Credits
	M 440 - Numerical Analysis Offered intermittently. Prereq., 311, one computer language. Error analysis; approximation and interpolation, numerical solution of linear and non-linear equations, numerical integration of ordinary and partial differential equations. Level: Undergraduate-Graduate	4 Credits
	M 445 - Stat/Math/Comp Modeling Offered autumn odd-numbered years. Prereq., consent of instr. An interdisciplinary course on the integration of statistical and dynamical models with applications to biological problems. Linear and nonlinear models, estimation, systems of ordinary differential equations, numerical integration, bootstrapping, MCMC methods. Intended both for students in mathematics and the natural sciences. Level: Undergraduate-Graduate	4 Credits
	M 461 - Practical Big Data Analytics Offered autumn. Prereq., STAT 341, and one of M 221 or M 273, or consent of instructor. This is a methods course supporting the Big Data Certificate Program. The course provides the students with the essential tools for the analysis of big data. The content consists of map reduce and canonical information methods for analyzing massively large data sets, windowing methods for the analysis of streaming data, an introduction to predictive analytics, and an introduction to data visualization methods. Level: Undergraduate-Graduate	3 Credits

	M 462 - Theoretical Big Data Analytics Offered spring. Prereq., M 221 and two other Mathematics / Statistics classes at the 200-level or above, or consent of instr. The main goal of this course is to provide students with a unique opportunity to acquire conceptual knowledge and theoretical background behind mathematical tools applicable to Big Data Analytics and Real Time Computations. Specific challenges of Big Data Analytics, e.g., problems of extracting, unifying, updating, and merging information, and processing of highly parallel and distributed data, will be reviewed. The tools for Big Data Analytics, such as regression analysis, linear estimation, calibration problems, real time processing of incoming (potentially infinite) data, will be studied in more detail. It will be shown how these approaches can be transformed to conform to the Big Data demands. Level: Undergraduate-Graduate	3 Credits
	M 472 - Intro to Complex Analysis Offered spring. Prereq., M 273, M 307. Analytic functions, complex integration, singularities and application to contour integration, harmonic functions, spaces of analytic functions. Level: Undergraduate-Graduate	4 Credits
	M 473 - Introduction to Real Analysis Offered autumn odd-numbered years. Prereq., M 273, M 307. Theory of metric spaces and point set topology, Riemann-Stieltjes integral, sequences and series of functions. Stone-Weierstrass theorem, theorem of Arzela-Ascoli, introduction to Lebesgue integration. Level: Undergraduate-Graduate	4 Credits
	M 485 - Graph Theory Offered autumn. Prereq., M 325, or M 307 and M 361, or consent of instr. Theory and applications of graphs. Topics chosen from trees, matchings, connectivity, coloring, planarity, Ramsey theory, random graphs, combinatorial designs and matroid theory. Level: Undergraduate-Graduate	3 Credits
	STAT 421 - Probability Theory Offered autumn. Prereq., M 273 or consent of instructor (STAT 341 recommended). An introduction to probability, random variables and their probability distributions, estimation and hypothesis testing. This course is the foundation on which more advanced statistics courses build. Level: Undergraduate-Graduate	3 Credits
	STAT 422 - Mathematical Statistics Offered spring. Prereq., STAT 421. Continuation of 421. Level: Undergraduate-Graduate	3 Credits
	STAT 451 - Statistical Methods I Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate	3 Credits

	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Mathematics Teaching Methods Course

Rule: Take the following course.

Note: The course number EDU 497 covers many different teaching methods courses. The section of EDU 497 entitled "Methods: 5 - 12 Mathematics" is required for the Mathematics Education option.

	Course	**Credits**

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits

Minimum Required Grade: C-	4 Total Credits Required

Science Requirement for the Mathematics Education Option

Rule: Take 12 credits in at most two areas selected from astronomy (ASTR), biology (BIO*), chemistry (CHMY), computer science (CSCI, except CSCI TR*), economics (ECNS), forestry (FORS, WILD), geosciences (GEO), management information systems (BMIS), and physics (PHSX).

Note: (1) Students completing a teaching minor (in another subject) or a second major are exempt from this requirement.
(2) Transfer courses listed on the transcript as "CSCI TR*" may include course work in other areas such as Computer Applications (CAPP) and therefore do not count towards this requirement unless a student successfully petitions the Department of Mathematical Sciences.

Minimum Required Grade: C-

12 Total Credits Required

Secondary Teaching Licensure

Note: For licensure to teach mathematics, a student must also gain admission to the Teacher Education Program and meet all the requirements for secondary teaching licensure (see the College of Education and Human Sciences).

Mathematics Minor

A handout with detailed advice for Math minors, including suggested curricula, is available on the Math Department's home page.

Minor - Mathematics

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 23

Required Cumulative GPA: 2.0

Note: null

Calculus Requirement for a Minor in Mathematics

Rule: Take one of the following three courses:

Note: M 172 or 182 are recommended since they are prerequisites for many upper-division mathematics courses.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits

	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 182 - Honors Calculus II Offered spring. Prereq., M 181 or consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 172.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Elective Courses for a Minor in Mathematics

Rule: Take 23 credits in M or STAT courses offered at UM-Missoula. M courses must be numbered 115 or higher (excluding M 118). Courses must include at least three 3- or 4-credit courses at the 300 level or above.

Note: (1) The required Calculus course (M 162, 172, or 182) counts toward the 23 credits, as well as its prerequisite courses at the 100-level (e.g., M 171 or 121).
(2) Notice to Transfer Students: Mathematical Sciences courses that are not equivalent to courses taught at UM-Missoula can often be counted toward a Minor in Mathematics. This is determined on an individual basis; please contact the Department of Mathematical Sciences for details.

Minimum Required Grade: C-

23 Total Credits Required

Mathematics Education Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

The term ‘minor’ for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - Mathematics; Track: Teaching Math

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 31

Required Cumulative GPA: 2.75

Mathematical Sciences Courses for the Teaching Minor in Mathematics Education

Rule: Take all of the following courses.

Minimum Required Grade: C-

27 Total Credits Required

> *Calculus I*
>
> **Rule:** Take 1 of the following 2 courses.

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 181 - Honors Calculus I Offered autumn. Prereq., consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 171.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Calculus II

Rule: Take 1 of the following 2 courses.

	Course	Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 182 - Honors Calculus II Offered spring. Prereq., M 181 or consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 172.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Other Mathematical Sciences Courses

Rule: Take all of the following courses.

Note: STAT 451 can be substituted for STAT 341.

	Course	Credits
	M 221 - Introduction to Linear Algebra Offered autumn and spring. Prereq., M 172 or 182. Vectors in the plane and space, systems of linear equations and Gauss–Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.	4 Credits
	M 301 - Math Technology for Teachers Offered autumn. Prereq., M 221. Discrete and continuous mathematical models from a variety of disciplines using appropriate technology.	3 Credits

	M 307 - Intro to Abstract Mathematics Offered autumn and spring. Prereq., M 172 or 182. Designed to prepare students for upper–division proof–based mathematics courses. Topics include proof techniques, logic, sets, relations, functions and axiomatic methods. Students planning to take both M 221 and 307 are encouraged to take M 221 first.	3 Credits
	M 326 - Number Theory Offered spring. Prereq., M 225 or 307. Congruences, Diophantine equations, properties of primes, quadratic residues, continued fractions, algebraic numbers.	3 Credits
	M 439 - Euclidean & Non-Euclidean Geo Offered autumn. Prereq., M 307. Euclidean geometry from a rigorous, axiomatic viewpoint and Non–Euclidean geometries chosen from Lobachevskian, projective, finite and Riemannian. Level: Undergraduate-Graduate	3 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
Minimum Required Grade: C-		19 Total Credits Required

Mathematics Teaching Methods Course

Rule: Take the following course.

Note: The course number EDU 497 covers many different teaching method courses. The section of EDU 497 entitled "Methods: 5 - 12 Mathematics" is required for the Teaching Minor in Mathematics Education.

	Course	Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Secondary Teaching Licensure

Note: For licensure to teach mathematics, a student must also gain admission to the Teacher Education Program and meet all the requirements for secondary teaching licensure (see the College of Education and Human Sciences).

Combinatorics and Optimization

This degree option differs from the BA in Mathematics without an option only in the Option Requirements.

Bachelor of Arts - Mathematics; Combinatorics & Optimization Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 67

Required Cumulative GPA: 2.0

Note: The degree specific credits are much lower for double-majors and for students completing an additional minor (in another subject): 41 credits for students completing a second major, and 46 credits for students completing a minor.

Mathematics Core Courses

Minimum Required Grade: C-

23 Total Credits Required

Calculus I

Rule: Take 1 of the following 2 courses.

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 181 - Honors Calculus I Offered autumn. Prereq., consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 171.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Calculus II

Rule: Take 1 of the following 2 courses.

	Course	Credits

	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 182 - Honors Calculus II Offered spring. Prereq., M 181 or consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 172.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Other Mathematics Core Courses

Rule: Take all of the following courses.

	Course	Credits
	M 210 - Intro to Mathematical Software Offered spring. Prereq., one of M 162, 171, or 181, or consent of instr. Software packages useful for doing and writing mathematics. Introduction to a computer algebra system (such as Maple or Mathematica), a numerical package (such as MATLAB or R), and elementary programming. Writing and communicating mathematics using the mathematical typesetting system LaTeX.	3 Credits
	M 221 - Introduction to Linear Algebra Offered autumn and spring. Prereq., M 172 or 182. Vectors in the plane and space, systems of linear equations and Gauss–Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	M 300 - Undergraduate Mathematics Sem (R–6) Offered every semester. Prereq., M 171 or 181. Discussion seminar focused on topics and issues of interest to students in the mathematical sciences.	1 Credits
	M 307 - Intro to Abstract Mathematics Offered autumn and spring. Prereq., M 172 or 182. Designed to prepare students for upper–division proof–based mathematics courses. Topics include proof techniques, logic, sets, relations, functions and axiomatic methods. Students planning to take both M 221 and 307 are encouraged to take M 221 first.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Upper-Division Mathematics Requirement

Rule: Take 23 credits in this category.

Note: (1) Students completing a minor (in another subject) need take only 20 credits.
(2) Students completing a second major need take only 18 credits.

Minimum Required Grade: C-

23 Total Credits Required

Upper-Division Elective Courses

Rule: Take 7 courses from the following list; at least 3 of them must be at the 400 level.

Note: (1) Students completing a minor (in another subject) or a second major need take only 6 courses (totaling 18 credits or more).
(2) Residency Requirement: At least 4 of the courses in this category must be taken at UM-Missoula (only 3 if M 307 is taken at UM-Missoula).
(3) Note that STAT 451 does not count toward this requirement.

	Course	Credits
	M 301 - Math Technology for Teachers Offered autumn. Prereq., M 221. Discrete and continuous mathematical models from a variety of disciplines using appropriate technology.	3 Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
	M 325 - Discrete Mathematics Offered spring. Prereq., M 171 and 225 or 307. Continuation of 225 and topics from graph theory, Boolean algebras, automata theory, coding theory, computability and formal languages.	3 Credits
	M 326 - Number Theory Offered spring. Prereq., M 225 or 307. Congruences, Diophantine equations, properties of primes, quadratic residues, continued fractions, algebraic numbers.	3 Credits
	M 361 - Discrete Optimization Offered spring. Prereq., one of M 162, 172 or 182 (221 or 225 recommended). Intended for non–mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.	3 Credits
	M 362 - Linear Optimization Offered autumn. Prereq., one of M 162, 172 or 182 (221 recommended). Coreq., M 363 recommended. Intended for non–mathematics majors as well as majors. Introduction to linear programming and modeling techniques with applications. Topics include the simplex method, duality, sensitivity analysis and network models.	3 Credits
	M 381 - Advanced Calculus I Offered autumn . Prereq., M 307. Rigorous development of single-variable calculus with formal proof. Functions, sequences, limits, continuity, differentiation, and integration.	3 Credits

	M 412 - Partial Differential Equations Offered spring. Prereq., M 311. Fourier series, Sturm–Liouville and boundary value problems. Partial differential equations: Cauchy problems and the method of characteristics, separation of variables and Laplace transform methods. Numerical methods and selected topics. M 418 computer lab recommended. Level: Undergraduate-Graduate	3 Credits
	M 414 - Deterministic Models Offered spring. Prereq., M 263 or 311 or consent of instr. Linear and nonlinear difference and differential equations: stability, phase–plane analysis, oscillatory behavior, limit cycles, and chaos. Eigenvalues and eigenfunctions. Emphasis on models in biology. Level: Undergraduate-Graduate	3 Credits
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 431 - Abstract Algebra I Offered autumn. Prereq., M 221 and 307 or consent of instr. An introduction to modern ideas of algebra through the study of groups, rings, and fields. Level: Undergraduate-Graduate	4 Credits
	M 432 - Abstract Algebra II Offered spring. Prereq., M 431. Continues the investigation of groups, rings, and fields begun in M 431. Further topics include vector spaces and field extensions. Level: Undergraduate-Graduate	4 Credits
	M 439 - Euclidean & Non-Euclidean Geo Offered autumn. Prereq., M 307. Euclidean geometry from a rigorous, axiomatic viewpoint and Non–Euclidean geometries chosen from Lobachevskian, projective, finite and Riemannian. Level: Undergraduate-Graduate	3 Credits
	M 440 - Numerical Analysis Offered intermittently. Prereq., 311, one computer language. Error analysis; approximation and interpolation, numerical solution of linear and non-linear equations, numerical integration of ordinary and partial differential equations. Level: Undergraduate-Graduate	4 Credits
	M 445 - Stat/Math/Comp Modeling Offered autumn odd-numbered years. Prereq., consent of instr. An interdisciplinary course on the integration of statistical and dynamical models with applications to biological problems. Linear and nonlinear models, estimation, systems of ordinary differential equations, numerical integration, bootstrapping, MCMC methods. Intended both for students in mathematics and the natural sciences. Level: Undergraduate-Graduate	4 Credits

	M 461 - Practical Big Data Analytics Offered autumn. Prereq., STAT 341, and one of M 221 or M 273, or consent of instructor. This is a methods course supporting the Big Data Certificate Program. The course provides the students with the essential tools for the analysis of big data. The content consists of map reduce and canonical information methods for analyzing massively large data sets, windowing methods for the analysis of streaming data, an introduction to predictive analytics, and an introduction to data visualization methods. Level: Undergraduate-Graduate	3 Credits
	M 462 - Theoretical Big Data Analytics Offered spring. Prereq., M 221 and two other Mathematics / Statistics classes at the 200-level or above, or consent of instr. The main goal of this course is to provide students with a unique opportunity to acquire conceptual knowledge and theoretical background behind mathematical tools applicable to Big Data Analytics and Real Time Computations. Specific challenges of Big Data Analytics, e.g., problems of extracting, unifying, updating, and merging information, and processing of highly parallel and distributed data, will be reviewed. The tools for Big Data Analytics, such as regression analysis, linear estimation, calibration problems, real time processing of incoming (potentially infinite) data, will be studied in more detail. It will be shown how these approaches can be transformed to conform to the Big Data demands. Level: Undergraduate-Graduate	3 Credits
	M 472 - Intro to Complex Analysis Offered spring. Prereq., M 273, M 307. Analytic functions, complex integration, singularities and application to contour integration, harmonic functions, spaces of analytic functions. Level: Undergraduate-Graduate	4 Credits
	M 473 - Introduction to Real Analysis Offered autumn odd-numbered years. Prereq., M 273, M 307. Theory of metric spaces and point set topology, Riemann-Stieltjes integral, sequences and series of functions. Stone-Weierstrass theorem, theorem of Arzela-Ascoli, introduction to Lebesgue integration. Level: Undergraduate-Graduate	4 Credits
	M 485 - Graph Theory Offered autumn. Prereq., M 325, or M 307 and M 361, or consent of instr. Theory and applications of graphs. Topics chosen from trees, matchings, connectivity, coloring, planarity, Ramsey theory, random graphs, combinatorial designs and matroid theory. Level: Undergraduate-Graduate	3 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
	STAT 421 - Probability Theory Offered autumn. Prereq., M 273 or consent of instructor (STAT 341 recommended). An introduction to probability, random variables and their probability distributions, estimation and hypothesis testing. This course is the foundation on which more advanced statistics courses build. Level: Undergraduate-Graduate	3 Credits

	STAT 422 - Mathematical Statistics Offered spring. Prereq., STAT 421. Continuation of 421. Level: Undergraduate-Graduate	3 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		21 or more Total Credits Required

Upper-Division Elective Computer Labs

Rule: Computer labs from the following list are optional; if taken, they count toward the total number of credits required for the Upper-Division Mathematics Requirement.

	Course	Credits
	M 317 - ODE Computer Lab Offered autumn. Coreq., M 311 or consent of instr. Intended primarily for student in M 311.	1 Credits
	M 363 - Linear Optimization Lab Offered autumn. Coreq., M 362. Introduction to linear optimization software.	1 Credits
	M 418 - PDE Computer Lab Offered spring. Coreq., M 412 or consent of instr. Intended primarily for students in M 412. Level: Undergraduate-Graduate	1 Credits
	STAT 457 - Computer Data Analysis I Offered autumn. Coreq., STAT 451 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in STAT 451. Level: Undergraduate-Graduate	1 Credits
	STAT 458 - Computer Data Analysis II Offered spring. Coreq., STAT 452 or consent of instr. Continuation of STAT 457. Intended primarily for students in STAT 452. Level: Undergraduate-Graduate	1 Credits
Minimum Required Grade: C-		0-5 Total Credits Required

Science Requirement

Rule: Take 18 credits in at most 3 areas selected from astronomy (ASTR), biology (BIO*), chemistry (CHMY), computer science (CSCI, except CSCI TR*), economics (ECNS), forestry (FORS, WILD), geosciences (GEO), management information systems (BMIS), and physics (PHSX).

Note: (1) Students completing a minor (in another subject) or a second major are exempt from this requirement. (2) Transfer courses listed on the transcript as “CSCI TR*” may include course work in other areas such as Computer Applications (CAPP) and therefore do not count towards this requirement unless a student successfully petitions the Department of Mathematical Sciences.

Minimum Required Grade: C-
18 Total Credits Required

Advanced College Writing Requirement

Rule: Take 1 of the following 2 courses, or any other approved Advanced College Writing course.

	Course	Credits
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 499 - Senior Thesis (R–12) Offered autumn and spring. Prereq., consent of instr. Senior thesis for mathematics majors and/or Watkins Scholars.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

GPA Requirement

Note: (1) A cumulative GPA of 2.0 is required for all courses used to fulfill major requirements.
(2) In addition, a cumulative GPA of 2.0 is required for all mathematical sciences courses used to fulfill major requirements. (Mathematical sciences courses are those with a prefix of M or STAT.)

Foreign Language/Computer Science Requirement

Rule: Either complete the General Education Requirement "Group III: Modern and Classical Language" (not the symbolic systems exception), or take one course from the following list.

Note: Students completing a second major are exempt from this requirement.

	Course	Credits
	CSCI 100 - Intro to Programming Offered autumn and spring. This course covers basic programming concepts such as variables, data types, iteration, flow of control, input/output, functions, and objects. The course will also cover programming ideas such as data structures, algorithms, modularity, and debugging. Students will learn about the role computation can play in solving problems by writing interesting programs to solve useful goals. No prior programming experience is expected. (Two hours independent lab per week.) Credit not allowed for both CSCI 100 and CSCI 110.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits

	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Requirements for the Combinatorics & Optimization Option

Minimum Required Grade: C-
12-13 Total Credits Required

Combinatorics & Optimization Option: Core Courses

Rule: Take all of the following courses.

	Course	Credits
	M 361 - Discrete Optimization Offered spring. Prereq., one of M 162, 172 or 182 (221 or 225 recommended). Intended for non–mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.	3 Credits
	M 362 - Linear Optimization Offered autumn. Prereq., one of M 162, 172 or 182 (221 recommended). Coreq., M 363 recommended. Intended for non–mathematics majors as well as majors. Introduction to linear programming and modeling techniques with applications. Topics include the simplex method, duality, sensitivity analysis and network models.	3 Credits
	M 485 - Graph Theory Offered autumn. Prereq., M 325, or M 307 and M 361, or consent of instr. Theory and applications of graphs. Topics chosen from trees, matchings, connectivity, coloring, planarity, Ramsey theory, random graphs, combinatorial designs and matroid theory. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Combinatorics & Optimization Option: Elective Courses

Rule: Take 1 of the following courses.

	Course	Credits

	CSCI 332 - Design/Analysis of Algorithms Offered spring. Prereq., CSCI 232 and M 225 or consent of instr. Algorithm design, analysis, and correctness. Commonly used algorithms including searching and sorting, string search, dynamic programming, branch and bound, graph algorithms, and parallel algorithms. Introduction to NP-complete problems.	3 Credits
	M 414 - Deterministic Models Offered spring. Prereq., M 263 or 311 or consent of instr. Linear and nonlinear difference and differential equations: stability, phase–plane analysis, oscillatory behavior, limit cycles, and chaos. Eigenvalues and eigenfunctions. Emphasis on models in biology. Level: Undergraduate-Graduate	3 Credits
	M 440 - Numerical Analysis Offered intermittently. Prereq., 311, one computer language. Error analysis; approximation and interpolation, numerical solution of linear and non-linear equations, numerical integration of ordinary and partial differential equations. Level: Undergraduate-Graduate	4 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Pure Mathematics

This degree option differs from the BA in Mathematics without an option only in the Option Requirements.

Bachelor of Arts - Mathematics; Pure Mathematics Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 68

Required Cumulative GPA: 2.0

Note: The degree specific credits are much lower for double-majors and for students completing an additional minor (in another subject): 44 credits for students completing a second major, and 47 credits for students completing a minor.

Mathematics Core Courses

Minimum Required Grade: C-

23 Total Credits Required

Calculus I

Rule: Take 1 of the following 2 courses.

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 181 - Honors Calculus I Offered autumn. Prereq., consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 171.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Calculus II

Rule: Take 1 of the following 2 courses.

	Course	Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 182 - Honors Calculus II Offered spring. Prereq., M 181 or consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 172.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Other Mathematics Core Courses

Rule: Take all of the following courses.

	Course	Credits
	M 210 - Intro to Mathematical Software Offered spring. Prereq., one of M 162, 171, or 181, or consent of instr. Software packages useful for doing and writing mathematics. Introduction to a computer algebra system (such as Maple or Mathematica), a numerical package (such as MATLAB or R), and elementary programming. Writing and communicating mathematics using the mathematical typesetting system LaTeX.	3 Credits

	M 221 - Introduction to Linear Algebra Offered autumn and spring. Prereq., M 172 or 182. Vectors in the plane and space, systems of linear equations and Gauss–Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	M 300 - Undergraduate Mathematics Sem (R–6) Offered every semester. Prereq., M 171 or 181. Discussion seminar focused on topics and issues of interest to students in the mathematical sciences.	1 Credits
	M 307 - Intro to Abstract Mathematics Offered autumn and spring. Prereq., M 172 or 182. Designed to prepare students for upper–division proof–based mathematics courses. Topics include proof techniques, logic, sets, relations, functions and axiomatic methods. Students planning to take both M 221 and 307 are encouraged to take M 221 first.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Upper-Division Mathematics Requirement

Rule: Take 23 credits in this category.

Note: (1) Students completing a minor (in another subject) need take only 20 credits.
(2) Students completing a second major need take only 18 credits.

Minimum Required Grade: C-

23 Total Credits Required

Upper-Division Elective Courses

Rule: Take 7 courses from the following list; at least 3 of them must be at the 400 level.

Note: (1) Students completing a minor (in another subject) or a second major need take only 6 courses (totaling 18 credits or more).
(2) Residency Requirement: At least 4 of the courses in this category must be taken at UM-Missoula (only 3 if M 307 is taken at UM-Missoula).
(3) Note that STAT 451 does not count toward this requirement.

	Course	**Credits**
	M 301 - Math Technology for Teachers Offered autumn. Prereq., M 221. Discrete and continuous mathematical models from a variety of disciplines using appropriate technology.	3 Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits

	M 325 - Discrete Mathematics Offered spring. Prereq., M 171 and 225 or 307. Continuation of 225 and topics from graph theory, Boolean algebras, automata theory, coding theory, computability and formal languages.	3 Credits
	M 326 - Number Theory Offered spring. Prereq., M 225 or 307. Congruences, Diophantine equations, properties of primes, quadratic residues, continued fractions, algebraic numbers.	3 Credits
	M 361 - Discrete Optimization Offered spring. Prereq., one of M 162, 172 or 182 (221 or 225 recommended). Intended for non–mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.	3 Credits
	M 362 - Linear Optimization Offered autumn. Prereq., one of M 162, 172 or 182 (221 recommended). Coreq., M 363 recommended. Intended for non–mathematics majors as well as majors. Introduction to linear programming and modeling techniques with applications. Topics include the simplex method, duality, sensitivity analysis and network models.	3 Credits
	M 381 - Advanced Calculus I Offered autumn . Prereq., M 307. Rigorous development of single-variable calculus with formal proof. Functions, sequences, limits, continuity, differentiation, and integration.	3 Credits
	M 412 - Partial Differential Equations Offered spring. Prereq., M 311. Fourier series, Sturm–Liouville and boundary value problems. Partial differential equations: Cauchy problems and the method of characteristics, separation of variables and Laplace transform methods. Numerical methods and selected topics. M 418 computer lab recommended. Level: Undergraduate-Graduate	3 Credits
	M 414 - Deterministic Models Offered spring. Prereq., M 263 or 311 or consent of instr. Linear and nonlinear difference and differential equations: stability, phase–plane analysis, oscillatory behavior, limit cycles, and chaos. Eigenvalues and eigenfunctions. Emphasis on models in biology. Level: Undergraduate-Graduate	3 Credits
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 431 - Abstract Algebra I Offered autumn. Prereq., M 221 and 307 or consent of instr. An introduction to modern ideas of algebra through the study of groups, rings, and fields. Level: Undergraduate-Graduate	4 Credits

	M 432 - Abstract Algebra II Offered spring. Prereq., M 431. Continues the investigation of groups, rings, and fields begun in M 431. Further topics include vector spaces and field extensions. Level: Undergraduate-Graduate	4 Credits
	M 439 - Euclidean & Non-Euclidean Geo Offered autumn. Prereq., M 307. Euclidean geometry from a rigorous, axiomatic viewpoint and Non–Euclidean geometries chosen from Lobachevskian, projective, finite and Riemannian. Level: Undergraduate-Graduate	3 Credits
	M 440 - Numerical Analysis Offered intermittently. Prereq., 311, one computer language. Error analysis; approximation and interpolation, numerical solution of linear and non-linear equations, numerical integration of ordinary and partial differential equations. Level: Undergraduate-Graduate	4 Credits
	M 445 - Stat/Math/Comp Modeling Offered autumn odd-numbered years. Prereq., consent of instr. An interdisciplinary course on the integration of statistical and dynamical models with applications to biological problems. Linear and nonlinear models, estimation, systems of ordinary differential equations, numerical integration, bootstrapping, MCMC methods. Intended both for students in mathematics and the natural sciences. Level: Undergraduate-Graduate	4 Credits
	M 461 - Practical Big Data Analytics Offered autumn. Prereq., STAT 341, and one of M 221 or M 273, or consent of instructor. This is a methods course supporting the Big Data Certificate Program. The course provides the students with the essential tools for the analysis of big data. The content consists of map reduce and canonical information methods for analyzing massively large data sets, windowing methods for the analysis of streaming data, an introduction to predictive analytics, and an introduction to data visualization methods. Level: Undergraduate-Graduate	3 Credits
	M 462 - Theoretical Big Data Analytics Offered spring. Prereq., M 221 and two other Mathematics / Statistics classes at the 200-level or above, or consent of instr. The main goal of this course is to provide students with a unique opportunity to acquire conceptual knowledge and theoretical background behind mathematical tools applicable to Big Data Analytics and Real Time Computations. Specific challenges of Big Data Analytics, e.g., problems of extracting, unifying, updating, and merging information, and processing of highly parallel and distributed data, will be reviewed. The tools for Big Data Analytics, such as regression analysis, linear estimation, calibration problems, real time processing of incoming (potentially infinite) data, will be studied in more detail. It will be shown how these approaches can be transformed to conform to the Big Data demands. Level: Undergraduate-Graduate	3 Credits
	M 472 - Intro to Complex Analysis Offered spring. Prereq., M 273, M 307. Analytic functions, complex integration, singularities and application to contour integration, harmonic functions, spaces of analytic functions. Level: Undergraduate-Graduate	4 Credits

	M 473 - Introduction to Real Analysis Offered autumn odd-numbered years. Prereq., M 273, M 307. Theory of metric spaces and point set topology, Riemann-Stieltjes integral, sequences and series of functions. Stone-Weierstrass theorem, theorem of Arzela-Ascoli, introduction to Lebesgue integration. Level: Undergraduate-Graduate	4 Credits
	M 485 - Graph Theory Offered autumn. Prereq., M 325, or M 307 and M 361, or consent of instr. Theory and applications of graphs. Topics chosen from trees, matchings, connectivity, coloring, planarity, Ramsey theory, random graphs, combinatorial designs and matroid theory. Level: Undergraduate-Graduate	3 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
	STAT 421 - Probability Theory Offered autumn. Prereq., M 273 or consent of instructor (STAT 341 recommended). An introduction to probability, random variables and their probability distributions, estimation and hypothesis testing. This course is the foundation on which more advanced statistics courses build. Level: Undergraduate-Graduate	3 Credits
	STAT 422 - Mathematical Statistics Offered spring. Prereq., STAT 421. Continuation of 421. Level: Undergraduate-Graduate	3 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		21 or more Total Credits Required

Upper-Division Elective Computer Labs

Rule: Computer labs from the following list are optional; if taken, they count toward the total number of credits required for the Upper-Division Mathematics Requirement.

	Course	**Credits**
	M 317 - ODE Computer Lab Offered autumn. Coreq., M 311 or consent of instr. Intended primarily for student in M 311.	1 Credits
	M 363 - Linear Optimization Lab Offered autumn. Coreq., M 362. Introduction to linear optimization software.	1 Credits

	M 418 - PDE Computer Lab Offered spring. Coreq., M 412 or consent of instr. Intended primarily for students in M 412. Level: Undergraduate-Graduate	1 Credits
	STAT 457 - Computer Data Analysis I Offered autumn. Coreq., STAT 451 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in STAT 451. Level: Undergraduate-Graduate	1 Credits
	STAT 458 - Computer Data Analysis II Offered spring. Coreq., STAT 452 or consent of instr. Continuation of STAT 457. Intended primarily for students in STAT 452. Level: Undergraduate-Graduate	1 Credits
Minimum Required Grade: C-		0-5 Total Credits Required

Science Requirement

Rule: Take 18 credits in at most 3 areas selected from astronomy (ASTR), biology (BIO*), chemistry (CHMY), computer science (CSCI, except CSCI TR*), economics (ECNS), forestry (FORS, WILD), geosciences (GEO), management information systems (BMIS), and physics (PHSX).

Note: (1) Students completing a minor (in another subject) or a second major are exempt from this requirement. (2) Transfer courses listed on the transcript as "CSCI TR*" may include course work in other areas such as Computer Applications (CAPP) and therefore do not count towards this requirement unless a student successfully petitions the Department of Mathematical Sciences.

Minimum Required Grade: C-

18 Total Credits Required

Advanced College Writing Requirement

Rule: Take 1 of the following 2 courses, or any other approved Advanced College Writing course.

	Course	**Credits**
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 499 - Senior Thesis (R–12) Offered autumn and spring. Prereq., consent of instr. Senior thesis for mathematics majors and/or Watkins Scholars.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

GPA Requirement

Note: (1) A cumulative GPA of 2.0 is required for all courses used to fulfill major requirements.
(2) In addition, a cumulative GPA of 2.0 is required for all mathematical sciences courses used to fulfill major requirements. (Mathematical sciences courses are those with a prefix of M or STAT.)

Foreign Language/Computer Science Requirement

Rule: Either complete the General Education Requirement "Group III: Modern and Classical Language" (not the symbolic systems exception), or take one course from the following list.

Note: Students completing a second major are exempt from this requirement.

	Course	Credits
	CSCI 100 - Intro to Programming Offered autumn and spring. This course covers basic programming concepts such as variables, data types, iteration, flow of control, input/output, functions, and objects. The course will also cover programming ideas such as data structures, algorithms, modularity, and debugging. Students will learn about the role computation can play in solving problems by writing interesting programs to solve useful goals. No prior programming experience is expected. (Two hours independent lab per week.) Credit not allowed for both CSCI 100 and CSCI 110.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Requirements for the Pure Mathematics Option

Rule: Take 4 of the following courses.

	Course	Credits
	M 381 - Advanced Calculus I Offered autumn . Prereq., M 307. Rigorous development of single-variable calculus with formal proof. Functions, sequences, limits, continuity, differentiation, and integration.	3 Credits
	M 431 - Abstract Algebra I Offered autumn. Prereq., M 221 and 307 or consent of instr. An introduction to modern ideas of algebra through the study of groups, rings, and fields. Level: Undergraduate-Graduate	4 Credits

	M 432 - Abstract Algebra II Offered spring. Prereq., M 431. Continues the investigation of groups, rings, and fields begun in M 431. Further topics include vector spaces and field extensions. Level: Undergraduate-Graduate	4 Credits
	M 472 - Intro to Complex Analysis Offered spring. Prereq., M 273, M 307. Analytic functions, complex integration, singularities and application to contour integration, harmonic functions, spaces of analytic functions. Level: Undergraduate-Graduate	4 Credits
	M 473 - Introduction to Real Analysis Offered autumn odd-numbered years. Prereq., M 273, M 307. Theory of metric spaces and point set topology, Riemann-Stieltjes integral, sequences and series of functions. Stone-Weierstrass theorem, theorem of Arzela-Ascoli, introduction to Lebesgue integration. Level: Undergraduate-Graduate	4 Credits
Minimum Required Grade: C-		15-16 Total Credits Required

Statistics

This degree option differs from the BA in Mathematics without an option only in the Option Requirements.

Bachelor of Arts - Mathematics; Statistics Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 67

Required Cumulative GPA: 2.0

Note: The degree specific credits are much lower for double-majors and for students completing an additional minor (in another subject): 41 credits for students completing a second major, and 46 credits for students completing a minor.

Mathematics Core Courses

Minimum Required Grade: C-

23 Total Credits Required

Calculus I

Rule: Take 1 of the following 2 courses.

	Course	**Credits**
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits

	M 181 - Honors Calculus I Offered autumn. Prereq., consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 171.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Calculus II

Rule: Take 1 of the following 2 courses.

	Course	Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 182 - Honors Calculus II Offered spring. Prereq., M 181 or consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 172.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Other Mathematics Core Courses

Rule: Take all of the following courses.

	Course	Credits
	M 210 - Intro to Mathematical Software Offered spring. Prereq., one of M 162, 171, or 181, or consent of instr. Software packages useful for doing and writing mathematics. Introduction to a computer algebra system (such as Maple or Mathematica), a numerical package (such as MATLAB or R), and elementary programming. Writing and communicating mathematics using the mathematical typesetting system LaTeX.	3 Credits
	M 221 - Introduction to Linear Algebra Offered autumn and spring. Prereq., M 172 or 182. Vectors in the plane and space, systems of linear equations and Gauss–Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits

	M 300 - Undergraduate Mathematics Sem (R–6) Offered every semester. Prereq., M 171 or 181. Discussion seminar focused on topics and issues of interest to students in the mathematical sciences.	1 Credits
	M 307 - Intro to Abstract Mathematics Offered autumn and spring. Prereq., M 172 or 182. Designed to prepare students for upper–division proof–based mathematics courses. Topics include proof techniques, logic, sets, relations, functions and axiomatic methods. Students planning to take both M 221 and 307 are encouraged to take M 221 first.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Upper-Division Mathematics Requirement

Rule: Take 23 credits in this category.

Note: (1) Students completing a minor (in another subject) need take only 20 credits.
(2) Students completing a second major need take only 18 credits.

Minimum Required Grade: C-

23 Total Credits Required

Upper-Division Elective Courses

Rule: Take 7 courses from the following list; at least 3 of them must be at the 400 level.

Note: (1) Students completing a minor (in another subject) or a second major need take only 6 courses (totaling 18 credits or more).
(2) Residency Requirement: At least 4 of the courses in this category must be taken at UM-Missoula (only 3 if M 307 is taken at UM-Missoula).
(3) Note that STAT 451 does not count toward this requirement.

	Course	**Credits**
	M 301 - Math Technology for Teachers Offered autumn. Prereq., M 221. Discrete and continuous mathematical models from a variety of disciplines using appropriate technology.	3 Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
	M 325 - Discrete Mathematics Offered spring. Prereq., M 171 and 225 or 307. Continuation of 225 and topics from graph theory, Boolean algebras, automata theory, coding theory, computability and formal languages.	3 Credits
	M 326 - Number Theory Offered spring. Prereq., M 225 or 307. Congruences, Diophantine equations, properties of primes, quadratic residues, continued fractions, algebraic numbers.	3 Credits

	M 361 - Discrete Optimization Offered spring. Prereq., one of M 162, 172 or 182 (221 or 225 recommended). Intended for non–mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.	3 Credits
	M 362 - Linear Optimization Offered autumn. Prereq., one of M 162, 172 or 182 (221 recommended). Coreq., M 363 recommended. Intended for non–mathematics majors as well as majors. Introduction to linear programming and modeling techniques with applications. Topics include the simplex method, duality, sensitivity analysis and network models.	3 Credits
	M 381 - Advanced Calculus I Offered autumn . Prereq., M 307. Rigorous development of single-variable calculus with formal proof. Functions, sequences, limits, continuity, differentiation, and integration.	3 Credits
	M 412 - Partial Differential Equations Offered spring. Prereq., M 311. Fourier series, Sturm–Liouville and boundary value problems. Partial differential equations: Cauchy problems and the method of characteristics, separation of variables and Laplace transform methods. Numerical methods and selected topics. M 418 computer lab recommended. Level: Undergraduate-Graduate	3 Credits
	M 414 - Deterministic Models Offered spring. Prereq., M 263 or 311 or consent of instr. Linear and nonlinear difference and differential equations: stability, phase–plane analysis, oscillatory behavior, limit cycles, and chaos. Eigenvalues and eigenfunctions. Emphasis on models in biology. Level: Undergraduate-Graduate	3 Credits
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 431 - Abstract Algebra I Offered autumn. Prereq., M 221 and 307 or consent of instr. An introduction to modern ideas of algebra through the study of groups, rings, and fields. Level: Undergraduate-Graduate	4 Credits
	M 432 - Abstract Algebra II Offered spring. Prereq., M 431. Continues the investigation of groups, rings, and fields begun in M 431. Further topics include vector spaces and field extensions. Level: Undergraduate-Graduate	4 Credits
	M 439 - Euclidean & Non-Euclidean Geo Offered autumn. Prereq., M 307. Euclidean geometry from a rigorous, axiomatic viewpoint and Non–Euclidean geometries chosen from Lobachevskian, projective, finite and Riemannian. Level: Undergraduate-Graduate	3 Credits

	M 440 - Numerical Analysis Offered intermittently. Prereq., 311, one computer language. Error analysis; approximation and interpolation, numerical solution of linear and non-linear equations, numerical integration of ordinary and partial differential equations. Level: Undergraduate-Graduate	4 Credits
	M 445 - Stat/Math/Comp Modeling Offered autumn odd-numbered years. Prereq., consent of instr. An interdisciplinary course on the integration of statistical and dynamical models with applications to biological problems. Linear and nonlinear models, estimation, systems of ordinary differential equations, numerical integration, bootstrapping, MCMC methods. Intended both for students in mathematics and the natural sciences. Level: Undergraduate-Graduate	4 Credits
	M 461 - Practical Big Data Analytics Offered autumn. Prereq., STAT 341, and one of M 221 or M 273, or consent of instructor. This is a methods course supporting the Big Data Certificate Program. The course provides the students with the essential tools for the analysis of big data. The content consists of map reduce and canonical information methods for analyzing massively large data sets, windowing methods for the analysis of streaming data, an introduction to predictive analytics, and an introduction to data visualization methods. Level: Undergraduate-Graduate	3 Credits
	M 462 - Theoretical Big Data Analytics Offered spring. Prereq., M 221 and two other Mathematics / Statistics classes at the 200-level or above, or consent of instr. The main goal of this course is to provide students with a unique opportunity to acquire conceptual knowledge and theoretical background behind mathematical tools applicable to Big Data Analytics and Real Time Computations. Specific challenges of Big Data Analytics, e.g., problems of extracting, unifying, updating, and merging information, and processing of highly parallel and distributed data, will be reviewed. The tools for Big Data Analytics, such as regression analysis, linear estimation, calibration problems, real time processing of incoming (potentially infinite) data, will be studied in more detail. It will be shown how these approaches can be transformed to conform to the Big Data demands. Level: Undergraduate-Graduate	3 Credits
	M 472 - Intro to Complex Analysis Offered spring. Prereq., M 273, M 307. Analytic functions, complex integration, singularities and application to contour integration, harmonic functions, spaces of analytic functions. Level: Undergraduate-Graduate	4 Credits
	M 473 - Introduction to Real Analysis Offered autumn odd-numbered years. Prereq., M 273, M 307. Theory of metric spaces and point set topology, Riemann-Stieltjes integral, sequences and series of functions. Stone-Weierstrass theorem, theorem of Arzela-Ascoli, introduction to Lebesgue integration. Level: Undergraduate-Graduate	4 Credits
	M 485 - Graph Theory Offered autumn. Prereq., M 325, or M 307 and M 361, or consent of instr. Theory and applications of graphs. Topics chosen from trees, matchings, connectivity, coloring, planarity, Ramsey theory, random graphs, combinatorial designs and matroid theory. Level: Undergraduate-Graduate	3 Credits

	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
	STAT 421 - Probability Theory Offered autumn. Prereq., M 273 or consent of instructor (STAT 341 recommended). An introduction to probability, random variables and their probability distributions, estimation and hypothesis testing. This course is the foundation on which more advanced statistics courses build. Level: Undergraduate-Graduate	3 Credits
	STAT 422 - Mathematical Statistics Offered spring. Prereq., STAT 421. Continuation of 421. Level: Undergraduate-Graduate	3 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		21 or more Total Credits Required

Upper-Division Elective Computer Labs

Rule: Computer labs from the following list are optional; if taken, they count toward the total number of credits required for the Upper-Division Mathematics Requirement.

	Course	Credits
	M 317 - ODE Computer Lab Offered autumn. Coreq., M 311 or consent of instr. Intended primarily for student in M 311.	1 Credits
	M 363 - Linear Optimization Lab Offered autumn. Coreq., M 362. Introduction to linear optimization software.	1 Credits
	M 418 - PDE Computer Lab Offered spring. Coreq., M 412 or consent of instr. Intended primarily for students in M 412. Level: Undergraduate-Graduate	1 Credits
	STAT 457 - Computer Data Analysis I Offered autumn. Coreq., STAT 451 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in STAT 451. Level: Undergraduate-Graduate	1 Credits

	STAT 458 - Computer Data Analysis II Offered spring. Coreq., STAT 452 or consent of instr. Continuation of STAT 457. Intended primarily for students in STAT 452. Level: Undergraduate-Graduate	1 Credits
Minimum Required Grade: C-		0-5 Total Credits Required

Science Requirement

Rule: Take 18 credits in at most 3 areas selected from astronomy (ASTR), biology (BIO*), chemistry (CHMY), computer science (CSCI, except CSCI TR*), economics (ECNS), forestry (FORS, WILD), geosciences (GEO), management information systems (BMIS), and physics (PHSX).

Note: (1) Students completing a minor (in another subject) or a second major are exempt from this requirement. (2) Transfer courses listed on the transcript as "CSCI TR*" may include course work in other areas such as Computer Applications (CAPP) and therefore do not count towards this requirement unless a student successfully petitions the Department of Mathematical Sciences.

Minimum Required Grade: C-

18 Total Credits Required

Advanced College Writing Requirement

Rule: Take 1 of the following 2 courses, or any other approved Advanced College Writing course.

	Course	**Credits**
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 499 - Senior Thesis (R–12) Offered autumn and spring. Prereq., consent of instr. Senior thesis for mathematics majors and/or Watkins Scholars.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

GPA Requirement

Note: (1) A cumulative GPA of 2.0 is required for all courses used to fulfill major requirements.
(2) In addition, a cumulative GPA of 2.0 is required for all mathematical sciences courses used to fulfill major requirements. (Mathematical sciences courses are those with a prefix of M or STAT.)

Foreign Language/Computer Science Requirement

Rule: Either complete the General Education Requirement "Group III: Modern and Classical Language" (not the symbolic systems exception), or take one course from the following list.

Note: Students completing a second major are exempt from this requirement.

	Course	**Credits**

	CSCI 100 - Intro to Programming Offered autumn and spring. This course covers basic programming concepts such as variables, data types, iteration, flow of control, input/output, functions, and objects. The course will also cover programming ideas such as data structures, algorithms, modularity, and debugging. Students will learn about the role computation can play in solving problems by writing interesting programs to solve useful goals. No prior programming experience is expected. (Two hours independent lab per week.) Credit not allowed for both CSCI 100 and CSCI 110.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Requirements for the Statistics Option

Rule: Take 4 of the following courses

Note: Additional mathematics and statistics courses chosen with advisor.

	Course	**Credits**
	M 461 - Practical Big Data Analytics Offered autumn. Prereq., STAT 341, and one of M 221 or M 273, or consent of instructor. This is a methods course supporting the Big Data Certificate Program. The course provides the students with the essential tools for the analysis of big data. The content consists of map reduce and canonical information methods for analyzing massively large data sets, windowing methods for the analysis of streaming data, an introduction to predictive analytics, and an introduction to data visualization methods. Level: Undergraduate-Graduate	3 Credits

	M 462 - Theoretical Big Data Analytics Offered spring. Prereq., M 221 and two other Mathematics / Statistics classes at the 200-level or above, or consent of instr. The main goal of this course is to provide students with a unique opportunity to acquire conceptual knowledge and theoretical background behind mathematical tools applicable to Big Data Analytics and Real Time Computations. Specific challenges of Big Data Analytics, e.g., problems of extracting, unifying, updating, and merging information, and processing of highly parallel and distributed data, will be reviewed. The tools for Big Data Analytics, such as regression analysis, linear estimation, calibration problems, real time processing of incoming (potentially infinite) data, will be studied in more detail. It will be shown how these approaches can be transformed to conform to the Big Data demands. Level: Undergraduate-Graduate	3 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
	STAT 421 - Probability Theory Offered autumn. Prereq., M 273 or consent of instructor (STAT 341 recommended). An introduction to probability, random variables and their probability distributions, estimation and hypothesis testing. This course is the foundation on which more advanced statistics courses build. Level: Undergraduate-Graduate	3 Credits
	STAT 422 - Mathematical Statistics Offered spring. Prereq., STAT 421. Continuation of 421. Level: Undergraduate-Graduate	3 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Mathematical Sciences-Computer Science (Combined Major)

The purpose of the combined program is to provide a thorough background in both allied disciplines and to inculcate a deeper understanding of their goals and methods. A student must complete 60 credits in the two disciplines: 30 of these credits in Computer Science courses and 30 of these credits in Mathematical Sciences courses. Each student plans a program in consultation with both a Computer Science and a Mathematical Sciences advisor. Students planning to attend graduate school in computer science or the mathematical sciences should consult with their respective advisors.

Bachelor of Science - Mathematical Sci-Computer Sci

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 73
Required Cumulative GPA: 2.0
Note: null

Mathematical Sciences

Rule: Complete the following subcategories.

Note: null

31 Total Credits Required

Mathematical Sciences Core

Rule: Complete all of the following courses.

Note: The following substitutions are allowed: M 181 for M 171, M 182 for M 172, and M 225 for M 307.

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 221 - Introduction to Linear Algebra Offered autumn and spring. Prereq., M 172 or 182. Vectors in the plane and space, systems of linear equations and Gauss–Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	M 307 - Intro to Abstract Mathematics Offered autumn and spring. Prereq., M 172 or 182. Designed to prepare students for upper–division proof–based mathematics courses. Topics include proof techniques, logic, sets, relations, functions and axiomatic methods. Students planning to take both M 221 and 307 are encouraged to take M 221 first.	3 Credits
Minimum Required Grade: C-		19 Total Credits Required

Mathematical Sciences Electives

Rule: Complete 12 credits from the following courses.

Note: The combined nine credits of Computer Science Electives and twelve credits of Mathematical Sciences Electives must include at least three 3– or 4–credit courses numbered 400 or above, with at least one chosen from each department (not including M 429 and STAT 451, 452).

	Course	Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
	M 325 - Discrete Mathematics Offered spring. Prereq., M 171 and 225 or 307. Continuation of 225 and topics from graph theory, Boolean algebras, automata theory, coding theory, computability and formal languages.	3 Credits
	M 326 - Number Theory Offered spring. Prereq., M 225 or 307. Congruences, Diophantine equations, properties of primes, quadratic residues, continued fractions, algebraic numbers.	3 Credits
	M 361 - Discrete Optimization Offered spring. Prereq., one of M 162, 172 or 182 (221 or 225 recommended). Intended for non–mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.	3 Credits
	M 362 - Linear Optimization Offered autumn. Prereq., one of M 162, 172 or 182 (221 recommended). Coreq., M 363 recommended. Intended for non–mathematics majors as well as majors. Introduction to linear programming and modeling techniques with applications. Topics include the simplex method, duality, sensitivity analysis and network models.	3 Credits
	M 381 - Advanced Calculus I Offered autumn . Prereq., M 307. Rigorous development of single-variable calculus with formal proof. Functions, sequences, limits, continuity, differentiation, and integration.	3 Credits
	M 412 - Partial Differential Equations Offered spring. Prereq., M 311. Fourier series, Sturm–Liouville and boundary value problems. Partial differential equations: Cauchy problems and the method of characteristics, separation of variables and Laplace transform methods. Numerical methods and selected topics. M 418 computer lab recommended. Level: Undergraduate-Graduate	3 Credits
	M 414 - Deterministic Models Offered spring. Prereq., M 263 or 311 or consent of instr. Linear and nonlinear difference and differential equations: stability, phase–plane analysis, oscillatory behavior, limit cycles, and chaos. Eigenvalues and eigenfunctions. Emphasis on models in biology. Level: Undergraduate-Graduate	3 Credits
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits

	M 431 - Abstract Algebra I Offered autumn. Prereq., M 221 and 307 or consent of instr. An introduction to modern ideas of algebra through the study of groups, rings, and fields. Level: Undergraduate-Graduate	4 Credits
	M 432 - Abstract Algebra II Offered spring. Prereq., M 431. Continues the investigation of groups, rings, and fields begun in M 431. Further topics include vector spaces and field extensions. Level: Undergraduate-Graduate	4 Credits
	M 439 - Euclidean & Non-Euclidean Geo Offered autumn. Prereq., M 307. Euclidean geometry from a rigorous, axiomatic viewpoint and Non–Euclidean geometries chosen from Lobachevskian, projective, finite and Riemannian. Level: Undergraduate-Graduate	3 Credits
	M 440 - Numerical Analysis Offered intermittently. Prereq., 311, one computer language. Error analysis; approximation and interpolation, numerical solution of linear and non-linear equations, numerical integration of ordinary and partial differential equations. Level: Undergraduate-Graduate	4 Credits
	M 445 - Stat/Math/Comp Modeling Offered autumn odd-numbered years. Prereq., consent of instr. An interdisciplinary course on the integration of statistical and dynamical models with applications to biological problems. Linear and nonlinear models, estimation, systems of ordinary differential equations, numerical integration, bootstrapping, MCMC methods. Intended both for students in mathematics and the natural sciences. Level: Undergraduate-Graduate	4 Credits
	M 461 - Practical Big Data Analytics Offered autumn. Prereq., STAT 341, and one of M 221 or M 273, or consent of instructor. This is a methods course supporting the Big Data Certificate Program. The course provides the students with the essential tools for the analysis of big data. The content consists of map reduce and canonical information methods for analyzing massively large data sets, windowing methods for the analysis of streaming data, an introduction to predictive analytics, and an introduction to data visualization methods. Level: Undergraduate-Graduate	3 Credits
	M 462 - Theoretical Big Data Analytics Offered spring. Prereq., M 221 and two other Mathematics / Statistics classes at the 200-level or above, or consent of instr. The main goal of this course is to provide students with a unique opportunity to acquire conceptual knowledge and theoretical background behind mathematical tools applicable to Big Data Analytics and Real Time Computations. Specific challenges of Big Data Analytics, e.g., problems of extracting, unifying, updating, and merging information, and processing of highly parallel and distributed data, will be reviewed. The tools for Big Data Analytics, such as regression analysis, linear estimation, calibration problems, real time processing of incoming (potentially infinite) data, will be studied in more detail. It will be shown how these approaches can be transformed to conform to the Big Data demands. Level: Undergraduate-Graduate	3 Credits

	M 472 - Intro to Complex Analysis Offered spring. Prereq., M 273, M 307. Analytic functions, complex integration, singularities and application to contour integration, harmonic functions, spaces of analytic functions. Level: Undergraduate-Graduate	4 Credits
	M 473 - Introduction to Real Analysis Offered autumn odd-numbered years. Prereq., M 273, M 307. Theory of metric spaces and point set topology, Riemann-Stieltjes integral, sequences and series of functions. Stone-Weierstrass theorem, theorem of Arzela-Ascoli, introduction to Lebesgue integration. Level: Undergraduate-Graduate	4 Credits
	M 485 - Graph Theory Offered autumn. Prereq., M 325, or M 307 and M 361, or consent of instr. Theory and applications of graphs. Topics chosen from trees, matchings, connectivity, coloring, planarity, Ramsey theory, random graphs, combinatorial designs and matroid theory. Level: Undergraduate-Graduate	3 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
	STAT 421 - Probability Theory Offered autumn. Prereq., M 273 or consent of instructor (STAT 341 recommended). An introduction to probability, random variables and their probability distributions, estimation and hypothesis testing. This course is the foundation on which more advanced statistics courses build. Level: Undergraduate-Graduate	3 Credits
	STAT 422 - Mathematical Statistics Offered spring. Prereq., STAT 421. Continuation of 421. Level: Undergraduate-Graduate	3 Credits
	STAT 451 - Statistical Methods I Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate	3 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Computer Science

Rule: Complete the following subcategories.

30 Total Credits Required

Computer Science Core

Rule: Complete all of the following courses.

	Course	Credits
	CSCI 106 - Careers in Computer Science Offered autumn. Exploration of various careers available in the general area of Computer Science. Includes discussion of strategies for success in the major. Computer Science faculty members also will discuss possible undergraduate research opportunities and motivation for graduate education.	1 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 205 - Programming Languages w/ C/C++ Offered spring. Prereq., CSCI 232 and M 225. Concepts and principles of programming languages with an emphasis on C, C++, and object-oriented programming. Syntax and semantics of object-oriented languages. Principles and implementation of late binding, memory allocation and de-allocation, type-checking, scope, polymorphism, inheritance.	4 Credits
	CSCI 232 - Data Structures and Algorithms Offered autumn. Prereq., 'B-' or better in CSCI 136; or consent of instr. Abstract data types, algorithm analysis, stacks, queues, lists, recursion, trees, hashing, graphs, and applications of data structures in algorithm development. Python programming language used.	4 Credits
	CSCI 332 - Design/Analysis of Algorithms Offered spring. Prereq., CSCI 232 and M 225 or consent of instr. Algorithm design, analysis, and correctness. Commonly used algorithms including searching and sorting, string search, dynamic programming, branch and bound, graph algorithms, and parallel algorithms. Introduction to NP-complete problems.	3 Credits

	CSCI 361 - Computer Architecture Offered spring. Prereq., CSCI 136 or consent of instr. Functional view of computer system components, BCPU, ALU, memory, bus, cache, I/O module. Instruction set design: formats, addressing modes. Basic circuit design. Pipelining and assembly language. Interrupt handling. Implementation of ALU and control unit. Detailed design of an RISC-like instruction set. Datapath and performance comparisons. Basic multiprocessor design.	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

Computer Science Electives

Rule: Complete 9 credits from the following courses.

Note: (1) A total of at most three of the nine credits of Computer Science Electives may be in CSCI 398 or 498.
(2) The combined nine credits of Computer Science Electives and twelve credits of Mathematical Sciences Electives must include at least three 3– or 4–credit courses numbered 400 or above, with at least one chosen from each department (not including M 429 and STAT 451, 452).

	Course	Credits
	CSCI 315E - Computers, Ethics, and Society Offered autumn. Prereq., University approved intermediate level writing course. Ethical problems that computer scientists face. The codes of ethics of professional computing societies. The social implications of computers, computing, and other digital technologies.	3 Credits
	CSCI 323 - Software Science Offered autumn. Prereq., CSCI 136. Study, implementation, and assessment of software processes, techniques, methods, and CASE tools. Project management and cost estimation techniques will be examined. A group project may be required.	3 Credits
	CSCI 340 - Database Design Offered spring. Prereq., CSCI 232 or consent of instr. Fundamentals of data modeling, the relational mode, normal forms, file organization, index structures and SQL. Major project involving the design and implementation of a relational database.	3 Credits
	CSCI 390 - Research (R-6) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student.	1 To 6 Credits
	CSCI 391 - Special Topics (R-6) Offered intermittently. Prereq., junior standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	CSCI 394 - Seminar (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.	1 To 6 Credits

	CSCI 398 - Internship (R-3) Offered intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from faculty supervisor and the Internship Services office. Only three credits applicable to computer science major or minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 3 Credits
	CSCI 411 - Advanced Web Programming Offered intermittently. Prereq., CSCI 136. Programming and software development techniques for developing web-based applications. Scripting and other programming languages that are used for web-based development.	3 Credits
	CSCI 412 - Game and Mobile App Offered intermittently. Prereq., CSCI 232 and 323. Programming and software development techniques for developing gaming and mobile applications. Multiple gaming environments and mobile programming languages are introduced and examined to build modern applications.	3 Credits
	CSCI 426 - Adv Prgrmng Theory/Practice I Offered autumn. Prereq., CSCI 205, 232, 323 and M 225, or consent of instr. Examination and implementation of modern best practices in the areas of software design, coding, testing and maintenance. Focus on design patterns and design pattern languages used to build modern software systems in a variety of areas.	3 Credits
	CSCI 427 - Adv Prgrmng Theory/Practice II Offered spring. Prereq., CSCI 426. Design and implementation of a major software project in a group setting, with required documentation, presentation, installation, and approval by the instructor.	3 Credits
	CSCI 438 - Theory of Computation Offered intermittently. Prereq., M 225 or M 307. This course focuses on understanding the limitations & capabilities of abstract models of computation, through rigorous mathematical analysis. Topics will include finite & pushdown automata, nondeterministic computation, regular expressions, generative grammars, Turing machines, undecidability, and computational complexity.	3 Credits
	CSCI 441 - Computer Graphics Programming Offered intermittently. Prereq., CSCI 232 and M 221 or consent of instr. The graphics pipeline, its implementation in hardware and emphasis on the programmable portions of the pipeline. Matrix transformations for modeling, viewing, clipping, and windowing. Application of lighting, coloring, and texturing models. Hierarchical modeling of objects. Programmable shaders. OpenGL and WebGL.	3 Credits
	CSCI 443 - User Interface Design Offered intermittently. Prereq., CSCI 232 or consent of instr. Introduction to usability and key concepts of human behavior. Focus on the process of user-centered design, including requirements specification, prototyping, and methods of evaluation. Incorporation of regular design critiques of classmates' work, and emphasis on both oral and written communication skills. Credit not allowed for CSCI 543 and this course.	3 Credits

	CSCI 444 - Data Visualization Offered intermittently. Prereq., M 171; programming experience; and junior, senior, or graduate status; or consent of instr. Visualization fundamentals and applications using special visualization software; formulation of 3-D empirical models; translation of 3-D models into graphical displays; time sequences and pseudo-animation; interactive versus presentation techniques; special techniques for video, CD and other media.	3 Credits
	CSCI 446 - Artificial Intelligence Offered intermittently. Prereq., M 225 or M 307, and CSCI 232, or consent of instr. Using computers and software to solve problems that require intelligence. Specific topics may include knowledge representation, logical and probabilistic reasoning, machine learning, planning, game playing, information retrieval, computer vision, and robotics.	3 Credits
	CSCI 447 - Machine Learning Offered intermittently. Prereq., CSCI 232 or consent of instr. Introduction to the framework of learning from examples, various learning algorithms such as neural networks, and generic learning principles such as inductive bias, Occam's Razor, and data mining. Credit not allowed for both CSCI 447 and CSCI 547.	3 Credits
	CSCI 448 - Pattern Recognition Offered intermittently. Prereq., Junior or Senior status. Introduction to the framework of unsupervised learning techniques such as clustering (agglomerative, fuzzy, graph theory based, etc.), multivariate analysis approaches (PCA, MDS, LDA, etc.), image analysis (edge detection, etc.), as well as feature selection and generation. Emphasis will be on the underlying algorithms and their implementation. Credit not allowed for both CSCI 448 and CSCI 548.	3 Credits
	CSCI 451 - Computational Biology Offered Autumn. Designed for attendance by both computer scientists and biologists. The course will explore the interdisciplinary nature at the juncture of the two fields. Students will be introduced to bioinformatics (emphasis: computational genomics), with exposure to fundamental problems, algorithms, and tools in the field. This includes a basic introduction to genomics, along with in-depth coverage of algorithms and methods relevant to modern computational genomics, including: biological sequence alignment, sequence database homology search, and phylogeny inference. The programming expectations are limited for a 400-level computer science course, but at least one semester of a programming-intensive course is required. Credit not allowed for CSCI 558 and this course	3 Credits

	CSCI 460 - Operating Systems Offered autumn. Prereq., CSCI 232, or consent of instr. Operating system design principles. Processes, threads, synchronization, deadlock, memory management, file management and file systems, protection, and security, comparison of commonly used existing operating systems, writing programs that make use of operating system services. It is recommended, but not required, that the student also attend Programming Languages (in order to be prepared to write C programs) and Architecture (in order to understand interactions between the operating system and processor hardware) prior to attending this course.	3 Credits
	CSCI 464 - Applications Mining Big Data Offered intermittently. Prereq., upper division or consent of instr. Co-convenes with CSCI 564. Introduction to existing data mining software systems and their use, with focus on practical exercises. Topics include data acquisition, data cleansing, feature selection, and data analysis. Credit not allowed for both CSCI 464 and CSCI 564.	3 Credits
	CSCI 466 - Networks Offered spring. Prereq., CSCI 232. Concepts and practice of computer networking, network protocol layers, switching, routing, flow, and congestion control. Network programming.	3 Credits
	CSCI 477 - Simulation Co-convene with CSCI 577. Prereq., M 172, CSCI 135, or consent of instr. Matrix languages. ODE solving; Euler-Richardson, Runge-Kutta, PDE solving; finite differences, finite elements, multi-grid techniques. Discrete methods for solution, renormalization group method, critical phenomena. Emphasis on presentation of results and interactive programs. Credit not allowed for CSCI 577 and this course.	3 Credits
	CSCI 480 - Parallel Computing Prereq., CSCI 205 and 232, or instructor consent. This course is an introduction to parallelism and parallel programming. Topics include the various forms of parallelism on modern computer hardware (e.g. SIMD vector instructions, GPUs, multiple cores, and networked clusters), with coverage of locality and latency, shared vs non-shared memory, and synchronization mechanisms (locking, atomicity, etc). We will introduce patterns that appear in essentially all programs that need to run fast. We will discuss how to recognize these patterns in a variety of practical problems, discuss efficient algorithms for implementing them, and how to compose these patterns into larger applications. We will address computer architecture at a high level, sufficient to understand the relative costs of operations like arithmetic and data transfer. We also introduce useful tools for debugging correctness and performance of parallel programs. Assignments will include significant parallel programming projects. Co-convenes with CSCI 580. Credit not allowed for both CSCI 480 and CSCI 580.	3 Credits

	CSCI 490 - Research (R-6) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student.	1 To 6 Credits
	CSCI 491 - Special Topics (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	CSCI 494 - Seminar (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.	1 To 6 Credits
	CSCI 498 - Internship (R-3) Offered Intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Only three credits of CSCI 398 and/or CSCI 498 applicable to computer science major or minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 3 Credits
	CSCI 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., consent of thesis/project director and chair of the Computer Science Department. Senior thesis for computer science majors and/or Watkins scholars.	1 To 6 Credits
Minimum Required Grade: C-		9 Total Credits Required

Science Requirement

Rule: Complete the course work from 1 of the following subcategories.

9-10 Total Credits Required

Biology

Rule: If you choose biology, complete all of the following courses.

	Course	**Credits**
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits

	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
Minimum Required Grade: C-		9 Total Credits Required

Chemistry

Rule: If you choose chemistry, complete all of the following courses.

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics

Rule: If you choose physics, complete all of the following courses.

	Course	Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits

	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Public Speaking Requirement

Rule: Complete 1 of the following courses.

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	COMX 242 - Argumentation Offered autumn and spring on the Mountain campus, offered intermittently on the Missoula College campus. Development of argumentation skills and critical judgment in decision-making and debate. Includes criticism, construction, presentation, and refutation of spoken and written arguments.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Advanced College Writing Requirement

Rule: Complete 1 of the following courses.

Note: Any other approved Advanced College Writing course will also fulfill this requirement.

	Course	Credits
	CSCI 315E - Computers, Ethics, and Society Offered autumn. Prereq., University approved intermediate level writing course. Ethical problems that computer scientists face. The codes of ethics of professional computing societies. The social implications of computers, computing, and other digital technologies.	3 Credits

	CSCI 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., consent of thesis/project director and chair of the Computer Science Department. Senior thesis for computer science majors and/or Watkins scholars.	1 To 6 Credits
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 499 - Senior Thesis (R–12) Offered autumn and spring. Prereq., consent of instr. Senior thesis for mathematics majors and/or Watkins Scholars.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

Suggested Curricula

Note: Students are encouraged to choose their Computer Science and Mathematical Sciences Electives according to one of the following curricula; these tracks are suggestions only and, as such, optional. Note that the suggested curricula do not include an advanced College Writing Course.

Applied Math–Scientific Programming: M 311, 412, 414, and one course chosen from M 381, 440, 472, 473 and STAT 341. Three courses chosen from CSCI 441, 444, 460, 477.

Combinatorics and Optimization–Artificial Intelligence: M 361, 362, and two courses chosen from M 325, 414, 485 and STAT 341; and CSCI 446, 447, and 460.

Data Science (Big Data Analytics): M 461, 462, and STAT 341, 451, and 452. Three courses chosen from CSCI 444, 447, 448, 464, and 480.

Statistics–Machine Learning: STAT 341, 421, and two courses chosen from M 325, 362, 485 and STAT 422. Three courses chosen from CSCI 340, 444, 446, 447, and 451.

Algebra–Analysis: M 381, 431, and two courses chosen from M 326, 432, 472, 473; CSCI 426, 460, and one other course.

Mathematics B.A.

This degree is the BA in Mathematics without an option. Students can add one or more of the options in Applied Mathematics, Combinatorics & Optimization, Pure Mathematics, or Statistics to this degree by fulfilling the respective Option Requirements (achieved by taking specific Upper-Division Elective Courses). Typically, students declare one of these four options during their sophomore or junior year. Note that the requirements for the Mathematics Education option are extensive and differ substantially from the requirements for the other options. Students interested in Mathematics Education are encouraged to declare this option as early as possible, preferably during their first year at UM.

Bachelor of Arts - Mathematics

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 67

Required Cumulative GPA: 2.0

Note: The degree specific credits are much lower for double-majors and for students completing an additional minor (in another subject): 41 credits for students completing a second major, and 46 credits for students completing a minor.

Mathematics Core Courses

Minimum Required Grade: C-
23 Total Credits Required

Calculus I

Rule: Take 1 of the following 2 courses.

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 181 - Honors Calculus I Offered autumn. Prereq., consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 171.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Calculus II

Rule: Take 1 of the following 2 courses.

	Course	Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 182 - Honors Calculus II Offered spring. Prereq., M 181 or consent of instr. Coreq., Honors Calculus Seminar, a section of M 294. Honors version of M 172.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Other Mathematics Core Courses

Rule: Take all of the following courses.

	Course	Credits

	M 210 - Intro to Mathematical Software Offered spring. Prereq., one of M 162, 171, or 181, or consent of instr. Software packages useful for doing and writing mathematics. Introduction to a computer algebra system (such as Maple or Mathematica), a numerical package (such as MATLAB or R), and elementary programming. Writing and communicating mathematics using the mathematical typesetting system LaTeX.	3 Credits
	M 221 - Introduction to Linear Algebra Offered autumn and spring. Prereq., M 172 or 182. Vectors in the plane and space, systems of linear equations and Gauss–Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	M 300 - Undergraduate Mathematics Sem (R–6) Offered every semester. Prereq., M 171 or 181. Discussion seminar focused on topics and issues of interest to students in the mathematical sciences.	1 Credits
	M 307 - Intro to Abstract Mathematics Offered autumn and spring. Prereq., M 172 or 182. Designed to prepare students for upper–division proof–based mathematics courses. Topics include proof techniques, logic, sets, relations, functions and axiomatic methods. Students planning to take both M 221 and 307 are encouraged to take M 221 first.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Upper-Division Mathematics Requirement

Rule: Take 23 credits in this category.

Note: (1) Students completing a minor (in another subject) need take only 20 credits.
(2) Students completing a second major need take only 18 credits.

Minimum Required Grade: C-

23 Total Credits Required

Upper-Division Elective Courses

Rule: Take 7 courses from the following list; at least 3 of them must be at the 400 level.

Note: (1) Students completing a minor (in another subject) or a second major need take only 6 courses (totaling 18 credits or more).
(2) Residency Requirement: At least 4 of the courses in this category must be taken at UM-Missoula (only 3 if M 307 is taken at UM-Missoula).
(3) Note that STAT 451 does not count toward this requirement.

	Course	**Credits**
	M 301 - Math Technology for Teachers Offered autumn. Prereq., M 221. Discrete and continuous mathematical models from a variety of disciplines using appropriate technology.	3 Credits

	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
	M 325 - Discrete Mathematics Offered spring. Prereq., M 171 and 225 or 307. Continuation of 225 and topics from graph theory, Boolean algebras, automata theory, coding theory, computability and formal languages.	3 Credits
	M 326 - Number Theory Offered spring. Prereq., M 225 or 307. Congruences, Diophantine equations, properties of primes, quadratic residues, continued fractions, algebraic numbers.	3 Credits
	M 361 - Discrete Optimization Offered spring. Prereq., one of M 162, 172 or 182 (221 or 225 recommended). Intended for non–mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.	3 Credits
	M 362 - Linear Optimization Offered autumn. Prereq., one of M 162, 172 or 182 (221 recommended). Coreq., M 363 recommended. Intended for non–mathematics majors as well as majors. Introduction to linear programming and modeling techniques with applications. Topics include the simplex method, duality, sensitivity analysis and network models.	3 Credits
	M 381 - Advanced Calculus I Offered autumn . Prereq., M 307. Rigorous development of single-variable calculus with formal proof. Functions, sequences, limits, continuity, differentiation, and integration.	3 Credits
	M 412 - Partial Differential Equations Offered spring. Prereq., M 311. Fourier series, Sturm–Liouville and boundary value problems. Partial differential equations: Cauchy problems and the method of characteristics, separation of variables and Laplace transform methods. Numerical methods and selected topics. M 418 computer lab recommended. Level: Undergraduate-Graduate	3 Credits
	M 414 - Deterministic Models Offered spring. Prereq., M 263 or 311 or consent of instr. Linear and nonlinear difference and differential equations: stability, phase–plane analysis, oscillatory behavior, limit cycles, and chaos. Eigenvalues and eigenfunctions. Emphasis on models in biology. Level: Undergraduate-Graduate	3 Credits
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits

	M 431 - Abstract Algebra I Offered autumn. Prereq., M 221 and 307 or consent of instr. An introduction to modern ideas of algebra through the study of groups, rings, and fields. Level: Undergraduate-Graduate	4 Credits
	M 432 - Abstract Algebra II Offered spring. Prereq., M 431. Continues the investigation of groups, rings, and fields begun in M 431. Further topics include vector spaces and field extensions. Level: Undergraduate-Graduate	4 Credits
	M 439 - Euclidean & Non-Euclidean Geo Offered autumn. Prereq., M 307. Euclidean geometry from a rigorous, axiomatic viewpoint and Non–Euclidean geometries chosen from Lobachevskian, projective, finite and Riemannian. Level: Undergraduate-Graduate	3 Credits
	M 440 - Numerical Analysis Offered intermittently. Prereq., 311, one computer language. Error analysis; approximation and interpolation, numerical solution of linear and non-linear equations, numerical integration of ordinary and partial differential equations. Level: Undergraduate-Graduate	4 Credits
	M 445 - Stat/Math/Comp Modeling Offered autumn odd-numbered years. Prereq., consent of instr. An interdisciplinary course on the integration of statistical and dynamical models with applications to biological problems. Linear and nonlinear models, estimation, systems of ordinary differential equations, numerical integration, bootstrapping, MCMC methods. Intended both for students in mathematics and the natural sciences. Level: Undergraduate-Graduate	4 Credits
	M 461 - Practical Big Data Analytics Offered autumn. Prereq., STAT 341, and one of M 221 or M 273, or consent of instructor. This is a methods course supporting the Big Data Certificate Program. The course provides the students with the essential tools for the analysis of big data. The content consists of map reduce and canonical information methods for analyzing massively large data sets, windowing methods for the analysis of streaming data, an introduction to predictive analytics, and an introduction to data visualization methods. Level: Undergraduate-Graduate	3 Credits
	M 462 - Theoretical Big Data Analytics Offered spring. Prereq., M 221 and two other Mathematics / Statistics classes at the 200-level or above, or consent of instr. The main goal of this course is to provide students with a unique opportunity to acquire conceptual knowledge and theoretical background behind mathematical tools applicable to Big Data Analytics and Real Time Computations. Specific challenges of Big Data Analytics, e.g., problems of extracting, unifying, updating, and merging information, and processing of highly parallel and distributed data, will be reviewed. The tools for Big Data Analytics, such as regression analysis, linear estimation, calibration problems, real time processing of incoming (potentially infinite) data, will be studied in more detail. It will be shown how these approaches can be transformed to conform to the Big Data demands. Level: Undergraduate-Graduate	3 Credits

	M 472 - Intro to Complex Analysis Offered spring. Prereq., M 273, M 307. Analytic functions, complex integration, singularities and application to contour integration, harmonic functions, spaces of analytic functions. Level: Undergraduate-Graduate	4 Credits
	M 473 - Introduction to Real Analysis Offered autumn odd-numbered years. Prereq., M 273, M 307. Theory of metric spaces and point set topology, Riemann-Stieltjes integral, sequences and series of functions. Stone-Weierstrass theorem, theorem of Arzela-Ascoli, introduction to Lebesgue integration. Level: Undergraduate-Graduate	4 Credits
	M 485 - Graph Theory Offered autumn. Prereq., M 325, or M 307 and M 361, or consent of instr. Theory and applications of graphs. Topics chosen from trees, matchings, connectivity, coloring, planarity, Ramsey theory, random graphs, combinatorial designs and matroid theory. Level: Undergraduate-Graduate	3 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
	STAT 421 - Probability Theory Offered autumn. Prereq., M 273 or consent of instructor (STAT 341 recommended). An introduction to probability, random variables and their probability distributions, estimation and hypothesis testing. This course is the foundation on which more advanced statistics courses build. Level: Undergraduate-Graduate	3 Credits
	STAT 422 - Mathematical Statistics Offered spring. Prereq., STAT 421. Continuation of 421. Level: Undergraduate-Graduate	3 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		21 or more Total Credits Required

Upper-Division Elective Computer Labs

Rule: Computer labs from the following list are optional; if taken, they count toward the total number of credits required for the Upper-Division Mathematics Requirement.

	Course	**Credits**
	M 317 - ODE Computer Lab Offered autumn. Coreq., M 311 or consent of instr. Intended primarily for student in M 311.	1 Credits

	M 363 - Linear Optimization Lab Offered autumn. Coreq., M 362. Introduction to linear optimization software.	1 Credits
	M 418 - PDE Computer Lab Offered spring. Coreq., M 412 or consent of instr. Intended primarily for students in M 412. Level: Undergraduate-Graduate	1 Credits
	STAT 457 - Computer Data Analysis I Offered autumn. Coreq., STAT 451 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in STAT 451. Level: Undergraduate-Graduate	1 Credits
	STAT 458 - Computer Data Analysis II Offered spring. Coreq., STAT 452 or consent of instr. Continuation of STAT 457. Intended primarily for students in STAT 452. Level: Undergraduate-Graduate	1 Credits
Minimum Required Grade: C-		0-5 Total Credits Required

Science Requirement

Rule: Take 18 credits in at most 3 areas selected from astronomy (ASTR), biology (BIO*), chemistry (CHMY), computer science (CSCI, except CSCI TR*), economics (ECNS), forestry (FORS, WILD), geosciences (GEO), management information systems (BMIS), and physics (PHSX).

Note: (1) Students completing a minor (in another subject) or a second major are exempt from this requirement. (2) Transfer courses listed on the transcript as "CSCI TR*" may include course work in other areas such as Computer Applications (CAPP) and therefore do not count towards this requirement unless a student successfully petitions the Department of Mathematical Sciences.

Minimum Required Grade: C-

18 Total Credits Required

Advanced College Writing Requirement

Rule: Take 1 of the following 2 courses, or any other approved Advanced College Writing course.

	Course	**Credits**
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 499 - Senior Thesis (R–12) Offered autumn and spring. Prereq., consent of instr. Senior thesis for mathematics majors and/or Watkins Scholars.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

GPA Requirement

Note: (1) A cumulative GPA of 2.0 is required for all courses used to fulfill major requirements.
(2) In addition, a cumulative GPA of 2.0 is required for all mathematical sciences courses used to fulfill major requirements. (Mathematical sciences courses are those with a prefix of M or STAT.)

Foreign Language/Computer Science Requirement

Rule: Either complete the General Education Requirement Group III: Modern and Classical Language (not the symbolic systems exception),or take one course from the following list.

Note: Students completing a second major are exempt from this requirement.

	Course	Credits
	CSCI 100 - Intro to Programming Offered autumn and spring. This course covers basic programming concepts such as variables, data types, iteration, flow of control, input/output, functions, and objects. The course will also cover programming ideas such as data structures, algorithms, modularity, and debugging. Students will learn about the role computation can play in solving problems by writing interesting programs to solve useful goals. No prior programming experience is expected. (Two hours independent lab per week.) Credit not allowed for both CSCI 100 and CSCI 110.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Liberal Studies

Ruth Vanita, Director

The Liberal Studies & Humanities Program provides an education in the international and interdisciplinary humanities. Students are able to develop their individual interests through electives, options and minors. The Program offers its majors options in:

- Humanities
- Asian Studies
- Religious Studies
- Women's, Gender and Sexuality Studies

The Program offers a minor in Liberal Studies and a minor in South & South-East Asian Studies (the area comprising India and its immediate neighbors, and the Vietnam-Thailand-Indonesia region).

Liberal Studies majors choose courses from different departments, focusing on literary, philosophical and religious works from different parts of the globe. Liberal Studies offers innovative multidisciplinary courses that incorporate the tools of such disciplines as literary studies, history, philosophy, religious studies, gender studies and art history. We aim to help students develop the ability to read with comprehension, write correctly, form

logical arguments based on evidence, and gain understanding of historical, literary, philosophical and religious contexts. These are skills prized by employers. Students who graduate from the program will be prepared to enter various fields in the private and public sectors, pursue further professional or academic training, and will be better prepared to function as global citizens.

Majors in Liberal Studies may not take any course work presented for the major for CR/NCR. Upper–level students transferring into this program should have at least a C average in all credits attempted. The upper-division writing expectation must be met by successfully completing an upper-division writing course from the approved list in the General University Requirements section of this catalog (such as LSH 484).

Department Faculty

Professors

Paul Dietrich, Professor of Religious Studies and Liberal Studies
Ruth Vanita, Professor

Associate Professors

Bradley Clough, Associate Professor, Global Humanities and Religions
Nathaniel Levtow, Director, Humanities Institute; Associate Professor (Global Humanities and Religions)

Adjunct Faculty

Beth Hubble, Adjunct Assistant Professor of Women''s Studies

Lecturers

Mark Hanson, Lecturer of Global Humanities & Religions

Liberal Studies

Back to Top

- LS 202X - Introduction to India
  Credits: 3. Offered alternate years. Same as SSEA 202X This course introduces students to the history, economy, political and legal system, society, culture, religions, and literary and artistic traditions of India, the world's largest secular democracy and the birthplace of four major world religions. Course Attributes: Cultural Intl Diversity (X)
- LS 234X - Hindu Religious Traditions
  Credits: 3. Offered spring even-numbered years. Same as AS and LS 365. Critical exploration of selected aspects of Hindu thought, narrative and practice, both in contemporary and historical perspective. Focus primarily on India, but with consideration of Hinduism's transformation and impact beyond South Asia. Course Attributes: Cultural Intl Diversity (X)
- LS 311 - Chinese Folktales
  Credits: 3. Offered intermittently. Same as MCLG 380. The study of the aspirations, desires, loves, fears, moral and aesthetic values of the Chinese people as expressed in their folk literature.

Liberal Studies & Humanities

Back to Top

- LSH 102H - Intro to South & S East Asia
  Credits: 3. Offered intermittently. Same as ANTY 102H/SSEA 102H. An introduction to South and Southeast Asian regions, cultures, societies, and histories, with particular emphasis on artistic, religious and literary traditions from prehistory to the present. An overview approach with different materials and emphases. Course Attributes: Hist & Cultural Studies (H)
  Cultural Intl Diversity (X)
- LSH 151L - Humanities:Greeks,Bible,Roman

Credits: 0 TO 4. Offered autumn. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, comparing and contrasting the Greco–Roman with the Jewish and Christian traditions. Course Attributes: Lit & Artistic Studies (L) Writing Course-Intermediate

- LSH 152L - Humanities: Medieval to Modern

  Credits: 0 TO 4. Offered spring. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, in the modern period. Course Attributes: Lit & Artistic Studies (L) Writing Course-Intermediate

- LSH 161H - Asian Humanities

  Credits: 3. Offered autumn. Coreq., LS 151L or consent of instr. Selective survey of classical South and East Asian perspectives on the humanities. Hinduism, Confucianism, Taoism and Buddhism are the primary traditions considered. Course Attributes: Hist & Cultural Studies (H)

- LSH 191 - Special Topics

  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- LSH 291 - Special Topics

  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- LSH 292 - Independent Study

  Credits: 1 TO 9. (R–9) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

- LSH 294 - Seminar/Workshop

  Credits: 1 TO 6. (R–6) Offered intermittently. A review and discussion of current research. Topics vary.

- LSH 326 - Stories East and West

  Credits: 3. Offered intermittently. A course in Comparative Literature, examining similar genres (creation stories, fables, novels, short stories) in literature from Europe, America and India.

- LSH 327L - Gender & Sexuality in Eng Fict

  Credits: 3. Offered alternate years. Major 20th century novels and short stories written in English by both men and women in different parts of the world, and how these texts explore changing concepts of gender and sexuality. Topics include heterosexuality, homosexuality, bisexuality, transformations, chastity, adultery, ageing, violence, growing up, adolescence and varying definitions of love. Course Attributes: Lit & Artistic Studies (L)

- LSH 328 - Love in Bombay Cinema

  Credits: 3. Offered intermittently. Examines the representation of romantic love in Bombay cinema, in the context of the representation of many types of love, familial, friendly and devotional.

- LSH 329 - Fathers & Daughters in Lit

  Credits: 3. Prereq., WRIT 101. Examines how relationships between fathers and daughters have been represented, celebrated and critiqued in literature in the Western world, from antiquity to the present. Includes discussion of changing patriarchal formations, symbolic and adoptive fatherhood, incestuous rape, homosexuality and role reversals. Texts include Greek tragedy, Shakespeare, romantic poetry, novel, and graphic novel. Both male and female authors.

- LSH 342 - Topics Comparative Lit & Rel

  Credits: 3. Offered every second semester. Same as SSEA 342. These courses compare major traditions, texts and trends in two or more world civilizations or cultures. Works of literature and/or philosophy are examined in their historical contexts, and in relation to each other.

- LSH 351L - Exploring the Humanities

  Credits: 3. (R–9) Offered intermittently. Intensive study of a specific historical period in Western humanities through its seminal literature, with an emphasis on intellectual and ethical paradigms. Course Attributes: Literary & Artistic Stds Crse

- LSH 368 - Shakespeare: Comedy & Tragedy

Credits: 3. Offered yearly. An investigation of the differences, but also affinities, between the two fundamental Shakespearean genres.

- LSH 389E - Placebos: The Power of Words
  Credits: 3. Situated at the crossroads of medicine and the humanities, this course looks into the changing reputation of the placebo effect, with special attention to the power of words to induce therapeutic—or counter-therapeutic—effects. Course Attributes:
  Ethical & Human Values Course
- LSH 390 - Undergraduate Research
  Credits: 1 TO 6. (R–6) Offered intermittently. Directed individual research and study appropriate to the back ground and objectives of the student. Course Attributes: Research & Creative Schlrshp
- LSH 391 - Special Topics
  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- LSH 392 - Independent Study
  Credits: 1 TO 12. (R–12) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.
- LSH 398 - Coop Education/Internship
  Credits: 1 TO 6. Offered intermittently. Prereq., consent of director. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums
- LSH 415 - Same Sex Unions Literature
  Credits: 3. Offered intermittently. Examines the literary representation of same-sex unions in European and Indian literary traditions.
- LSH 416 - The Bhagavad Gita
  Credits: 3. Offered every year or alternate year. Close reading of the Hindi Scripture, Bhagavad Gita in translation, examining its literary, philosophical, ethical and religious dimensions, its influence on Western and Indian literatures, and the way Indian and Western commentators have interpreted and used it.
- LSH 484 - Novel Ancient and Modern
  Credits: 3. Offered yearly. Two antithetical models for the construction of a novel. Course Attributes: Writing Course-Advanced
- LSH 490 - Undergraduate Research
  Credits: 1 TO 6. (R–6) Offered intermittently. Directed individual research and study appropriate to the background and objectives of the student. Course Attributes: Research & Creative Schlrshp
- LSH 491 - Special Topics
  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.
- LSH 492 - Independent Study
  Credits: 1 TO 9. (R–9) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.
- LSH 494 - Seminar/Workshop
  Credits: 3. (R–9) Offered intermittently. Concentrated studies in specific genres and periods.
- LSH 498 - Coop Education/Internship
  Credits: 1 TO 6. Offered intermittently. Prereq., consent of director. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

Religious Studies

Back to Top

- RLST 104 - Introduction to the Bible

  Credits: 3. This course offers an introduction to the modern study of the Bible, including both the Hebrew Bible (Old Testament) and the New Testament. It assumes no prior knowledge of religion, the Bible, Judaism or Christianity. The goal of the course is to understand the Bible's literary structures and themes and its ancient historical contexts. It will approach the Bible from comparative, historical, literary, anthropological and archeological perspectives to illuminate the world of its authors.

- RLST 191 - Special Topics

  Credits: 1 TO 9. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- RLST 198 - Internship

  Credits: 1 TO 6. (R-6) Prereq., consent of faculty supervisor and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- RLST 204H - Intro to the Hebrew Bible

  Credits: 3. An introduction to the history, religion, and literature of ancient Israel and to modern methods in Hebrew Bible (Old Testament) studies. Includes an introduction to the history and religions of ancient West Asia. Course Attributes: Hist & Cultural Studies (H)

- RLST 205 - Introduction to New Testament

  Credits: 3. An introduction to the history, religion, and literature of earliest Christianity and to modern methods in New Testament studies. Includes an introduction to the history and religions of the ancient Mediteranean.

- RLST 221 - Judaism

  Credits: 3. An introduction to Judaism as a religion and to the history of Jewish peoples (in Asia, Africa, Europe, and the Americas) from antiquity to modernity.

- RLST 225 - Christianity

  Credits: 3. Introduction to the historical development of Christian thought and practice in the cultures of late antiquity and the medieval and modern periods.

- RLST 232H - Buddhism

  Credits: 3. A historical introduction to the development of Buddhist thought and practice in the cultures of Asia and the West. Course Attributes: Hist & Cultural Studies (H)
  Cultural Intl Diversity (X)

- RLST 234X - Hindu Religious Traditions

  Credits: 3. Same as SSEA and LS 365. Critical exploration of selected aspects of Hindu thought, narrative and practice, both in contemporary and historical perspective. Focus primarily on India, but with consideration of Hinduism's transformation and impact beyond South Asia. Course Attributes: Cultural Intl Diversity (X)

- RLST 236 - Chinese Religions

  Credits: 3. An exploration of the development of thought and practice in and the interactions between the major religious movements of Chinese religion: Confucianism, Taoism, Buddhism, and folk religion/animism. Course Attributes: Cultural Intl Diversity (X)

- RLST 281E - Comparative Ethics

  Credits: 3. An examination of central theological teachings and modes of ethical reasoning of major religious traditions with models from the East and West. Course Attributes:
  Ethical & Human Values Course

- RLST 291 - Special Topics

  Credits: 1 TO 9. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- RLST 292 - Independent Study

  Credits: 1 TO 6. (R-6) Course material appropriate to the needs and objectives of the individual student.

- RLST 300 - Theory & Method Study of Relig

  Credits: 3. A survey of modern theories and methods in the study of religion. Overview of sociological, anthropological, psychological, phenomenological, comparative, cognitive, and other approaches to the question, What is religion?

- RLST 310 - Topics in Biblical Studies

  Credits: 3. (R-6) Selected topics in modern Hebrew Bible (Old Testament) and New Testament studies. Focus on history, literature, and religions of ancient West Asia, the Mediterranean and North Africa. Topics vary from year to year and include: Israelite religion; prophets and prophecy; biblical history and historiography; ancient Gospels; the letters and communities of Paul; early biblical interpretation; archaeology and iconography of ancient religions; religion and politics in the Bible.

- RLST 320 - Anct Judaism & Early Christnty

  Credits: 3. (R6) Survey of the history and literature of ancient Judaism and early Christianity. Topics include: the emergence of Judaism and Christianity in the Persian, Greek, and Roman empires; religions of ancient West Asia and the Mediterranean; stories of Jewish and Christian origins; the historical Jesus; the early rabbinic movement; the Dead Sea Scrolls; Paul between Judaism and Christianity.

- RLST 335 - Western Religious Thought I

  Credits: 3. Selected studies in the intellectual history of western religions, alternating between studies of periods and seminal thinkers. Emphasis will be on the ancient and medieval periods.

- RLST 336 - Western Religious Thought II

  Credits: 3. Selected studies in the intellectual history of western religions, alternating between studies of periods and seminal thinkers. Emphasis will be on the late medieval and early modern periods.

- RLST 353 - Topics in South Asia Religions

  Credits: 3. (R-6) This course will examine select topics of central importance with respect to the history of interaction between the major religions (Hinduism, Islam, Buddhism, Jainism, Sikhism) of South Asia.

- RLST 354 - Topics in East Asia Religions

  Credits: 3. (R-6) This course will examine select topics of central importance with respect to the history of interaction between the major religions (Confucianism, Taoism, Buddhism, and folk animism and shamanism) of East Asia.

- RLST 366 - Tibetan Civilization

  Credits: 3. An exploration of the history and culture of a unique civilization that has influenced greatly the cultures of Himalayan, East, and South Asia. Special attention will be given to Tibetan religions, but these will be explored within the context of the society's political, social, economic, and other cultural developments.

- RLST 368 - Contemporary Buddhism S/SEAsia

  Credits: 3. As with other major religions, modernity and globalization have presented profound challenges to Buddhist traditions. In this course we will explore various contemporary issues that have affected Theravada Buddhist societies--colonial and post-colonial revivalism, religious nationalism, women's rights and social reform--as case studies in some of the major ways in which religions have confronted modernity.

- RLST 369 - Contemplative Tradtions Asia

  Credits: 3. An exploration of the rich and diverse approaches to mental transformation and cultivation of gnosis as developed by several of Asia's major religious traditions, such as Buddhism, Jainism, Hinduism, Taoism, and Confucianism.

- RLST 370 - Mysticism

  Credits: 3. (R-6) An inquiry into the literature and interpretation of mysticism in the major religious traditions. Each offering will focus on a specific tradition or period.

- RLST 376 - Contemporary Religious Thought

  Credits: 3. (R-6) Study of selected major critical and constructive proposals in modern religious thought in various traditions.

- RLST 391 - Special Topics

Credits: 1 TO 12. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- RLST 392 - Independent Study
  Credits: 1 TO 6. (R-6) Course material appropriate to the needs and objectives of the individual student.
- RLST 491 - Special Topics
  Credits: 1 TO 12. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- RLST 492 - Independent Study
  Credits: 1 TO 9. (R-9) Prereq., consent of instr. Work on selected problems by individual students under direct faculty supervision.

Liberal Studies B.A.

Bachelor of Arts - Liberal Studies; General Liberal Studies Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 42

Required Cumulative GPA: 2.0

Note: Advising closely with the Humanities Advisor and your assigned Liberal Studies advisor is imperative in Liberal Studies. There are substitutions that can occur in this program of study which need to be approved and documented with your faculty advisor.

General Humanities Lower Division Core

Rule: 18-20 credits

Minimum Required Grade: C-

18-20 Total Credits Required

Humanities

Rule: Take both of the following courses. (6-8 credits).

Note: Prerequisite or co-requisite: WRIT 101 or equivalent.
These courses are recommended to be taken early in the curriculum as they are foundational. LSH 152L can be taken prior to LSH 151L.

General Education fulfillment through the lower-division core: Both courses fulfill the "approved writing course" and "Literary & Artistic Studies".

	Course	Credits
	LSH 151L - IntrHumanities:Greek,Bible,Rom Offered autumn. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, comparing and contrasting the Greco–Roman with the Jewish and Christian traditions.	0 To 4 Credits
	LSH 152L - Humanities Medieval to Modern Offered spring. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, in the modern period.	0 To 4 Credits

Minimum Required Grade: C-	8 Total Credits Required

Literary Studies - European or American Literature

Rule: Take one approved 3 credit course.

Note: Please consult with an advisor in Liberal Studies on other course possibilities for this requirement.

	Course	Credits
	LIT 210L - American Lit I Offered every term. Representative texts from the pre-colonial period through the Civil War.	3 Credits
	LIT 211L - American Lit II Offered every term. Representative texts from the Civil War to the present.	3 Credits
	LIT 220L - Brit Lit: Med to Renaissance Offered every term. Representative texts from the Anglo-Saxon period through the Renaissance.	3 Credits
	LIT 221L - Brit Lit: Enlightenment to Rom Offered every term. Representative texts from the seventeenth through the eighteenth century.	3 Credits
	LIT 222L - Brit Lit: Victorian to Contemp Offered every term. Representative texts from the early nineteenth century to the present.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Historical Studies - European or American History

Rule: Take one approved course that is at least 3 credits.

Note: Please consult with an advisor in Liberal Studies on other course possibilities for this requirement.

	Course	Credits
	HSTA 101H - American History I (AM) Offered autumn. A comprehensive introductory history of Colonial, Revolutionary and 19th century America, to 1877. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTA 102H - American History II (AM) Offered spring. A comprehensive introductory history of the U.S. since 1877. Lecture-discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTA 103H - Honors American History I (AM) Offered autumn. Enrollment by consent of instructor. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1877. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits

	HSTA 104H - Honors American History II (AM) Offered spring. Enrollment by consent of instructor. A comprehensive introductory history of the U. S. since 1877. Lecture-honors discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTA 141H - Intro to AfAm Studies (AM) Offered autumn. Same as AAS 141H. This course introduces students to the primary questions, themes, and approaches to African-American Studies. In addition to examining key historical periods such as Reconstruction, the Harlem Renaissance, and the Civil Rights era, students will encounter Hip-Hop, African-American film, African-American religion, and contemporary identity politics. This course concludes by discussing the reasons for and new directions in African-American studies, including diaspora studies, Pan-Africanism, and post-colonial studies. Overall students will gain new insight into the social, cultural, political, and intellectual, experiences of a diverse people and into the history and contemporary experience of the United States.	3 Credits
	HSTA 255 - Montana History (AM) Offered autumn. An introductory and interpretive history from Lewis and Clark to 2000.	3 Credits
	HSTA 262 - Abolitionism (AM) Same as AAS 262. Interdisciplinary, historical perspective on early 19th century movement to abolish slavery and racial discrimination in the United States.	3 Credits
	HSTR 101H - Western Civilization I (EU) Offered autumn. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTR 102H - Western Civilization II (EU) Offered spring. A comprehensive, introductory history of western civilization from 1648 to the present. Lecture-discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits
	HSTR 103H - Honors Western Civilization I (EU) Offered autumn. Limited enrollment by consent of instr. only. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTR 104H - Honors Western Civilization II (EU) Offered spring. Limited enrollment by consent of instructor only. A comprehensive introductory history of western civilization from 1648 to the present. Lecture-honors discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Asian Studies

Rule: Take one approved 3 credit course.

	Course	Credits
	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	CHIN 211H - Chinese Culture and Civiliz Offered intermittently. Same as AS and LS 211H. An introduction to the historical, intellectual, political, literary and social developments of China from early times to the present.	3 Credits
	HSTR 240 - East Asian Civilizations (WRLD) An interdisciplinary, pluralist, and exploratory introduction to civilizations of East Asia. Primary focus on China, Japan, and Korea, the relations among them and their patterns of interaction with the outside world in pre-modern and modern periods.	3 Credits
	HSTR 262H - Islamic Civil: Classical Age (WRLD) A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire.	3 Credits
	HSTR 264 - Islamic Civ: Modrn Era (WRLD) History of the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952.	3 Credits
	JPNS 150H - Japanese Cult & Civiliz Offered intermittently. Same as AS and LS 210H. The historical, religious, artistic, literary and social developments in Japan from earliest times to the present.	3 Credits
	SSEA 102H - Intro to South & S. East Asia Offered intermittently. Same as ANTY 102H/LS 102H. An introduction to South and Southeast Asian regions, cultures, societies, and histories, with particular emphasis on artistic, religious and literary traditions from prehistory to the present. An overview approach with different materials and emphases.	3 Credits
	SSEA 195 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	SSEA 202X - Introduction to India Offered alternate years. This course introduces students to the history, economy, political and legal system, society, culture, religions, and literary and artistic traditions of India, which is the world's largest secular democracy and the birthplace of four major world religions.	3 Credits
	SSEA 212S - Southeast Asian Cult & Civ Offered intermittently. Introduction to the cultures, social organization, and contemporary events of Southeast Asia.	3 Credits

	SSEA 232H - Buddhism Offered autumn. Same as RLST 232H. A historical introduction to the development of Buddhist thought and practice in the cultures of Asia and the West.	3 Credits
	SSEA 234X - Hindu Religious Traditions Offered spring, odd-numbered years. Same as RLST 234X. Critical exploration of selected aspects of Hindu thought, narrative and practice, both in contemporary and historical perspective. Focus primarily on India, but with consideration of Hinduism's transformation and impact beyond South Asia.	3 Credits
	SSEA 295 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

Religious Studies

Rule: Take one approved 3 credit course.

	Course	Credits
	RLST 191 - Special Topics (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	RLST 204H - Intro to the Hebrew Bible An introduction to the history, religion, and literature of ancient Israel and to modern methods in Hebrew Bible (Old Testament) studies. Includes an introduction to the history and religions of ancient West Asia.	3 Credits
	RLST 205 - Introduction to New Testament An introduction to the history, religion, and literature of earliest Christianity and to modern methods in New Testament studies. Includes an introduction to the history and religions of the ancient Mediteranean.	3 Credits
	RLST 221 - Judaism An introduction to Judaism as a religion and to the history of Jewish peoples (in Asia, Africa, Europe, and the Americas) from antiquity to modernity.	3 Credits
	RLST 225 - Christianity Introduction to the historical development of Christian thought and practice in the cultures of late antiquity and the medieval and modern periods.	3 Credits
	RLST 232H - Buddhism A historical introduction to the development of Buddhist thought and practice in the cultures of Asia and the West.	3 Credits

	RLST 233 - Tradtns of Buddhist Meditation Prereq. or coreq., RLST 232 H. A critical and phenomenological introduction to meditation as the Buddhist method of systematic inquiry into the nature of the mind and its role in the construction of experience.	3 Credits
	RLST 234X - Hindu Religious Traditions Same as SSEA and LS 365. Critical exploration of selected aspects of Hindu thought, narrative and practice, both in contemporary and historical perspective. Focus primarily on India, but with consideration of Hinduism's transformation and impact beyond South Asia.	3 Credits
	RLST 236X - Chinese Religions An exploration of the development of thought and practice in and the interactions between the major religious movements of Chinese religion: Confucianism, Taoism, Buddhism, and fold religion/animism.	3 Credits
	RLST 238X - Japanese Religions Offered at least once every two years. An introductory exploration of Japan's unique religious synthesis of Buddhist, Shinto, Taoist, Confucian and folk/shamanistic traditions.	3 Credits
	RLST 281E - Comparative Ethics An examination of central theological teachings and modes of ethical reasoning of major religious traditions with models from the East and West.	3 Credits
	RLST 291 - Special Topics (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		3 Total Credits Required

Humanities Upper Division Requirements

Rule: 24 credits.

Note: Please work closely with the Humanities Advisor and your faculty advisor in selecting and planning coursework.

Minimum Required Grade: C-

24 Total Credits Required

History

Rule: One course (3 credits) of approved coursework.

	Course	**Credits**
	HSTA 311 - Early America (AM) Emphasis changes from year to year. Can touch upon the political economy of Puritanism, through gender and family to the preconditions for the American Revolution.	3 Credits

	HSTA 314 - Nature, Knowledge & Empire (AM) Offered alternate years. This course examines the entangled processes of human and environmental change in America and the Atlantic world from prehistoric times through the nineteenth century. We will examine the ways Native Americans and Europeans interacted with land and sea and the social and ecological repercussions that ensued. We will also look at the ways Atlantic world systems of exchange, including the movement of animals, disease, commodities, manufactured goods, and slaves effected environmental change. Finally, we will also explore the ways Renaissance and Enlightenment thought shaped the ways people understood the natural world and how that radically changed with industrialization and the shift to Romanticism.	3 Credits
	HSTA 315 - Early American Republic (AM) Democracy, nationalism and sectionalism, the War of 1812, the second party system, social order and disorder, the capitalist revolution.	3 Credits
	HSTA 316 - American Civil War Era (AM) Civil War and Reconstruction; the triumph of the industrialist and capitalist ethic.	3 Credits
	HSTA 320 - Birth of Modern US (AM) The history of the U.S. from 1877 to 1920 is largely the story of Americans responding to profound social, cultural and economic change. In an effort to bring order to their changing world, Americans created new institutions, retooled their ideologies, and improved the nation's infrastructure. The order they created is, in modified form, still with us today. Students will explore the myriad changes that transformed the United States during this period and study the social, political, and cultural struggles that shaped the emergence of Modern America.	3 Credits
	HSTA 321 - America in Crisis (AM) This era in U.S. history was marked by a series of crises: the contested transition to modernity during the 1920s, the Great Depression, and World War II and its aftermath. This course will explore how Americans responded to these crises, why they responded to them the way they did, and how their responses altered the society in which they lived.	3 Credits
	HSTA 322 - American History: WWII to Pres (AM) The Cold War and its consequences, the civil rights revolution, affluence and anxiety, counter-culture, political radicalism, feminism, the Nixon years, Watergate and after.	3 Credits
	HSTA 323 - U.S. in the 1950s (AM) Examines the political, social, cultural, intellectual developments of America in the 1950s. Particular emphasis is placed on cultural history.	3 Credits

	HSTA 324 - U.S. in the 1960s (AM) Examines the political, social, cultural, intellectual developments of America in the 1960s. Topics include the Great Society, political radicalism, the counter culture, black radicalism, and Vietnam.	3 Credits
	HSTA 327 - Atlantic World Slavery (AM) Offered alternate years. This course will examine the development and demise of slavery in the early modern Atlantic world, from the late fifteenth to the late nineteenth centuries. Specifically, we will explore the ways the transatlantic slave trade forged economic and cultural connections between Europe, Africa, and the Americas, thereby causing immeasurable suffering while conditioning conceptions of race, reshaping politics and religion, and transforming the ecology of nearly a third of the globe.	3 Credits
	HSTA 333 - Key Events in American Militar (R-6) (AM) The French and Indian Wars to Vietnam and beyond; chronological and topical accounts.	3 Credits
	HSTA 335 - Movie America (AM) This course examines major topics and themes in United States history from the early twentieth century to the present using movies as primary sources.	3 Credits
	HSTA 342H - Afr Amer Hist to 1865 (AM) Offered intermittently. Same as AAS 342H. Survey of the African American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism.	3 Credits
	HSTA 343H - Afr Amer Hist Since 1865 (AM) Same as AAS 343H. Study of the African American experience since the Civil War. Change and continuity in the African American experience, the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges.	3 Credits
	HSTA 347 - Voodoo, Muslim, Church (AM) The African American religious experience encompasses Islam, Christianity, Santeria, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course question, "How did religion shape the experience of the African-American community?" Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history. Same as AAS 347.	3 Credits

	HSTA 354X - Ind MT Since Reserv Era (AM) Offered autumn odd-numbered years. Same as ANTH 324X and NAS 324X. Examination of the history of Montana Indians since the establishment of the reservations, contemporary conditions, and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.	3 Credits
	HSTA 358 - Images of the Amer West (AM) Offered even-numbered years. The roles that artists, artistic works and illustrations, and symbolic images have played in the history of the American West.	3 Credits
	HSTA 361 - The American South (AM) Social history of the American South with particular attention to race, class, and gender.	3 Credits
	HSTA 370H - Wmn Amer Colonial to Civil War Offered autumn. Interpretive overview of major themes and events in U.S. womens history to 1865. Same as WGS 370H.	3 Credits
	HSTA 371H - Wmn Amer Civil War to Present Offered spring. Interpretive overview of major themes and events in U.S. women's history from 1865 to the present. Same as WGS 371.	3 Credits
	HSTA 372 - The American Revolution (AM) Delving into the history of the early modern Atlantic world, this course examines the transnational ramifications of the American Revolution. Specifically, it examines the Revolution's economic and ideological origins, European involvement in the Revolutionary War, as well as the Revolution's impact on African American slavery and the slave trade. We will also consider its implications for Haitian and Latin American independence. And finally, we will discuss the creation of the U.S. Constitution, America's struggle for political sovereignty, and the Revolution's impact on Native Americans, women and families, and conceptions of American identity during the Early National period.	3 Credits
	HSTA 380 - AmericanConstitutional History (AM) An examination of major issues in the American constitutional past. Topics include the creation of the U.S. Constitution and the problem of ?original intent,? courts and judicial review, slavery and anti-slavery, the bill o frights, industrial capitalism and the welfare state, and majority rule and minority rights in American democracy.	3 Credits
	HSTA 382H - History of American Law (AM) Issues in the social history of law from the colonial period to the present.	3 Credits
	HSTA 385 - Families & Children in America (AM) Historical overview of families and children in the United States from the colonial era to the present. Topics include changing patterns of family life, the evolution of attitudes toward children and youth, the relationship between the American family and the nation-state, and debates over "family values" from the nation's founding to the present.	3 Credits

	HSTA 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTA 415 - The Black Radical Tradition Offered intermittently. Same as HSTA 415. Prereq., HSTR 200 and only open to majors and minors in history or consent of instructor. From slave revolts through to the Move rebellion in Philadelphia, this course examines how the African-American community has engaged in radical efforts to change the status quo in the name of seeking justice.	3 Credits
	HSTA 417 - Prayer & Civil Rights (AM) Same as HSTA 417. HSTR 200 and only open to majors and minors in history or consent of instructor. This course explores the meaning of public prayer in the Civil Rights Movement. Built around the question, "Does religion help or hinder the pursuit of social change?" this class combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. By focusing on a particular religious practice - in this case prayer - in a specific, but limited period of time, this course challenges students to consider how meaning is formed through historical action and study the social significance of religious practice. This formed through historical action and study the social significance of religious practice. This course complicates prevailing ideas about the normalcy of African-American religious practitioners' prayer, invites students to examine their assumptions about the nature of prayer, and traces how religion spilled out of sanctuaries into the streets during the civil rights era.	3 Credits
	HSTA 420 - America Divided, 1848-1865 (AM) Offered intermittently. Same as AAS 420. This course explores the period in American history from the close of the Mexican War through the conclusion of the Civil War. Topics include slavery and sectionalism; race and racism; immigration and ethno-religious conflict; military mobilization and wartime dissent; the meaning of freedom in the age of emancipation. This course is intended to hone skills fundamental to the historical discipline: the critical analysis of primary sources; independent primary research and historical writing; engagement with and assessment of historical scholarship; the construction of a historiographical essay. Upper division writing course for the history major.	3 Credits
	HSTA 422 - Research: U.S. After WWII (AM) Prereq. HSTR 200. Enrollment for history majors and minors , graduate students in history, or by consent of the instructor. This course offers students an opportunity to do original research and produce an article-length research paper on a topic in post-war American history. It meets the department's requirement of an upper-level research seminar as well as the upper-division writing expectation in the major.	3 Credits

	HSTA 455 - Indian, Bison, & Horse (AM) Offered autumn odd-numbered years. Historical interaction between Native American societies, horses and bison in North America. A writing intensive course. Upper division writing course for the history major.	3 Credits
	HSTA 461 - Research in Montana History (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. This course is a research and writing seminar in Montana history. Students will learn advanced research methodology in history and will be exposed to a variety of databases and source collections in Montana history that are available locally and online. Students will research and write a primary-source based paper on a topic in Montana history. This course fulfills the upper-division writing requirement for the history department and the university.	3 Credits
	HSTA 462 - Regionalism & Rocky Mtn West (AM) Offered spring odd-numbered years. Same as GEOG 401. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political and cultural entity. An intensive writing class.	3 Credits
	HSTA 469 - Atlantic America Research (AM) Offered intermittently. Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. This seminar is designed to teach advanced undergraduate and graduate students the fundamentals of original research in the fields of early American and Atlantic world history. Every student will pursue an original research project, based on primary materials, and focused chronologically within the period of early contact to the U.S. Civil War. You will read texts that will serve as models of historical writing and others that will help you develop your skills as a researcher, writer, and editor. We will hone our writing skills through drafting and discussion. Consent of instructor required.	3 Credits
	HSTA 471 - Writing Women's Lives (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Consent of instructor required. Upper-division writing-intensive seminar in women's history. Students will write an original research paper based on primary source materials.	3 Credits
	HSTA 491 - Special topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTA 494 - Seminar (R-6) Consent of instructor.	1 To 6 Credits
	HSTR 302 - Ancient Greece (EU) Offered intermittently. Same as MCLG 301H. Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians. Cannot receive credit for both HSTR 302 and MCLG 301H.	3 Credits

	HSTR 306 - Medieval World: Barbarian West (EU) Offered intermittently. The collapse of Roman authority, the establishment of the Germanic kingdoms, Christianity and the Roman church.	3 Credits
	HSTR 306H - Medieval World: Barbarian West (EU) Offered autumn. The collapse of Roman authority, the establishment of the Germanic kingdoms, Christianity and the Roman church.	3 Credits
	HSTR 307H - Medieval World: High Middle Ag (EU) Offered spring. The Christian world in the West to the decline of the papacy, a hundred years of war, the Black Death.	3 Credits
	HSTR 312 - Age of Absolut 1648-1789 (EU) The political, economic, intellectual, and social development of Europe 1648-1789.	3 Credits
	HSTR 315 - The Reformation (EU) Offered intermittently. The Reformation and its impact on European society, politics, economic theory and religious thought from 1500 to 1600; the Counter-Reformation.	3 Credits
	HSTR 317 - Renaissance & Reform (EU) Offered intermittently. The political, economic, intellectual and social development of Europe from 1348 to 1648.	3 Credits
	HSTR 320H - Europ Social & Intellect Hist Offered autumn. The influence of the Renaissance, Baroque and Classical Ages, and the Enlightenment on early modern history.	3 Credits
	HSTR 323H - Europ Social & Intellect Hist: Offered autumn. Romanticism, Realism, and the Avant Garde against the historical background of the Industrial Revolution and urbanization.	3 Credits
	HSTR 325H - Europ Social & Intellect Hist: (EU) Offered spring. The triumph of the Avant-Garde and the decline of traditional culture: 1914-1945.	3 Credits
	HSTR 326H - Contemporary Europe (EU) Offered autumn odd-numbered years. European politics, culture, and society since 1945.	3 Credits
	HSTR 334 - Latin America: Reform and Revo (WRLD) Different ideologies and projects in Latin America aimed at gradual or radical transformation of political systems and/or socio-economic relations. From the Haitian Revolution to the Bolivarian vision of Hugo Chavez.	3 Credits
	HSTR 335 - Lat Am Workers & Labor (WRLD) Study of the experiences and agency of diverse working people in Latin America. Influence of race, ethnicity, gender, religion, and generation on working class identity and movements. Labor organizations and politics in historic context.	3 Credits

	HSTR 343H - Modern Japan (WRLD) Offered spring. Japanese culture, politics, and economics since 1800: the Tokugawa period, the Meiji Restoration, militarization and the Great Pacific War, the American occupation, Japan as a model of modernization.	3 Credits
	HSTR 345H - Modern China (WRLD) Offered autumn. China since 180, emphasizing internal weaknesses of the Manchu dynasty, confrontation with the west, and the emergence of Nationalist and Communist regimes.	3 Credits
	HSTR 348 - Britain 1485-1688 (EU) Social, political, religious, and intellectual history of the British peoples during the tumultuous period of reformation, exploration, constitutional crisis, and civil war.	3 Credits
	HSTR 349 - Britain from Rev - Reform 1688 (EU) The social, political, cultural, and intellectual consequences of British expansion, financial and industrial revolutions, and revolutionary movements.	3 Credits
	HSTR 350 - Modern Britain (EU) Social, political, intellectual and cultural history of the United Kingdom from an age of industry, empire, and political reform to one of economic decline and international retreat.	3 Credits
	HSTR 352 - France Revol 1789-1848 (EU) Political, economic, and social upheaval and development.	3 Credits
	HSTR 353 - Modern France (EU) Political, economic and social development.	3 Credits
	HSTR 354 - Italy: 1300-1800 (EU) The emergence of the Italian states with an emphasis on cultural achievements in the late Medieval, Renaissance, Baroque, and Neoclassical periods.	3 Credits
	HSTR 355 - Italy: 1800-Present (EU) The emergence of a united Italy, the triumph of fascism and contemporary Italian society.	3 Credits
	HSTR 357 - Russia to 1881 (EU) Emphasis on the autocratic political tradition, Westernization, and territorial expansion.	3 Credits
	HSTR 358 - Russia Since 1881 (EU) Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system.	3 Credits
	HSTR 361 - Germ:Augsburg-Bismarck (EU) Political, economic and social development of the states of the Holy Roman Empire from 1555-1866.	3 Credits
	HSTR 363 - Eastern Europe (EU) Main currents in the history of Eastern Europe from earliest times to the present. Focus on the lands of Poland, Bohemia, Hungary, and the Balkan region.	3 Credits

	HSTR 364 - Environmental History (AM) Prereq., lower-division course in Perspective 5 or consent of instr. A history of the human-nature interaction in the United States.	3 Credits
	HSTR 367 - 19th Cent Amer West (AM) Euro-American movement and conflict in the nineteenth century trans-Mississippi west.	3 Credits
	HSTR 368 - Iran Betw Two Revol (WRLD) The several intellectual traditions and philosophies some ephemeral and visionary, most eclectic and confused, and virtually all conflicting that are usually believed to underlie the varying concept of Iranian and Arab nationalism in the 20th century.	3 Credits
	HSTR 369 - 20th Cent Amer West (AM) The contemporary trans-Mississippi West.	3 Credits
	HSTR 374 - War, Peace, & Society (WRLD) A thematic and interdisciplinary approach to warfare and peace, sociopolitical structures and military organization, power among states, technological change, the role of the individual in organized violence, and moral views of war and peace.	3 Credits
	HSTR 377 - European Internal Relat (EU) The nature, evolution, and functions of the European diplomatic system from the Ancient World to 1870.	3 Credits
	HSTR 378H - Global Dipl Cold War (WRLD) Offered intermittently. Deals with the emergence of the Cold War, confrontations like the Cuban Missile Crisis, wars like those in Korea and Vietnam, strategies of deterrence, the rise of Gorbachev, the collapse of the Iron Curtain and the Cold War itself, and the long term implications of the Cold War on contemporary international relations.	3 Credits
	HSTR 384 - Hist Internat Human Rights (WRLD) Offered intermittently. A treatment of the powerful global influence of visions of human rights upon the historical and contemporary world in which movements such as abolitionism, women's rights, humanitarian law, racial equality, decolonization and democratization, and the impact of the Universal Declaration of Human Rights.	3 Credits
	HSTR 386 - Nationalism in Mod Middle East (WRLD) The socioeconomic, political, and cultural causes which resulted in the transformation of the Iranian society from a traditional Islamic entity to a modern secular state and the factors which led to the downfall of the secular state and the establishment of an Islamic republic.	3 Credits
	HSTR 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 392 - Independent Study (R-12)	1 To 12 Credits

	HSTR 394 - Seminar (R-6) A review and discussion of current research. Topics vary.	1 To 6 Credits
	HSTR 396 - Independent Study (R-12) Course material appropriate to the needs and objectives of the individual student.	1 To 12 Credits
	HSTR 400 - Historical Research Seminar Prereq., HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Topics vary according to the instructor. The goal of this course is for students to propose and execute a substantial research project. Upper division writing course for the history major.	3 Credits
	HSTR 401 - The Great Historians (EU) The history and philosophy of history.	3 Credits
	HSTR 418 - Britain 1500 - 1800 (EU) Prereq., HSTR 200. Recommended HSTR 348 or 349. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Students will discuss specific issues in the historiography of the early modern period in British history (c1500-1800) and produce research papers grounded in primary sources.	3 Credits
	HSTR 435 - Lat Am Human Rgts & Memory (WRLD) The legacy of state violence and ongoing struggles for truth and justice in select Latin American case studies. Different uses of memory and narration in bearing witness to social and political conflict and human rights violations.	3 Credits
	HSTR 437 - US-Latin America Relations (WRLD) Prereq., HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Research and writing seminar on U.S.-Latin American relations from the late 18th century through the 20th century.	3 Credits
	HSTR 441 - Central Asia Seminar (WRLD) Advanced analysis of the historical and contemporary issues involving the human communities, cultures, and economies in Central and Southwest Asia.	3 Credits
	HSTR 442 - Cities/Landscps Central Asia (WRLD) Same as ANTY 442. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.	3 Credits
	HSTR 448 - Tradition & Reform in China (WRLD) Prereq., junior standing or consent of instructor. A history of key reform movements from the mid-19th century (when China was rocked by rebellion and the entry of the West) to the Maoist period.	3 Credits
	HSTR 449 - Revolution & Reform in China (WRLD) Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits

	HSTR 455 - Public History (AM) Offered intermittently. Review of selected areas in which public historians work. Examination of how the public historian's role may differ from the academic historian. Focus on specific approaches, issues, and problems in a variety of areas of public history.	3 Credits
	HSTR 457 - World of Anna Karenina (EU) Offered fall. Tolstoy's classic novel as a point of entry into a multifaceted exploration of imperial Russian culture and society. Topics include family life, social relations, modernization, politics, religion and spirituality, gender and sexuality.	3 Credits
	HSTR 458 - Russian Revolution 1900-1930 (EU) Offered spring. The causes, course, character, and consequences of the Bolshevik Revolution.	3 Credits
	HSTR 459 - Artistic Trad Cent & SW Asia (WRLD) Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits
	HSTR 470 - Dynamics of Diplomacy (WRLD) Offered intermittently. An interdisciplinary, global, and thematic approach to major issues in foreign affairs brought about by world wars, diplomatic expansion, the collapse of cultural homogeneity, technological developments, and the rise of public opinion.	3 Credits
	HSTR 472 - Problems of Peace and Security (WRLD) Offered intermittently. Prereq., lower-division course in Perspective 5 or consent of instr. Contemporary and historical problems of civilian policy and military strategy, power and technology, intelligence operations in democratic societies, human rights and security issues, conscription, and ethics in statecraft.	3 Credits
	HSTR 481 - Trad/Reform in China (WRLD) Taught annually. Prereq., junior standing or consent of instructor. A history of key reform movements from the mid-19th century (when China was rocked by rebellion and the entry of the West) to the Maoist period.	3 Credits
	HSTR 491 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTR 492 - Independent Study (R-12) Prereq., consent of instr.	1 To 12 Credits
	HSTR 494 - Seminar (R-6) Prereq., consent of instr. A review and discussion of current research. Topics vary.	1 To 6 Credits
	HSTR 495 - Special Topics (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits

Minimum Required Grade: C-	3 Total Credits Required

Philosophy or Political Theory

Rule: One course (3 credits) of approved coursework.

	Course	Credits
	HSTR 302 - Ancient Greece (EU) Offered intermittently. Same as MCLG 301H. Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians. Cannot receive credit for both HSTR 302 and MCLG 301H.	3 Credits
	NASX 475X - Tribal Sovereignty Offered Spring. Same as PSCI 475. An examination of the evolution of tribal governments from a historical and political perspective. Particular attention is devoted to the issues of tribal sovereignty and tribal-state conflicts.	3 Credits
	PHL 363H - Ancient Greek and Roman Phil Offered intermittently. Examination of the thought of the philosophers of Greece and Rome as expressed in original works read in English translation. Ancient philosophy studied within its historical, linguistic and cultural setting.	3 Credits
	PHL 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PHL 491 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	PSCI 322H - Politics of Europe Offered autumn. Prereq., PSC 100S and junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.	3 Credits
	PSCI 336 - European Union Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of political and economic integration in Europe with a focus on the political system of the European Union.	3 Credits
	PSCI 350 - Exp Offering: Political Theory (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 6 Credits

	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 354 - Contemp Issues in Pol Theory (R-6) Offered intermittently in autumn. Prereq., PSCI 250E or consent of instr. and junior standing. Topics variable. Research and assessment of current political and social issues through the study of a representative text and related literature.	3 Credits
	PSCI 355 - Theories of Civil Violence Offered autumn. Prereq., junior standing or consent of instr. Survey of the theoretical literature on civil violence, its causes and consequences. Analysis of violence as a political technique and of counter measures designed to prevent or control it.	3 Credits
	PSCI 357 - Ancient & Medieval Pol Phil Offered autumn. The classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of legitimate authority.	3 Credits
	PSCI 450 - Exp Offering: Political Theory (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.	1 To 9 Credits
	PSCI 451E - Ancient & Medieval Pol Phil Offered autumn. Prereq., PSCI 250E (PSC 150E) or consent of instr. The classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of legitimate authority.	3 Credits
	PSCI 452 - Utopianism and its Critics Offered intermittently. Prereq., junior standing. Examination of classic and contemporary utopias, from Plato's Republicto Barbara Goodwin's Justice by Lottery as well as their critics.	3 Credits
	PSCI 453E - Modern Political Theory Offered autumn. Prereq., PSC 150E or consent of instr. Analysis of Hobbes, Locke, Rousseau, Burke, James and John Stuart Mill, Marx and Lenin with regard to their ?modern? views of the purpose(s) of political inquiry, the nature of citizenship and popular sovereignty. Particular attention to contemporary implications of ideas.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Women's and Gender Studies, Native American Studies, or African-American Studies

Rule: One course (3 credits) of approved coursework.

	Course	Credits
	AAS 342H - Afr Amer Hist to 1865 Offered intermittently. Same as HSTA 342H. Survey of the African-American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism.	3 Credits
	AAS 343H - Afr Amer Hist Since 1865 Offered intermittently. Same as HSTA 343H (HIST 379H). Study of the African-American experience since the Civil War. Change and continuity in the African-American experience, the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges.	3 Credits
	AAS 347 - Voodoo, Muslim, Church Offered intermittently. Same as HSTA 347. The African-American religious experience encompasses Islam, Christianity, Santería, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course is the question, "How did religion shape the experience of the African-American community?" Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history.	3 Credits
	AAS 372 - African American Identity Offered autumn. Interdisciplinary course designed to explore and illuminate the multifaceted nature and development of African-American group and individual identity.	3 Credits
	AAS 395 - Special Topics (R-9) Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 9 Credits
	AAS 396 - Independent Study (R-9) Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	AAS 415 - The Black Radical Tradition Offered intermittently. Same as HSTA 415. Prereq., HSTR 200 and only open to majors and minors in history or consent of instructor. From slave revolts through to the Move rebellion in Philadelphia, this course examines how the African-American community has engaged in radical efforts to change the status quo in the name of seeking justice.	3 Credits

	AAS 417 - Prayer & Civil Rights (AM) Same as HSTA 417. HSTR 200 and only open to majors and minors in history or consent of instructor. This course explores the meaning of public prayer in the Civil Rights Movement. Built around the question, "Does religion help or hinder the pursuit of social change?" this class combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. By focusing on a particular religious practice - in this case prayer - in a specific, but limited period of time, this course challenges students to consider how meaning is formed through historical action and study the social significance of religious practice. This formed through historical action and study the social significance of religious practice. This course complicates prevailing ideas about the normalcy of African-American religious practitioners' prayer, invites students to examine their assumptions about the nature of prayer, and traces how religion spilled out of sanctuaries into the streets during the civil rights era.	3 Credits
	AAS 420 - America Divided, 1848-1865 Offered intermittently. Same as HSTA 420. This course explores the period in American history from the close of the Mexican War through the conclusion of the Civil War. Topics include slavery and sectionalism; race and racism; immigration and ethno-religious conflict; military mobilization and wartime dissent; the meaning of freedom in the age of emancipation. This course is intended to hone skills fundamental to the historical discipline: the critical analysis of primary sources; independent primary research and historical writing; engagement with and assessment of historical scholarship; the construction of a historiographical essay.	3 Credits
	AAS 495 - Special Topics (R-9) Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 9 Credits
	AAS 496 - Independent Study (R-9) Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	ANTY 427 - Anthropology of Gender Offered spring. Comparative study of the history and significance of gender in social life.	3 Credits
	ARTH 436 - The History of Women in Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH250L or consent of instructor. Exploration of women and art from prehistory to the present.	3 Credits

	CLAS 320 - Women in Antiquity Offered intermittently. Prereq., any one MCLG course in Classical Civilization or LATN 102 or GRK 102 or consent of instructor. Examination of varied sources from Ancient Greece, the Hellenistic World, and republican and imperial Rome to clarify the place of women in communities. Women's contribution to community and the mechanisms by which communities attempted to socialize female populations.	3 Credits
	COUN 485 - Counseling Theories Offered autumn. Prereq., PSYX 100S. Same as PSYX 442 and SW 485. Introduction to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies, and diversity issues.	3 Credits
	HSTA 370H - Wmn Amer Colonial to Civil War Offered autumn. Interpretive overview of major themes and events in U.S. womens history to 1865. Same as WGS 370H.	3 Credits
	HSTA 371H - Wmn Amer Civil War to Present Offered spring. Interpretive overview of major themes and events in U.S. women's history from 1865 to the present. Same as WGS 371.	3 Credits
	HSTA 385 - Families & Children in America (AM) Historical overview of families and children in the United States from the colonial era to the present. Topics include changing patterns of family life, the evolution of attitudes toward children and youth, the relationship between the American family and the nation-state, and debates over "family values" from the nation's founding to the present.	3 Credits
	HSTA 418 - Women and Slavery (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Study of the connection between women's status and slavery in antebellum America, looking at slave women, slaveholding women, and antislavery women. Upper division writing course for the history major.	3 Credits
	HSTA 419 - Southern Women (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Examination of the connections between race, class, and gender in the South. Conflict and cooperation among black and white women in politics, reform, and work. Upper division writing course for the history major.	3 Credits
	HSTA 471 - Writing Women's Lives (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Consent of instructor required. Upper-division writing-intensive seminar in women's history. Students will write an original research paper based on primary source materials.	3 Credits

	LIT 378L - Gay and Lesbian Studies Offered alternate years. Prereq., LIT 300 or consent of instr. Review of the history of the gay and lesbian movement in the twentieth century as a basis for understanding the political, social, and sexual issues that influenced homoerotic cultural representation in plays, films, and novels.	3 Credits
	LSH 327L - Gender & Sexuality in Eng Fict Offered alternate years. Major 20th century novels and short stories written in English by both men and women in different parts of the world, and how these texts explore changing concepts of gender and sexuality. Topics include heterosexuality, homosexuality, bisexuality, transformations, chastity, adultery, ageing, violence, growing up, adolescence and varying definitions of love.	3 Credits
	LSH 329 - Fathers & Daughters in Lit Prereq., WRIT 101. Examines how relationships between fathers and daughters have been represented, celebrated and critiqued in literature in the Western world, from antiquity to the present. Includes discussion of changing patriarchal formations, symbolic and adoptive fatherhood, incestuous rape, homosexuality and role reversals. Texts include Greek tragedy, Shakespeare, romantic poetry, novel, and graphic novel. Both male and female authors.	3 Credits
	NASX 303E - Ecol Persp in Nat Amer Trad Offered Autumn and Spring. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.	3 Credits
	NASX 304E - Native American Beliefs/Philos Offered Autumn and Spring. A study of selected ethical systems; origins, world views; religious beliefs and the way they have been affected by western civilization.	3 Credits
	NASX 306X - Contemp Global Iss Indg People Offered Autumn. An examination of the major issues that affect the contemporary experiences of Indigenous Peoples of the Americas, and other global communities.	3 Credits
	NASX 340 - Native American Lit Offered Autumn. Prereq., three credits of lower-division LIT courses and NASX 105H or 235X. Same as LIT 305. Selected readings from Native American Literature and criticism with emphasis on the literatures after the Native American literary Renaissance. A minimum of three genres covered and three culture areas.	3 Credits

	NASX 351 - Traditional Eco Knowledge ?Offered summer. This course is one unit of the four unit (12 credit) summer semester program: “Wild Rockies Summer Semester.” Description: This course will explore the traditional ecological perspectives of the Salish, Kootenai, Blackfeet and Tlingit people, as well as how these perspectives relate to Western concepts of ecology. Through field-based activities, lectures by tribal elders, and personal exploration, students will come to a heightened understanding of the still vital cultural perspectives and practices of modern American Indians, particularly in the Rockies of Montana and Canada.	3 Credits
	NASX 352 - Afr Amer Hist to 1865 Offered autumn. This course is one unit of the four unit (12 credit) fall semester program: “Montana Afoot & Afloat: Human/Land Relations.” Description: This course gives students a greater understanding of Indian people’s traditional relationships with the land in Montana, and an understanding of how and why those relationships may have changed. Extensive time will be spent on the Fort Belknap, Northern Cheyenne and Crow Reservations where the class will meet with tribal elders and learning will have an emphasis on environmental and tribal/land relationships.	3 Credits
	NASX 354X - Indians of MT since Rsrvtn Era Offered Autumn. Same as HSTA 354. Examination of the history of Montana Indians since the establishment of the reservations, contemporary conditions, and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.	3 Credits
	NASX 360 - Native Amer and Cinema Offered Autumn or Spring. Same as ENFM 344. Surveys the image of Native Americans in American film with an emphasis on "revisionist," or "breakthrough" films. Ultimate focus will be on films featuring Native American writers, directors and actors.	3 Credits
	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
	NASX 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	NASX 394 - Workshop/Seminar (R-6) Offered intermittently. Variable topics addressing Indian law, policy and culture by visiting scholars.	1 To 6 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits

	NASX 405H - Gndr Iss in Native Amer Stdies Offered intermittently. Same as WS 342H. Focus on American Indian gender relations and their cultural continuity and historical evolution. National in scope with concentration on certain tribes. Group analysis of contemporary gender issues relevant to Native American peoples.	3 Credits
	NASX 464 - Hist Amer Indian Affrs to 1776 Offered Autumn. Same as HIST 464. A study of American Indian relations with Europeans and the United States from first contact to 1776.	3 Credits
	NASX 465 - Hist Amer Indian Affrs 10 Cent Offered Spring. Same as HIST 465. A study of tribal encounters and adjustments to the American nations in the nineteenth century.	3 Credits
	NASX 466 - Hist of Indian Affrs from 1890 Offered Autumn. Same as HIST 466. A study of tribal encounters and adjustments to the American nation from 1890.	3 Credits
	NASX 475 - Tribal Sovereignty Offered Spring. An examination of the evolution of tribal governments from a historical and political perspective. Particular attention is devoted to the issues of tribal sovereignty and tribal-state conflicts.	3 Credits
	NASX 488 - Stds in Native Amer Autobio Offered intermittently. Same as LIT 429. Prereq., LIT 300 or LIT 305/NASX 340, or consent of instr. Study of texts that present a first-person story of Native American individual's life within historical and cultural contexts, with discussion of theories of autobiography.	3 Credits
	NASX 491 - Independent Study (R-6) Prereq., upper-division standing and consent of instr. Selected topics on American Indians under the direct supervision of a faculty member.	1 To 6 Credits
	NASX 492 - Special Topics (R-9) Offered by special arrangement. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.	1 To 6 Credits
	NASX 494 - Seminar/Workshop (R-6) Offered Spring. Prereq., NAS major or minor, 18 credits in NAS, and junior standing or higher. Senior reading capstone course for the review of past and current literature on and by American Indians.	3 Credits
	NASX 499 - Senior Capstone/Thesis (R-9) Offered by special arrangement. Prereq., NAS major or minor, 18 credits in NAS, junior standing, and consent of instr. Independent research project in Native American Studies, supervised by a faculty member, and leading to completion of baccalaureate degree.	3 To 9 Credits
	PSYX 348 - Psychology of Family Violence Offered spring. Prereq., PSYX 100S. Same as WGS 385. Exploration of theoretical explanations for the presence of violence in American families; research and interventions in such areas as child physical and sexual abuse, battering of women, marital rape, spousal homicide, etc.	3 Credits

	RLST 370 - Mysticism (R-6) An inquiry into the literature and interpretation of mysticism in the major religious traditions. Each offering will focus on a specific tradition or period.	3 Credits
	WGS 336 - American Women Writers Offered spring odd-numbered years. Prereq., LIT 300 or consent of instr. Same as LIT 335. Consideration of political and aesthetic purposes in women's fiction through a progression of 19th century literary forms: a cautionary seduction novel, sentimental and domestic novels, realism, naturalism, and utopianism.	3 Credits
	WGSS 363 - Feminist Theory and Methods Offered spring. In-depth exposure to feminist views and critique of the ethics and methods of scientific, social, and literary inquiry. Includes exposure to primary sources and current societal and global issues and movements, research finding, and literature exemplifying these methods of inquiry and the gendered dimensions of such inquiry.	3 Credits
	WGSS 390 - Undergraduate Research (R-6) Offered intermittently. Directed individual research and study appropriate to the back ground and objectives of the student.	1 To 6 Credits
	WGSS 391 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	WGSS 392 - Independent Study (R-12) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 12 Credits
	WGSS 398 - Coop Education/Internship R-6) Offered intermittently. Prereq., consent of director. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	WGSS 463 - WGS Capstone Offered spring. Capstone course for the Women's and Gender Studies majors and minors.	2 Credits
	WGSS 490 - Undergraduate Research (R-6) Offered intermittently. Directed individual research and study appropriate to the back ground and objectives of the student.	1 To 6 Credits
	WGSS 490H - Research Offered intermittently. Prereq., ART 150H or 151H or consent of instr. A survey of major women artists in context of social history and aesthetics from ancient to modern times. Analysis of feminism and works by contemporary women artists in film and video.	3 Credits

	WGSS 491 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	WGSS 492 - Independent Study (R-9) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
Minimum Required Grade: C-		3 Total Credits Required

Religious Studies

Rule: Two courses (6 credits) of approved coursework.

	Course	Credits
	AAS 347 - Voodoo, Muslim, Church Offered intermittently. Same as HSTA 347. The African-American religious experience encompasses Islam, Christianity, Santería, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course is the question, “How did religion shape the experience of the African-American community?” Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history.	3 Credits
	AAS 417 - Prayer & Civil Rights (AM) Same as HSTA 417. HSTR 200 and only open to majors and minors in history or consent of instructor. This course explores the meaning of public prayer in the Civil Rights Movement. Built around the question, "Does religion help or hinder the pursuit of social change?" this class combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. By focusing on a particular religious practice - in this case prayer - in a specific, but limited period of time, this course challenges students to consider how meaning is formed through historical action and study the social significance of religious practice. This formed through historical action and study the social significance of religious practice. This course complicates prevailing ideas about the normalcy of African-American religious practitioners' prayer, invites students to examine their assumptions about the nature of prayer, and traces how religion spilled out of sanctuaries into the streets during the civil rights era.	3 Credits
	NASX 304E - Native American Beliefs/Philos Offered Autumn and Spring. A study of selected ethical systems; origins, world views; religious beliefs and the way they have been affected by western civilization.	3 Credits

	RLST 300 - Theory & Method Study of Relig A survey of modern theories and methods in the study of religion. Overview of sociological, anthropological, psychological, phenomenological, comparative, cognitive, and other approaches to the question, What is religion?	3 Credits
	RLST 310 - Topics in Biblical Studies (R-6) Selected topics in modern Hebrew Bible (Old Testament) and New Testament studies. Focus on history, literature, and religions of ancient West Asia, the Mediterranean and North Africa. Topics vary from year to year and include: Israelite religion; prophets and prophecy; biblical history and historiography; ancient Gospels; the letters and communities of Paul; early biblical interpretation; archaeology and iconography of ancient religions; religion and politics in the Bible.	3 Credits
	RLST 320 - Anct Judaism & Early Christnty (R6) Survey of the history and literature of ancient Judaism and early Christianity. Topics include: the emergence of Judaism and Christianity in the Persian, Greek, and Roman empires; religions of ancient West Asia and the Mediterranean; stories of Jewish and Christian origins; the historical Jesus; the early rabbinic movement; the Dead Sea Scrolls; Paul between Judaism and Christianity.	3 Credits
	RLST 335 - Western Religious Thought I Selected studies in the intellectual history of western religions, alternating between studies of periods and seminal thinkers. Emphasis will be on the ancient and medieval periods.	3 Credits
	RLST 336 - Western Religious Thought II Selected studies in the intellectual history of western religions, alternating between studies of periods and seminal thinkers. Emphasis will be on the late medieval and early modern periods.	3 Credits
	RLST 353 - Topics in South Asia Religions (R-6) This course will examine select topics of central importance with respect to the history of interaction between the major religions (Hinduism, Islam, Buddhism, Jainism, Sikhism) of South Asia.	3 Credits
	RLST 354 - Topics in East Asia Religions (R-6) This course will examine select topics of central importance with respect to the history of interaction between the major religions (Confucianism, Taoism, Buddhism, and folk animism and shamanism) of East Asia.	3 Credits
	RLST 360 - Classcs of Buddhist Literature (R-6) Close reading of a selection of core Buddhist texts drawn from various Asian cultures and spanning the three main phases of the tradition.	3 Credits
	RLST 366 - Tibetan Civilization An exploration of the history and culture of a unique civilization that has influenced greatly the cultures of Himalayan, East, and South Asia. Special attention will be given to Tibetan religions, but these will be explored within the context of the society's political, social, economic, and other cultural developments.	3 Credits

	RLST 367 - Approaches to Study Zen Bddhsm An exploration of both key developments in the history of Zen Buddhist thought and practice and the variety of ways that Zen has been studied by Western popular and academic cultures.	3 Credits
	RLST 368 - Contem Buddhism in S & SE Asia As with other major religions, modernity and globalization have presented profound challenges to Buddhist traditions. In this course we will explore various contemporary issues that have affected Theravada Buddhist societies--colonial and post-colonial revivalism, religious nationalism, women's rights and social reform--as case studies in some of the major ways in which religions have confronted modernity.	3 Credits
	RLST 369 - Contemplative Tradtions Asia An exploration of the rich and diverse approaches to mental transformation and cultivation of gnosis as developed by several of Asia's major religious traditions, such as Buddhism, Jainism, Hinduism, Taoism, and Confucianism.	3 Credits
	RLST 370 - Mysticism (R-6) An inquiry into the literature and interpretation of mysticism in the major religious traditions. Each offering will focus on a specific tradition or period.	3 Credits
	RLST 376 - Contemporary Religious Thought (R-6) Study of selected major critical and constructive proposals in modern religious thought in various traditions.	3 Credits
	RLST 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	RLST 392 - Independent Study (R-6) Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	RLST 491 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	RLST 492 - Independent Study (R-9) Prereq., consent of instr. Work on selected problems by individual students under direct faculty supervision.	1 To 9 Credits
Minimum Required Grade: C-		6 Total Credits Required

Liberal Studies

Rule: Two courses (6 credits) of approved coursework.

	Course	**Credits**

	LSH 326 - Stories East and West Offered intermittently. A course in Comparative Literature, examining similar genres (creation stories, fables, novels, short stories) in literature from Europe, America and India.	3 Credits
	LSH 327L - Gender & Sexuality in Eng Fict Offered alternate years. Major 20th century novels and short stories written in English by both men and women in different parts of the world, and how these texts explore changing concepts of gender and sexuality. Topics include heterosexuality, homosexuality, bisexuality, transformations, chastity, adultery, ageing, violence, growing up, adolescence and varying definitions of love.	3 Credits
	LSH 329 - Fathers & Daughters in Lit Prereq., WRIT 101. Examines how relationships between fathers and daughters have been represented, celebrated and critiqued in literature in the Western world, from antiquity to the present. Includes discussion of changing patriarchal formations, symbolic and adoptive fatherhood, incestuous rape, homosexuality and role reversals. Texts include Greek tragedy, Shakespeare, romantic poetry, novel, and graphic novel. Both male and female authors.	3 Credits
	LSH 342 - Topics Comparative Lit & Rel Offered every second semester. Same as SSEA 342. These courses compare major traditions, texts and trends in two or more world civilizations or cultures. Works of literature and/or philosophy are examined in their historical contexts, and in relation to each other.	3 Credits
	LSH 351L - Exploring the Humanities (R–9) Offered intermittently. Intensive study of a specific historical period in Western humanities through its seminal literature, with an emphasis on intellectual and ethical paradigms.	3 Credits
	LSH 368 - Shakespeare: Comedy & Tragedy Offered yearly. An investigation of the differences, but also affinities, between the two fundamental Shakespearean genres.	3 Credits
	LSH 390 - Undergraduate Research (R–6) Offered intermittently. Directed individual research and study appropriate to the back ground and objectives of the student.	1 To 6 Credits
	LSH 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	LSH 392 - Independent Study (R–12) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 12 Credits
	LSH 484 - Novel Ancient and Modern Offered yearly. Two antithetical models for the construction of a novel.	3 Credits
	LSH 490 - Undergraduate Research (R–6) Offered intermittently. Directed individual research and study appropriate to the background and objectives of the student.	1 To 6 Credits

	LSH 491 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	LSH 492 - Independent Study (R–9) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	LSH 494 - Seminar/Workshop (R–9) Offered intermittently. Concentrated studies in specific genres and periods.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Senior Liberal Studies Capstone Seminar

Rule: One course (3 credits) of approved coursework.

	Course	Credits
	LSH 327L - Gender & Sexuality in Eng Fict Offered alternate years. Major 20th century novels and short stories written in English by both men and women in different parts of the world, and how these texts explore changing concepts of gender and sexuality. Topics include heterosexuality, homosexuality, bisexuality, transformations, chastity, adultery, ageing, violence, growing up, adolescence and varying definitions of love.	3 Credits
	LSH 329 - Fathers & Daughters in Lit Prereq., WRIT 101. Examines how relationships between fathers and daughters have been represented, celebrated and critiqued in literature in the Western world, from antiquity to the present. Includes discussion of changing patriarchal formations, symbolic and adoptive fatherhood, incestuous rape, homosexuality and role reversals. Texts include Greek tragedy, Shakespeare, romantic poetry, novel, and graphic novel. Both male and female authors.	3 Credits
	LSH 484 - Novel Ancient and Modern Offered yearly. Two antithetical models for the construction of a novel.	3 Credits
	LSH 494 - Seminar/Workshop (R–9) Offered intermittently. Concentrated studies in specific genres and periods.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Modern and Classical Language Requirement

Note: Students must demonstrate fourth semester proficiency in a second language either by completing four semesters (recommended to be subsequent) with a grade of C- or better, or by receiving an equivalent score on a competence exam.

Asian Studies Option, Professor Bradley Clough, Advisor:

The Asian Studies Option offers opportunities for those students who wish to focus on the diverse societies of the Asian continent through the study of literature, geography, history, peoples, religious and other cultural traditions, and languages.

Interested students must major in Liberal Studies with an option in Asian Studies. In addition to select Liberal Studies courses, students will choose from specified courses offered in many departments and areas in the College of Humanities and Sciences, such as History, Japanese Studies, Chinese Studies, Anthropology, Sociology, Geography, and Religious Studies.

Students who choose the Asian Studies option must meet with the Asian studies faculty advisor.

Bachelor of Arts - Liberal Studies; Asian Studies Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 41

Required Cumulative GPA: 2.0

Note: Two years (or equivalent proficiency) in an Asian language appropriate to the student's academic goals and approved by the academic advisor. Students who plan to pursue graduate work are strongly advised to complete three years, including at least one study abroad in Asia experience.

Asian Studies Option Lower Division Core

Rule: 20 credits.

Note: Please see academic advisor for questions regarding course availability or course substitutions.

Minimum Required Grade: C-

20 Total Credits Required

Introduction to the Humanities

Rule: Take both of the following courses (8 credits).

Note: WRIT 101 is a pre-requisite or co-requisite. General Education fulfillment: LSH 151L and 152L satisfy both the "approved writing course" and "Literary & Artistic Studies".

	Course	Credits
	LSH 151L - IntrHumanities:Greek,Bible,Rom Offered autumn. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, comparing and contrasting the Greco–Roman with the Jewish and Christian traditions.	0 To 4 Credits
	LSH 152L - Humanities Medieval to Modern Offered spring. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, in the modern period.	0 To 4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Introductory Asian Studies

Rule: Choose 1 of the following courses.

	Course	Credits
	LSH 102H - Intro to South & S East Asia Offered intermittently. Same as ANTY 102H/SSEA 102H. An introduction to South and Southeast Asian regions, cultures, societies, and histories, with particular emphasis on artistic, religious and literary traditions from prehistory to the present. An overview approach with different materials and emphases.	3 Credits
	LSH 161H - Asian Humanities Offered autumn. Coreq., LS 151L or consent of instr. Selective survey of classical South and East Asian perspectives on the humanities. Hinduism, Confucianism, Taoism and Buddhism are the primary traditions considered.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Asian Civilization Courses

Rule: Choose 2 of the following courses

	Course	Credits
	CHIN 211H - Chinese Culture and Civiliz Offered intermittently. Same as AS and LS 211H. An introduction to the historical, intellectual, political, literary and social developments of China from early times to the present.	3 Credits
	HSTR 240 - East Asian Civilizations (WRLD) An interdisciplinary, pluralist, and exploratory introduction to civilizations of East Asia. Primary focus on China, Japan, and Korea, the relations among them and their patterns of interaction with the outside world in pre-modern and modern periods.	3 Credits
	JPNS 150H - Japanese Cult & Civiliz Offered intermittently. Same as AS and LS 210H. The historical, religious, artistic, literary and social developments in Japan from earliest times to the present.	3 Credits
	SOCI 212S - Social Issues Southeast Asia Offered every other year. Introduction to the cultures, societies, and contemporary social problems of Southeast Asia.	3 Credits
	SSEA 202X - Introduction to India Offered alternate years. This course introduces students to the history, economy, political and legal system, society, culture, religions, and literary and artistic traditions of India, which is the world's largest secular democracy and the birthplace of four major world religions.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Asian Religion and Cultural Studies

Rule: Choose one course from the following. 3 credits.

	Course	Credits
	RLST 232H - Buddhism A historical introduction to the development of Buddhist thought and practice in the cultures of Asia and the West.	3 Credits
	RLST 233 - Tradtns of Buddhist Meditation Prereq. or coreq., RLST 232 H. A critical and phenomenological introduction to meditation as the Buddhist method of systematic inquiry into the nature of the mind and its role in the construction of experience.	3 Credits
	RLST 234X - Hindu Religious Traditions Same as SSEA and LS 365. Critical exploration of selected aspects of Hindu thought, narrative and practice, both in contemporary and historical perspective. Focus primarily on India, but with consideration of Hinduism's transformation and impact beyond South Asia.	3 Credits
	RLST 236X - Chinese Religions An exploration of the development of thought and practice in and the interactions between the major religious movements of Chinese religion: Confucianism, Taoism, Buddhism, and fold religion/animism.	3 Credits
	RLST 238X - Japanese Religions Offered at least once every two years. An introductory exploration of Japan's unique religious synthesis of Buddhist, Shinto, Taoist, Confucian and folk/shamanistic traditions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Asian Studies Upper-Division Requirements

Rule: Choose 7 courses from among the following. 21 credits.

	Course	Credits
	CHIN 313L - Chinese Poetry in Translat Offered intermittently. The works of major Chinese poets to 1300 A.D.	3 Credits
	CHIN 314L - Tradit Chinese Literature Offered intermittently. Same as AS, MCLG, and LS 314L. Highlights of Chinese literature to 1800; includes philosophy, poetry, prose, and fiction.	3 Credits
	GPHY 444 - High Asia Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.	3 Credits
	HSTR 345H - Modern China (WRLD) Offered autumn. China since 180, emphasizing internal weaknesses of the Manchu dynasty, confrontation with the west, and the emergence of Nationalist and Communist regimes.	3 Credits

	HSTR 448 - Tradition & Reform in China (WRLD) Prereq., junior standing or consent of instructor. A history of key reform movements from the mid-19th century (when China was rocked by rebellion and the entry of the West) to the Maoist period.	3 Credits
	HSTR 449 - Revolution & Reform in China (WRLD) Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
	JPNS 311 - Jpns Clasc Lit Engl Trans Offered intermittently. Prereq., Composition course WRIT 101 or 201 (or transfer equiv.) with a grade of C- or better; and one approved Gen Ed writing course or WRIT 201, with a C- or better. Introduction to the classical literature of the Japanese court, ca. 7th to 14th century. Kojiki, Man'yoshu, Kokinshu, Genji Monogatari, and other major classics of the period.	3 Credits
	JPNS 312 - Jpns Lit Medieval to Mod Offered spring alternate years. Prereq., Composition course WRIT 101 or 201 (or transfer equiv.) with a grade of C- or better; and one approved Gen Ed writing course or WRIT 201, with a C- or better. Introduction to the literature of Japan from the 15th to the 20th century.	3 Credits
	JPNS 391 - Special Topics (R–12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 12 Credits
	JPNS 411 - Mod Jpns Wrtrs/Thinkers (R–6) Offered autumn or spring. Prereq., JPNS 202. Introduction to the important writers, thinkers, and poets of the 20th century. Readings include a wide range of topics in the humanities, including literature, philosophy, and the arts.	3 Credits
	JPNS 431L - Post-War Japanese Literature Offered spring odd–numbered years. Same as MCLG 431L. Introduction to issues, literature, and criticism of Japanese literature from the postwar (1945) through the contemporary period, using texts in English translation.	3 Credits
	PSCI 329 - Politics of Japan Offered autumn. Prereq., junior standing or consent of instr. Institutions and political development in Japan.	3 Credits
	RLST 353 - Topics in South Asia Religions (R-6) This course will examine select topics of central importance with respect to the history of interaction between the major religions (Hinduism, Islam, Buddhism, Jainism, Sikhism) of South Asia.	3 Credits
	RLST 354 - Topics in East Asia Religions (R-6) This course will examine select topics of central importance with respect to the history of interaction between the major religions (Confucianism, Taoism, Buddhism, and folk animism and shamanism) of East Asia.	3 Credits
	RLST 360 - Classcs of Buddhist Literature (R-6) Close reading of a selection of core Buddhist texts drawn from various Asian cultures and spanning the three main phases of the tradition.	3 Credits

	RLST 366 - Tibetan Civilization An exploration of the history and culture of a unique civilization that has influenced greatly the cultures of Himalayan, East, and South Asia. Special attention will be given to Tibetan religions, but these will be explored within the context of the society's political, social, economic, and other cultural developments.	3 Credits
	RLST 367 - Approaches to Study Zen Bddhsm An exploration of both key developments in the history of Zen Buddhist thought and practice and the variety of ways that Zen has been studied by Western popular and academic cultures.	3 Credits
	RLST 368 - Contem Buddhism in S & SE Asia As with other major religions, modernity and globalization have presented profound challenges to Buddhist traditions. In this course we will explore various contemporary issues that have affected Theravada Buddhist societies--colonial and post-colonial revivalism, religious nationalism, women's rights and social reform--as case studies in some of the major ways in which religions have confronted modernity.	3 Credits
	RLST 369 - Contemporary Tradtions of Asia An exploration of the rich and diverse approaches to mental transformation and cultivation of gnosis as developed by several of Asia's major religious traditions, such as Buddhism, Jainism, Hinduism, Taoism, and Confucianism.	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

Asian Language Requirement

Rule: Student must reach proficiency at the 202 level (fourth semester) in either Chinese or Japanese.

Note: Two years (or equivalent proficiency) in an Asian language appropriate to the student's academic goals and approved by the academic advisor. Students who plan to pursue graduate work are strongly advised to complete three years, including at least one study abroad in Asia experience.

	Course	**Credits**
	CHIN 101 - Elementary Chinese I Offered autumn. Emphasis on speaking, reading and writing elementary Mandarin.	5 Credits
	CHIN 102 - Elementary Chinese II Prereq., CHIN 101. Offered spring. Continuation of 101.	5 Credits
	CHIN 201 - Intermediate Chinese I Offered autumn. Prereq., CHIN 102 or equiv. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading and writing.	5 Credits
	CHIN 202 - Intermediate Chinese II Offered spring. Prereq., CHIN 201 or equiv. Continuation of 201.	5 Credits
	JPNS 101 - Elementary Japanese I Offered autumn. Understanding of grammar and basic sentence structures are taught as a foundation for oral comprehension. The students will learn Hiragana and Katakana, two syllabic writing systems, and approximately 400 Kanji ideographs.	5 Credits

	JPNS 102 - Elementary Japanese II Offered spring. Prereq., JPNS 101. Continuation of 101.	5 Credits
	JPNS 201 - Intermediate Japanese I Offered autumn. Prereq., JPNS 102 or equiv. Reading and writing kanji; building oral/aural fluency.	5 Credits
	JPNS 202 - Intermediate Japanese II Offered spring. Prereq., JPNS 201 or equiv. Continuation of JPNS 201.	5 Credits
Minimum Required Grade: C-		0-20 Total Credits Required

Religious Studies

Religious Studies Option, Professor Paul Dietrich, Advisor:

Religion has been taught as an academic discipline at the University of Montana since 1924. Located within the Liberal Studies Program, the study of religion is pursued in the University in an interdisciplinary setting that offers opportunities for exploration and discovery in many areas of the humanities, art, and sciences. Our Religious Studies courses emphasize the scholarly analysis and interpretation of the history, literature, beliefs, myths, symbols, rituals, ethical and legal codes, and communities and institutions of the world's religious traditions.

We investigate how the world's religions address enduring human questions and influence responses to daily problems, and we explore how religious traditions shape lives and societies, from the emergence of the earliest civilizations to 21st-century global conflicts. Our students engage ideas about the good life and death, suffering and happiness, war and peace, revelation and salvation, God, mysticism, and religious experience. The curriculum is designed to provide students with a broad and deep understanding of religion as a field of human activity and inquiry. Students acquire the skills necessary to investigate specific religious traditions in historical depth and to understand the forms, expressions, and roles of religion in the world today.

Bachelor of Arts - Liberal Studies; Religious Studies Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 44

Required Cumulative GPA: 2.0

Religious Studies Lower-Division Requirements

Rule: 20 credits.

Minimum Required Grade: C-

20 Total Credits Required

Introduction to the Humanities

Rule: Take the following 2 courses. 8 credits.

Note: WRIT 101 is a pre-requisite or co-requisite. General Education fulfillment: LSH 151L and 152L satisfy both the "approved writing course" and "Literary & Artistic Studies".

	Course	**Credits**

	LSH 151L - IntrHumanities:Greek,Bible,Rom Offered autumn. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, comparing and contrasting the Greco–Roman with the Jewish and Christian traditions.	0 To 4 Credits
	LSH 152L - Humanities Medieval to Modern Offered spring. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, in the modern period.	0 To 4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Introduction to Asian Humanities

Rule: Take the following course. 3 credits.

	Course	Credits
	LSH 161H - Asian Humanities Offered autumn. Coreq., LS 151L or consent of instr. Selective survey of classical South and East Asian perspectives on the humanities. Hinduism, Confucianism, Taoism and Buddhism are the primary traditions considered.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Near Eastern/Mediterranean courses

Rule: Choose one of the following courses. 3 credits.

	Course	Credits
	RLST 204H - Intro to the Hebrew Bible An introduction to the history, religion, and literature of ancient Israel and to modern methods in Hebrew Bible (Old Testament) studies. Includes an introduction to the history and religions of ancient West Asia.	3 Credits
	RLST 205 - Introduction to New Testament An introduction to the history, religion, and literature of earliest Christianity and to modern methods in New Testament studies. Includes an introduction to the history and religions of the ancient Mediteranean.	3 Credits
	RLST 221 - Judaism An introduction to Judaism as a religion and to the history of Jewish peoples (in Asia, Africa, Europe, and the Americas) from antiquity to modernity.	3 Credits
	RLST 225 - Christianity Introduction to the historical development of Christian thought and practice in the cultures of late antiquity and the medieval and modern periods.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

South or East Asian courses

Rule: Choose one of the following courses. 3 credits.

	Course	Credits
	RLST 232H - Buddhism A historical introduction to the development of Buddhist thought and practice in the cultures of Asia and the West.	3 Credits
	RLST 234X - Hindu Religious Traditions Same as SSEA and LS 365. Critical exploration of selected aspects of Hindu thought, narrative and practice, both in contemporary and historical perspective. Focus primarily on India, but with consideration of Hinduism's transformation and impact beyond South Asia.	3 Credits
	RLST 236X - Chinese Religions An exploration of the development of thought and practice in and the interactions between the major religious movements of Chinese religion: Confucianism, Taoism, Buddhism, and fold religion/animism.	3 Credits
	RLST 238X - Japanese Religions Offered at least once every two years. An introductory exploration of Japan's unique religious synthesis of Buddhist, Shinto, Taoist, Confucian and folk/shamanistic traditions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Religious Studies Upper-Division Requirements

Rule: 24 credits.
Minimum Required Grade: C-
24 Total Credits Required

Theory & Method in the Study of Religion

Rule: Take the following course. 3 credits.
Note: Please see a Liberal Studies advisor for possible course substitution approval.

	Course	Credits
	RLST 300 - Theory & Method Study of Relig A survey of modern theories and methods in the study of religion. Overview of sociological, anthropological, psychological, phenomenological, comparative, cognitive, and other approaches to the question, What is religion?	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Religious Studies Courses

Rule: Choose 5 of the following courses. 15 credits.

	Course	Credits
	AAS 347 - Voodoo, Muslim, Church Offered intermittently. Same as HSTA 347. The African-American religious experience encompasses Islam, Christianity, Santería, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course is the question, “How did religion shape the experience of the African-American community?” Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history.	3 Credits
	AAS 417 - Prayer & Civil Rights (AM) Same as HSTA 417. HSTR 200 and only open to majors and minors in history or consent of instructor. This course explores the meaning of public prayer in the Civil Rights Movement. Built around the question, "Does religion help or hinder the pursuit of social change?" this class combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. By focusing on a particular religious practice - in this case prayer - in a specific, but limited period of time, this course challenges students to consider how meaning is formed through historical action and study the social significance of religious practice. This formed through historical action and study the social significance of religious practice. This course complicates prevailing ideas about the normalcy of African-American religious practitioners' prayer, invites students to examine their assumptions about the nature of prayer, and traces how religion spilled out of sanctuaries into the streets during the civil rights era.	3 Credits
	NASX 304E - Native American Beliefs/Philos Offered Autumn and Spring. A study of selected ethical systems; origins, world views; religious beliefs and the way they have been affected by western civilization.	3 Credits
	RLST 310 - Topics in Biblical Studies (R-6) Selected topics in modern Hebrew Bible (Old Testament) and New Testament studies. Focus on history, literature, and religions of ancient West Asia, the Mediterranean and North Africa. Topics vary from year to year and include: Israelite religion; prophets and prophecy; biblical history and historiography; ancient Gospels; the letters and communities of Paul; early biblical interpretation; archaeology and iconography of ancient religions; religion and politics in the Bible.	3 Credits

	RLST 320 - Anct Judaism & Early Christnty (R6) Survey of the history and literature of ancient Judaism and early Christianity. Topics include: the emergence of Judaism and Christianity in the Persian, Greek, and Roman empires; religions of ancient West Asia and the Mediterranean; stories of Jewish and Christian origins; the historical Jesus; the early rabbinic movement; the Dead Sea Scrolls; Paul between Judaism and Christianity.	3 Credits
	RLST 335 - Western Religious Thought I Selected studies in the intellectual history of western religions, alternating between studies of periods and seminal thinkers. Emphasis will be on the ancient and medieval periods.	3 Credits
	RLST 336 - Western Religious Thought II Selected studies in the intellectual history of western religions, alternating between studies of periods and seminal thinkers. Emphasis will be on the late medieval and early modern periods.	3 Credits
	RLST 353 - Topics in South Asia Religions (R-6) This course will examine select topics of central importance with respect to the history of interaction between the major religions (Hinduism, Islam, Buddhism, Jainism, Sikhism) of South Asia.	3 Credits
	RLST 354 - Topics in East Asia Religions (R-6) This course will examine select topics of central importance with respect to the history of interaction between the major religions (Confucianism, Taoism, Buddhism, and folk animism and shamanism) of East Asia.	3 Credits
	RLST 360 - Classcs of Buddhist Literature (R-6) Close reading of a selection of core Buddhist texts drawn from various Asian cultures and spanning the three main phases of the tradition.	3 Credits
	RLST 366 - Tibetan Civilization An exploration of the history and culture of a unique civilization that has influenced greatly the cultures of Himalayan, East, and South Asia. Special attention will be given to Tibetan religions, but these will be explored within the context of the society's political, social, economic, and other cultural developments.	3 Credits
	RLST 367 - Approaches to Study Zen Bddhsm An exploration of both key developments in the history of Zen Buddhist thought and practice and the variety of ways that Zen has been studied by Western popular and academic cultures.	3 Credits
	RLST 368 - Contem Buddhism in S & SE Asia As with other major religions, modernity and globalization have presented profound challenges to Buddhist traditions. In this course we will explore various contemporary issues that have affected Theravada Buddhist societies--colonial and post-colonial revivalism, religious nationalism, women's rights and social reform--as case studies in some of the major ways in which religions have confronted modernity.	3 Credits

	RLST 369 - Contemplative Tradtions Asia An exploration of the rich and diverse approaches to mental transformation and cultivation of gnosis as developed by several of Asia's major religious traditions, such as Buddhism, Jainism, Hinduism, Taoism, and Confucianism.	3 Credits
	RLST 370 - Mysticism (R-6) An inquiry into the literature and interpretation of mysticism in the major religious traditions. Each offering will focus on a specific tradition or period.	3 Credits
	RLST 376 - Contemporary Religious Thought (R-6) Study of selected major critical and constructive proposals in modern religious thought in various traditions.	3 Credits
	RLST 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	RLST 392 - Independent Study (R-6) Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	RLST 491 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	RLST 492 - Independent Study (R-9) Prereq., consent of instr. Work on selected problems by individual students under direct faculty supervision.	1 To 9 Credits
Minimum Required Grade: C-		15 Total Credits Required

Liberal Studies courses with Religious Studies content

Rule: Choose two Liberal Studies courses from the following. 6 credits.

	Course	Credits
	LSH 326 - Stories East and West Offered intermittently. A course in Comparative Literature, examining similar genres (creation stories, fables, novels, short stories) in literature from Europe, America and India.	3 Credits
	LSH 329 - Fathers & Daughters in Lit Prereq., WRIT 101. Examines how relationships between fathers and daughters have been represented, celebrated and critiqued in literature in the Western world, from antiquity to the present. Includes discussion of changing patriarchal formations, symbolic and adoptive fatherhood, incestuous rape, homosexuality and role reversals. Texts include Greek tragedy, Shakespeare, romantic poetry, novel, and graphic novel. Both male and female authors.	3 Credits

	LSH 342 - Topics Comparative Lit & Rel Offered every second semester. Same as SSEA 342. These courses compare major traditions, texts and trends in two or more world civilizations or cultures. Works of literature and/or philosophy are examined in their historical contexts, and in relation to each other.	3 Credits
	LSH 368 - Shakespeare: Comedy & Tragedy Offered yearly. An investigation of the differences, but also affinities, between the two fundamental Shakespearean genres.	3 Credits
	LSH 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	LSH 392 - Independent Study (R–12) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 12 Credits
	LSH 484 - Novel Ancient and Modern Offered yearly. Two antithetical models for the construction of a novel.	3 Credits
	LSH 491 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	LSH 492 - Independent Study (R–9) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
Minimum Required Grade: C-		6 Total Credits Required

Modern and Classical Language Requirement

Note: Students must demonstrate fourth semester proficiency in a second language either by completing four semesters (recommended to be subsequent) with a grade of C- or better, or by receiving an equivalent score on a competence exam.

Liberal Studies Minor

Minor - Liberal Studies (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 23
Required Cumulative GPA: 2.5

Lower Division Core

Rule: Must complete all of the following courses:

	Course	Credits
	LSH 151L - IntrHumanities:Greek,Bible,Rom Offered autumn. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, comparing and contrasting the Greco–Roman with the Jewish and Christian traditions.	0 To 4 Credits
	LSH 152L - Humanities Medieval to Modern Offered spring. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, in the modern period.	0 To 4 Credits
	LSH 161H - Asian Humanities Offered autumn. Coreq., LS 151L or consent of instr. Selective survey of classical South and East Asian perspectives on the humanities. Hinduism, Confucianism, Taoism and Buddhism are the primary traditions considered.	3 Credits
Minimum Required Grade: C-		11 Total Credits Required

Upper Division Electives I

Rule: Must complete 6 credits from the following courses:

	Course	Credits
	LSH 326 - Stories East and West Offered intermittently. A course in Comparative Literature, examining similar genres (creation stories, fables, novels, short stories) in literature from Europe, America and India.	3 Credits
	LSH 327L - Gender & Sexuality in Eng Fict Offered alternate years. Major 20th century novels and short stories written in English by both men and women in different parts of the world, and how these texts explore changing concepts of gender and sexuality. Topics include heterosexuality, homosexuality, bisexuality, transformations, chastity, adultery, ageing, violence, growing up, adolescence and varying definitions of love.	3 Credits
	LSH 329 - Fathers & Daughters in Lit Prereq., WRIT 101. Examines how relationships between fathers and daughters have been represented, celebrated and critiqued in literature in the Western world, from antiquity to the present. Includes discussion of changing patriarchal formations, symbolic and adoptive fatherhood, incestuous rape, homosexuality and role reversals. Texts include Greek tragedy, Shakespeare, romantic poetry, novel, and graphic novel. Both male and female authors.	3 Credits
	LSH 368 - Shakespeare: Comedy & Tragedy Offered yearly. An investigation of the differences, but also affinities, between the two fundamental Shakespearean genres.	3 Credits

	LSH 416 - The Bhagavad Gita Offered every year or alternate year. Close reading of the Hindi Scripture, Bhagavad Gita in translation, examining its literary, philosophical, ethical and religious dimensions, its influence on Western and Indian literatures, and the way Indian and Western commentators have interpreted and used it.	3 Credits
	LSH 484 - Novel Ancient and Modern Offered yearly. Two antithetical models for the construction of a novel.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Electives II

Rule: Must complete 6 credits from the following courses

	Course	Credits
	RLST 300 - Theory & Method Study of Relig A survey of modern theories and methods in the study of religion. Overview of sociological, anthropological, psychological, phenomenological, comparative, cognitive, and other approaches to the question, What is religion?	3 Credits
	RLST 310 - Topics in Biblical Studies (R-6) Selected topics in modern Hebrew Bible (Old Testament) and New Testament studies. Focus on history, literature, and religions of ancient West Asia, the Mediterranean and North Africa. Topics vary from year to year and include: Israelite religion; prophets and prophecy; biblical history and historiography; ancient Gospels; the letters and communities of Paul; early biblical interpretation; archaeology and iconography of ancient religions; religion and politics in the Bible.	3 Credits
	RLST 320 - Anct Judaism & Early Christnty (R6) Survey of the history and literature of ancient Judaism and early Christianity. Topics include: the emergence of Judaism and Christianity in the Persian, Greek, and Roman empires; religions of ancient West Asia and the Mediterranean; stories of Jewish and Christian origins; the historical Jesus; the early rabbinic movement; the Dead Sea Scrolls; Paul between Judaism and Christianity.	3 Credits
	RLST 335 - Western Religious Thought I Selected studies in the intellectual history of western religions, alternating between studies of periods and seminal thinkers. Emphasis will be on the ancient and medieval periods.	3 Credits
	RLST 336 - Western Religious Thought II Selected studies in the intellectual history of western religions, alternating between studies of periods and seminal thinkers. Emphasis will be on the late medieval and early modern periods.	3 Credits
	RLST 353 - Topics in South Asia Religions (R-6) This course will examine select topics of central importance with respect to the history of interaction between the major religions (Hinduism, Islam, Buddhism, Jainism, Sikhism) of South Asia.	3 Credits

	RLST 354 - Topics in East Asia Religions (R-6) This course will examine select topics of central importance with respect to the history of interaction between the major religions (Confucianism, Taoism, Buddhism, and folk animism and shamanism) of East Asia.	3 Credits
	RLST 360 - Classcs of Buddhist Literature (R-6) Close reading of a selection of core Buddhist texts drawn from various Asian cultures and spanning the three main phases of the tradition.	3 Credits
	RLST 366 - Tibetan Civilization An exploration of the history and culture of a unique civilization that has influenced greatly the cultures of Himalayan, East, and South Asia. Special attention will be given to Tibetan religions, but these will be explored within the context of the society's political, social, economic, and other cultural developments.	3 Credits
	RLST 367 - Approaches to Study Zen Bddhsm An exploration of both key developments in the history of Zen Buddhist thought and practice and the variety of ways that Zen has been studied by Western popular and academic cultures.	3 Credits
	RLST 368 - Contem Buddhism in S & SE Asia As with other major religions, modernity and globalization have presented profound challenges to Buddhist traditions. In this course we will explore various contemporary issues that have affected Theravada Buddhist societies--colonial and post-colonial revivalism, religious nationalism, women's rights and social reform--as case studies in some of the major ways in which religions have confronted modernity.	3 Credits
	RLST 369 - Contemplative Tradtions Asia An exploration of the rich and diverse approaches to mental transformation and cultivation of gnosis as developed by several of Asia's major religious traditions, such as Buddhism, Jainism, Hinduism, Taoism, and Confucianism.	3 Credits
	RLST 370 - Mysticism (R-6) An inquiry into the literature and interpretation of mysticism in the major religious traditions. Each offering will focus on a specific tradition or period.	3 Credits
	RLST 376 - Contemporary Religious Thought (R-6) Study of selected major critical and constructive proposals in modern religious thought in various traditions.	3 Credits
	RLST 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	RLST 392 - Independent Study (R-6) Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	RLST 491 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits

	RLST 492 - Independent Study (R-9) Prereq., consent of instr. Work on selected problems by individual students under direct faculty supervision.	1 To 9 Credits
Minimum Required Grade: C-		6 Total Credits Required

Women's and Gender Studies B.A.

Women's and Gender Studies Option, Professor Elizabeth Hubble and Professor Ione Crummy, Co-Directors of the Women's and Gender Studies Program:

Students who choose the Women's and Gender Studies (WGS) option must register with the WGS advisor, who will supervise their program. The following requirements must be met to complete the WGS option within the liberal studies major.

Chemistry and Biochemistry Department

Christopher P. Palmer, Chair

Chemistry is the central science that involves the study of molecules, their structures, their combinations, their interactions, and the energy changes accompanying chemical processes.

The Department offers the following degrees: B.S., B.A., M.S., M.A., and Ph.D.

Prospective students desiring further information on any program of the Department of Chemistry and Biochemistry should visit the Department of Chemistry and Biochemistry and Biochemistry Program websites.

High School Preparation: In addition to the general University admission requirements, it is strongly recommended that a student take four years of mathematics, four (or more) years of science (earth and space science, biology, chemistry, and physics), four years of a foreign language, and four years of English.

Refer to graduation requirements listed previously in the catalog. See index.

Department Faculty

Professor

Bruce Bowler, Professor and Director, Biochemistry Program
Mark Cracolice, Professor
Michael DeGrandpre, Professor of Chemistry and Biochemistry
Daniel Dwyer, Professor of Chemistry
Christopher Palmer, Professor/Chair
Nigel Priestley, Professor of Chemistry
Edward Rosenberg, Professor
J.B. Alexander (Sandy) Ross, Professor of Chemistry and Biochemistry
Kent Sugden, Professor of Chemistry and Biochemistry

Associate Professors

Orion Berryman, Assistant Professor
Klara Briknarova, Associate Professor
Xi Chu, Associate Professor
Aaron Thomas, Associate Professor, Director of Native American Research Laboratory

Adjunct Instructor

Gerald Olbu

Lecturer

Earle Adams, Assistant Research Professor
Holly Thompson, Lecturer

Emeritus Professor

Richard Field, Professor Emeritus

Donald Kiely
Garon Smith, Professor of Chemistry
Edward Waali, Professor Emeritus

Chemistry

Back to Top

- CHMY 104 - Preparation for Chemistry
  Credits: 3. Offered autumn. Prereq. ALEKS Level 3 or M 090 Introductory Algebra w/ C– or better. An introduction to chemistry for those who believe they have an inadequate background to enroll in CHMY 121N or 141N. Not appropriate toward chemistry requirement in any major.
- CHMY 121N - Intro to General Chemistry
  Credits: 3. Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry. Course Attributes: Natural Science Course (N)
- CHMY 122 - Intro to Gen Chem Lab
  Credits: 1. Offered autumn and spring. Prereq., Enrolled in the College of Technology ASRN program. Prereq. or coreq., CHMY 121N or equivalent. A laboratory course emphasizing inorganic chemistry, quantitative relations and synthesis of inorganic and organic compounds.
- CHMY 123 - Intro to Organic & Biochem
  Credits: 3. Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or CHMY 141N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.
- CHMY 124 - Intro to Organic & Biochem Lab
  Credits: 2. Offered autumn and spring. Prereq. or coreq., CHMY 123. Laboratory to accompany CHMY 123.
- CHMY 141N - College Chemistry I
  Credits: 5. Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory. Course Attributes:
  Natural Science Lab Course (N) Natural Science Course (N)
- CHMY 143N - College Chemistry II
  Credits: 5. Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory. Course Attributes:
  Natural Science Lab Course (N) Natural Science Course (N)
- CHMY 191 - Special Topics/Expmntl Crse
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- CHMY 221 - Organic Chemistry I
  Credits: 3. Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.
- CHMY 222 - Organic Chemistry I Lab
  Credits: 2. Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.
- CHMY 223 - Organic Chemistry II
  Credits: 3. Offered spring. Prereq., CHMY 221. Continuation of 221.
- CHMY 224 - Organic Chemistry II Lab
  Credits: 2. Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.
- CHMY 290 - Undergraduate Research
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Research & Creative Schlrshp

- CHMY 291 - Special Topics/Expmntl Crse
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- CHMY 292 - Independent Study
  Credits: 1 TO 10. (R-10) Offered autumn and spring. Prereq., one semester of chemistry and consent of instr. Laboratory investigations and research in the laboratory of a faculty member.
- CHMY 294 - Seminar/Workshop
  Credits: 1 TO 3. (R-6) Offered intermittently. Topic varies.
- CHMY 305E - Ethics and Writing in Science
  Credits: 3. Offered autumn and spring. Prereq., CHMY 223 and chemistry or biochemistry majors. Practicum for developing and improving skills in scientific writing and evaluation. Presentation, discussion and written evaluations of standard ethics traditions and ethical issues related to the professional practice of science. Use of library and search tools to access current literature in chemistry. Course Attributes: Ethical & Human Values Course
  Writing Course-Advanced
- CHMY 311 - Analytical Chem-Quant Analysis
  Credits: 4. Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.
- CHMY 360 - Applied Physical Chemistry
  Credits: 3. Offered spring. Prereq., CHMY 123 OR 143 AND M 162. Basic thermodynamics and chemical kinetics with applications in the biological and environmental sciences. Credit not allowed for both 360 and 373.
- CHMY 371 - Phys Chem-Qntm Chm & Spctrscpy
  Credits: 4. Offered spring. Prereq., CHMY 373. Systematic treatment of the laws and theories relating to chemical phenomena.
- CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs
  Credits: 4. Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.
- CHMY 390 - Undergraduate Research
  Credits: 1. Offered every term. Prereq., CHEM 161N-162N with B or better and consent of instr. Methods of peer-led team learning as applied to general chemistry instruction. Review of concepts from general chemistry. Student leaders mentor a team of general chemistry students in working toward constructing chemistry knowledge and developing problem-solving skills. Course Attributes: Research & Creative Schlrshp
- CHMY 391 - Special Topics/Expmntl Crse
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- CHMY 392 - Independent Study
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- CHMY 397 - Teaching Chemistry
  Credits: 1. Offered every term. Prereq., CHMY 141N-143N with B or better and consent of instr. Methods of peer-led team learning as applied to general chemistry instruction. Review of concepts from general chemistry. Student leaders mentor a team of general chemistry students in working toward constructing chemistry knowledge and developing problem-solving skills.
- CHMY 398 - Internship/Cooperative Educ
  Credits: 1 TO 6. Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- CHMY 401 - Advanced Inorganic Chemistry

  Credits: 3. Offered autumn. Prereq., CHMY 223 AND 360 OR 373 or consent of instr. Theory and principles of inorganic chemistry and a systematic coverage of descriptive inorganic chemistry in the context of the periodic table.

- CHMY 402 - Advanced Inorganic Chem Lab

  Credits: 2. Offered spring. Prereq., CHMY 224 AND 360 or 373 and consent of instr. Preparation of inorganic and coordination compounds. Isolation and characterization by ion exchange, column chromatography, IR, UV-VIS, derivatives, MP, and BP.

- CHMY 403 - Descriptive Inorganic Chem

  Credits: 3. Offered spring. Prereq., CHMY 221-222, 360 or 373-371, and 401. A survey of the chemistry of the elements including transition metal reaction mechanisms, redox chemistry, organometallic chemistry, bioinorganic chemistry.

- CHMY 411 - Advanced Organic Chemistry

  Credits: 3. Prereqs., CHMY221 and CHMY223 (the sophomore organic chemistry sequence).The course is study of organic chemistry which covers chemoinformatics, structure and conformation, acid-base properties, kinetics/thermodynamics, mechanisms and reactivity, and synthetic strategy and key reactions.

- CHMY 421 - Advanced Instrument Analysis

  Credits: 4. Offered spring. Prereq., CHMY 311. Theory and use of instrumental methods in the study of analytical and physical chemistry.

- CHMY 442 - Aquatic Chemistry

  Credits: 3. Offered autumn odd-numbered years. Prereq., CHMY 311 or consent of instr. Application of chemical equilibria theory for understanding and modeling chemical processes in natural waters with an emphasis on spreadsheet computations. In depth examination of concepts such as pH, alkalinity, buffering, and solubility as they apply to natural waters.

- CHMY 445 - Indstrl Chm & Its Impct on Soc

  Credits: 3. Offered every other autumn semester. Prereq., CHMY 143 or 123. A course based on local Montana chemical industries involving field trips to chemical plants, visits by company personnel and an overall evaluation of the company=s economic and environmental impact on the community.

- CHMY 465 - Organic Spectroscopy

  Credits: 3. Offered intermittently. Prereq., CHMY 360 or 373 and one year of organic chemistry or consent of instr. Theory and interpretation of the NMR, IR, UV, and mass spectra of organic compounds with the goal of structure identification.

- CHMY 466 - FT-NMR Optn for Undrgrd Rsrch

  Credits: 1. Offered intermittently. Prereq., CHMY 221-222; research project using NMR; consent of instr. Operation of the FT-NMR spectrometer and brief background of NMR spectroscopy.

- CHMY 485 - Laboratory Safety

  Credits: 1. Offered autumn. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.

- CHMY 488 - Forensic Research

  Credits: 3. Offered autumn, spring and summer. Prereq., consent of instr. Laboratory investigations and research on forensic chemistry topics under the direction of a faculty member.

- CHMY 489 - Forensic Research Seminar

  Credits: 1. Offered autumn. Prereq., CHMY 421 and ANTH 286N. Seminar speakers on forensic science topics in the areas of ethics, law, anthropology and criminology; tours of the Montana State Crime Laboratory.

- CHMY 490 - Undergraduate Research

  Credits: 1 TO 9. Undergraduate Research Variable cr (R-9). Offered autumn, spring, and summer. Prereq., consent of instr. Laboratory investigations and research in the laboratory of a faculty member. Course Attributes: Research & Creative Schlrshp

- CHMY 491 - Special Topics/Expmntl Crse

Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

- CHMY 492 - Independent Study

  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., consent of instr. Laboratory investigations and research in the laboratory of a faculty member.

- CHMY 494 - Seminar/Workshop

  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., consent of instr. Laboratory investigations and research in the laboratory of a faculty member.

- CHMY 498 - Internship/Cooperative Educ

  Credits: 1 TO 6. Prereq., consent of department. Extended non-classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- CHMY 499 - Senior Thesis/capstone

  Credits: 3. Offered autumn and spring. Prereq., CHMY 490 or consent of instr. and senior standing. Students complete and report on undergraduate research initiated as CHEM 490 or equivalent research experience. Reports are both oral and written.

- CHMY 501 - Teaching University Chemistry

  Credits: 1. Offered autumn. Preparation for teaching chemistry at the college level. A survey of teaching fundamentals and educational psychology as applied to chemistry instruction. Level: Graduate

- CHMY 541 - Environmental Chemistry

  Credits: 3. Offered intermittently. Prereq., CHMY 360 OR 373. Chemical principles and reactions in natural systems: Fate of chemical contaminants in the environment; partitioning of contaminants between phases (air/water/soil); chemistry of atmospheric pollutants; computer modeling of equilibrium and kinetic processes; degradation and transformation of organic contaminants. Level: Graduate

- CHMY 542 - Separation Science

  Credits: 3. Offered autumn odd-numbered years. Prereq., CHMY 421, CHMY 360 or 373. Theory, method development, and application of analytical separations; solvent extraction; solid phase extraction; various forms of chromatography; electrophoresis. Level: Graduate

- CHMY 544 - Applied Spectroscopy

  Credits: 3. Offered intermittently. Prereq., CHMY 421 or consent of instr. The function and application of optical (ultraviolet to infrared) chemical instrumentation. Specific topics include optics, light sources, detectors and a wide variety of spectrochemical methods with an emphasis on methods not typically covered in undergraduate instrumental analysis courses. Level: Graduate

- CHMY 553 - Inor Chem and Curr Lit

  Credits: 4. Offered spring. Prereq., CHMY 401. A survey of the elements including transition metal reaction mechanisms, redox chemistry, organomatallic chemistry, bioinorganic chemistry. Oral and written presentations on primary literature. Level: Graduate

- CHMY 562 - Org Structure and Mech

  Credits: 3. Offered intermittently. Prereq., one year of organic chemistry. Topics may include: stereochemistry, conformational analysis, aromaticity, transition sate theory, isotope effects, solvent effects, substitution and elimination reactions, and mechanisms that involve carbocations, carbanions, radicals and carbenes as reactive intermediates. Level: Graduate

- CHMY 563 - Organic Synthesis

  Credits: 3. Offered intermittently. Prereq., CHMY 221-223. Theoretical treatise of the common methods used in organic synthesis including: oxidation, reduction, organometallics, C-C bond forming reactions, synthetic strategies and total synthesis. Level: Graduate

- CHMY 566 - FT-NMR for Graduates

  Credits: 1. Offered intermittently. Prereq., CHMY 221-222; research project using NMR; consent of instr. Operation of the FT-NMR spectrometer and brief background of NMR spectroscopy. Level: Graduate

- CHMY 568 - Organometallic Chemistry
  Credits: 3. Offered intermittently in autumn. Prereq., CHMY 221, 223, 401, 403. Survey of the reactivity and structure of main group and transition metal organometallic compounds with an emphasis on applications to organic synthesis and catalysis. Level: Graduate
- CHMY 573 - Advanced Physical Chem
  Credits: 3. Offered intermittently. Prereq., CHMY 371-373. Fundamental principles of physical chemistry and special applications. Level: Graduate
- CHMY 580 - Adv Graduate Res Seminars
  Credits: 1. (R-10) Offered every term. Prereq., consent of instr. Formal oral and written presentations of research results and selected literature topics in a designated area. Level: Graduate
- CHMY 593 - Professional Project
  Credits: 3. Offered autumn and spring. Prereq., consent of instr. Preparation of a professional project appropriate to the needs and objectives of the individual student. Level: Graduate
- CHMY 595 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- CHMY 596 - Independent Study
  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course Attributes: Independent Study
- CHMY 597 - Research
  Credits: 1 TO 10. Offered autumn and spring. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate
- CHMY 598 - Internship
  Credits: 1 TO 8. (R-8) Offered autumn and spring. Prereq., consent of department. Extended non-classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Level: Graduate Course Attributes: Internships/Practicums
- CHMY 599 - Thesis
  Credits: 1 TO 6. (R-6) Offered autumn and spring. Prereq., consent of instr. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate
- CHMY 630 - Seminar
  Credits: 1. (R-14) Offered autumn and spring. Prereq., graduate standing in chemistry or biochemistry, or consent of instr. Level: Graduate
- CHMY 640 - Intro Grad Seminar
  Credits: 1. (R-20) Offered autumn. Prereq., graduate standing in chemistry or biochemistry or consent of instr. Seminar to acquaint new graduate students with departmental research. Level: Graduate
- CHMY 650 - Graduate Chemistry Seminar
  Credits: 1. (R-2) Offered spring. Prereq., graduate standing. A review and discussion of current research. Topics vary. Level: Graduate
- CHMY 652 - Original Research Proposal
  Credits: 1. Offered autumn. Prereq., CHMY 640 and CHMY 650. Preparation and presentation of original research proposals for third year graduate students. Level: Graduate
- CHMY 697 - Research
  Credits: 1 TO 10. (R-60) Offered autumn and spring. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate
- CHMY 699 - Dissertation
  Credits: 1 TO 10. (R-10) Offered autumn and spring. Preparation of extensive thesis or manuscript based on research for presentation and/or publication. Level: Graduate

Forensic Chemistry

Bachelor of Science - Chemistry; Forensic Chemistry Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 100
Required Cumulative GPA: 2.0

Lower Core Courses

Rule: All courses in all subcategories listed are required

General Chemistry

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Organic Chemistry

	Course	Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits

	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		10 Total Credits Required

Biochemistry and Biology

	Course	Credits
	BCH 110 - Intro Biology for Biochemists Offered spring. Prereq. CHMY 141N or equivalent. Prereq. or Coreq., CHMY 143N. Coreq., BCH 111. An introductory course that explores biomolecules and their roles in life processes. Provides a foundation for Cellular and Molecular Biology (BIOB 260), Genetics and Evolution (BIOB 272), Introductory Biochemistry Seminar (BCH 294), and many other advanced science courses.	3 Credits
	BCH 111 - Intro Biol for Biochemists Lab Offered spring. Prereq., CHMY 141N or equivalent. Prereq., or Coreq., CHMY 143N. Coreq., BCH 110. Introduction to the experimental techniques used to study biomolecules and their roles in life processes. Provides a foundation for other advanced level laboratory courses in chemistry and biochemistry.	1 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Physics

	Course	Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits

	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Mathematics

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Forensic Science and Criminal Justice

	Course	Credits

	CJUS 125N - Fund of Forensic Science Offered autumn and online spring. A survey of the forensic sciences and related disciplines and their use in criminal investigations, the role of forensic scientists in the investigative process and as expert witnesses.	3 Credits
	SOCI 221 - Criminal Justice System Offered spring. A systematic survey of crime and the administration of justice in the United States, including the organizational structures, processes, and dynamics of law enforcement, criminal adjudication, and corrections.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Core Courses

Rule: All subcategories must be completed

Analytical Chemistry

Rule: Complete all of the following courses

	Course	Credits
	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
	CHMY 421 - Advanced Instrument Analysis Offered spring. Prereq., CHMY 311. Theory and use of instrumental methods in the study of analytical and physical chemistry.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Physical Chemistry

Rule: Choose 1 of the listed courses

	Course	Credits
	CHMY 360 - Applied Physical Chemistry Offered spring. Prereq., CHMY 123 OR 143 AND M 162. Basic thermodynamics and chemical kinetics with applications in the biological and environmental sciences. Credit not allowed for both 360 and 373.	3 Credits

	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Inorganic Chemistry

Rule: Complete the following course

	Course	Credits
	CHMY 401 - Advanced Inorganic Chemistry Offered autumn. Prereq., CHMY 223 AND 360 OR 373 or consent of instr. Theory and principles of inorganic chemistry and a systematic coverage of descriptive inorganic chemistry in the context of the periodic table.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Biochemistry

Rule: Complete the following courses

	Course	Credits
	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Experiential Learning

Rule: Choose 1 of the listed courses for 3 credits

	Course	Credits

	CHMY 488 - Forensic Research Offered autumn, spring and summer. Prereq., consent of instr. Laboratory investigations and research on forensic chemistry topics under the direction of a faculty member.	3 Credits
	CHMY 498 - Internship/Cooperative Educ Prereq., consent of department. Extended non-classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
Minimum Required Grade: C-		3 Total Credits Required

Seminar

Rule: Complete the following course

	Course	Credits
	CHMY 489 - Forensic Research Seminar Offered autumn. Prereq., CHMY 421 and ANTH 286N. Seminar speakers on forensic science topics in the areas of ethics, law, anthropology and criminology; tours of the Montana State Crime Laboratory.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Statistics

Rule: Complete the following courses

	Course	Credits
	STAT 451 - Statistical Methods I Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate	3 Credits
	STAT 457 - Computer Data Analysis I Offered autumn. Coreq., STAT 451 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in STAT 451. Level: Undergraduate-Graduate	1 Credits

Minimum Required Grade: C-	4 Total Credits Required

Advanced Electives

Rule: Choose 11 credits from the listed courses. 8 of the credits must be numbered 300 or above

	Course	Credits
	BIOB 440 - Biological Electron Microscopy Offered spring. Prereq., senior standing or consent of instr. Theory of electron microscopy, recent developments in transmission and scanning electron microscopy. Limited experience with the instruments.	2 Credits
	CHMY 465 - Organic Spectroscopy Offered intermittently. Prereq., CHMY 360 or 373 and one year of organic chemistry or consent of instr. Theory and interpretation of the NMR, IR, UV, and mass spectra of organic compounds with the goal of structure identification.	3 Credits
	CHMY 466 - FT-NMR Optn for Undrgrd Rsrch Offered intermittently. Prereq., CHMY 221-222; research project using NMR; consent of instr. Operation of the FT-NMR spectrometer and brief background of NMR spectroscopy.	1 Credits
	CHMY 542 - Separation Science Offered autumn odd-numbered years. Prereq., CHMY 421, CHMY 360 or 373. Theory, method development, and application of analytical separations; solvent extraction; solid phase extraction; various forms of chromatography; electrophoresis. Level: Graduate	3 Credits
	CJUS 488 - For Sci Crime Lab & Beyond Offered spring and online in autumn. Examination of the forensic sciences with emphases on the non-crime lab forensic sciences, new technologies, and new directions in the forensic sciences.	3 Credits
	PHAR 110N - Use & Abuse of Drugs Offered autumn and spring. Drug dependence and abuse.	3 Credits
Minimum Required Grade: C-		11 Total Credits Required

Expressive Art - Public Speaking

Rule: Complete the following course

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Social Science - Criminology

Rule: Complete the following course

	Course	Credits
	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Complete the following course

	Course	Credits
	CHMY 305E - Ethics and Writing in Science Offered autumn and spring. Prereq., CHMY 223 and chemistry or biochemistry majors. Practicum for developing and improving skills in scientific writing and evaluation. Presentation, discussion and written evaluations of standard ethics traditions and ethical issues related to the professional practice of science. Use of library and search tools to access current literature in chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Chemistry B.S.

(American Chemical Society Certified)

The courses required for the B.S. degree provide a solid education in chemistry for the professional chemist and in preparation for graduate work in most areas of chemistry. These requirements meet the latest certification standards of the American Chemical Society.

Bachelor of Science - Chemistry

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 94

Required Cumulative GPA: 2.0

Lower Core Courses

Rule: All courses in all subcategories listed are required

45 Total Credits Required

General Chemistry

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Organic Chemistry

	Course	Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics

	Course	Credits

	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Mathematics

	Course	**Credits**
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits

Minimum Required Grade: C-	12 Total Credits Required

Computer Science

	Course	Credits
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
		3 Total Credits Required

Upper Division Core Courses

Rule: All courses in all subcategories listed are required

33 Total Credits Required

Analytical Chemistry

	Course	Credits
	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
	CHMY 421 - Advanced Instrument Analysis Offered spring. Prereq., CHMY 311. Theory and use of instrumental methods in the study of analytical and physical chemistry.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Physical Chemistry

	Course	Credits

	CHMY 371 - Phys Chem-Qntm Chm & Spctrscpy Offered spring. Prereq., CHMY 373. Systematic treatment of the laws and theories relating to chemical phenomena.	4 Credits
	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Inorganic Chemistry

	Course	Credits
	CHMY 401 - Advanced Inorganic Chemistry Offered autumn. Prereq., CHMY 223 AND 360 OR 373 or consent of instr. Theory and principles of inorganic chemistry and a systematic coverage of descriptive inorganic chemistry in the context of the periodic table.	3 Credits
	CHMY 402 - Advanced Inorganic Chem Lab Offered spring. Prereq., CHMY 224 AND 360 or 373 and consent of instr. Preparation of inorganic and coordination compounds. Isolation and characterization by ion exchange, column chromatography, IR, UV-VIS, derivatives, MP, and BP.	2 Credits
	CHMY 403 - Descriptive Inorganic Chem Offered spring. Prereq., CHMY 221-222, 360 or 373-371, and 401. A survey of the chemistry of the elements including transition metal reaction mechanisms, redox chemistry, organometallic chemistry, bioinorganic chemistry.	3 Credits
Minimum Required Grade: C-		8 Total Credits Required

Biochemistry

	Course	Credits
	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits

	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Mathematics

	Course	Credits
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Advanced Electives

Rule: Choose 3 to 9 credits from the listed courses.

Note: 3 credits maximum of CHMY 492 or CHMY 499 may be applied toward degree requirements.
Other classes in chemistry, physics, geology, biochemistry, or mathematics may be used to meet the Advanced Electives requirement with approval of the Chemistry Adviser.
2 additional Advanced Electives of at least 3 credits each may be substituted for the Modern Language requirement with approval of the Chemistry Adviser.

	Course	Credits
	CHMY 391 - Special Topics/Expmntl Crse (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	CHMY 442 - Aquatic Chemistry Offered autumn odd-numbered years. Prereq., CHMY 311 or consent of instr. Application of chemical equilibria theory for understanding and modeling chemical processes in natural waters with an emphasis on spreadsheet computations. In depth examination of concepts such as pH, alkalinity, buffering, and solubility as they apply to natural waters.	3 Credits
	CHMY 445 - Indstrl Chm & Its Impct on Soc Offered every other autumn semester. Prereq., CHMY 143 or 123. A course based on local Montana chemical industries involving field trips to chemical plants, visits by company personnel and an overall evaluation of the company=s economic and environmental impact on the community.	3 Credits

	CHMY 465 - Organic Spectroscopy Offered intermittently. Prereq., CHMY 360 or 373 and one year of organic chemistry or consent of instr. Theory and interpretation of the NMR, IR, UV, and mass spectra of organic compounds with the goal of structure identification.	3 Credits
	CHMY 491 - Special Topics/Expmntl Crse (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.	1 To 9 Credits
	CHMY 492 - Independent Study (R-9) Offered autumn and spring. Prereq., consent of instr. Laboratory investigations and research in the laboratory of a faculty member.	1 To 9 Credits
	CHMY 499 - Senior Thesis/capstone Offered autumn and spring. Prereq., CHMY 490 or consent of instr. and senior standing. Students complete and report on undergraduate research initiated as CHEM 490 or equivalent research experience. Reports are both oral and written.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Modern Foreign Language

Rule: Complete 2 semesters (10 credits) of a modern language or 2 addiional advanced elective courses

Note: 2 Advanced Elective courses worth at least 3 credits each may be substituted for the Modern Foreign Language requirement with approval from the Chemistry Adviser.

Minimum Required Grade: Pass

10 Total Credits Required

Ethics

Rule: Complete the following course

	Course	**Credits**
	CHMY 305E - Ethics and Writing in Science Offered autumn and spring. Prereq., CHMY 223 and chemistry or biochemistry majors. Practicum for developing and improving skills in scientific writing and evaluation. Presentation, discussion and written evaluations of standard ethics traditions and ethical issues related to the professional practice of science. Use of library and search tools to access current literature in chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Environmental Chemistry

Bachelor of Science - Chemistry; Environmental Chemistry Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 89

Required Cumulative GPA: 2.0

Lower Core Courses

Rule: All courses in all subcategories listed are required

General Chemistry

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Organic Chemistry

	Course	Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics

	Course	Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Mathematics

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits

Minimum Required Grade: C-	8 Total Credits Required

Geology

	Course	Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits
	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
Minimum Required Grade: C-		4 Total Credits Required

Biochemistry Biology

	Course	Credits
	BCH 110 - Intro Biology for Biochemists Offered spring. Prereq. CHMY 141N or equivalent. Prereq. or Coreq., CHMY 143N. Coreq., BCH 111. An introductory course that explores biomolecules and their roles in life processes. Provides a foundation for Cellular and Molecular Biology (BIOB 260), Genetics and Evolution (BIOB 272), Introductory Biochemistry Seminar (BCH 294), and many other advanced science courses.	3 Credits
	BCH 111 - Intro Biol for Biochemists Lab Offered spring. Prereq., CHMY 141N or equivalent. Prereq., or Coreq., CHMY 143N. Coreq., BCH 110. Introduction to the experimental techniques used to study biomolecules and their roles in life processes. Provides a foundation for other advanced level laboratory courses in chemistry and biochemistry.	1 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits

	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Upper Division Core Courses

Rule: All subcategories must be completed

Analytical Chemistry

Rule: Complete all of the following courses

	Course	Credits
	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
	CHMY 421 - Advanced Instrument Analysis Offered spring. Prereq., CHMY 311. Theory and use of instrumental methods in the study of analytical and physical chemistry.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Physical Chemistry

Rule: Choose 1 of the listed courses

	Course	Credits
	CHMY 360 - Applied Physical Chemistry Offered spring. Prereq., CHMY 123 OR 143 AND M 162. Basic thermodynamics and chemical kinetics with applications in the biological and environmental sciences. Credit not allowed for both 360 and 373.	3 Credits
	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Inorganic Chemistry

Rule: Complete the following course

	Course	Credits
	CHMY 401 - Advanced Inorganic Chemistry Offered autumn. Prereq., CHMY 223 AND 360 OR 373 or consent of instr. Theory and principles of inorganic chemistry and a systematic coverage of descriptive inorganic chemistry in the context of the periodic table.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Biochemistry

Rule: Complete the following course

	Course	Credits
	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Statistics

Rule: Complete the following courses

	Course	Credits
	STAT 451 - Statistical Methods I Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate	3 Credits
	STAT 457 - Computer Data Analysis I Offered autumn. Coreq., STAT 451 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in STAT 451. Level: Undergraduate-Graduate	1 Credits

Minimum Required Grade: C-	4 Total Credits Required

Geology

Rule: Complete the following course

	Course	Credits
	GEO 327 - Geochemistry Offered alternate years. Prereq. one year of college chemistry, one semester of calculus, and one semester of physical geology, or consent of instructor. One semester of mineralogy recommended. The chemical properties of elements control their geological distribution and underlie the basic physical properties of rocks. An understanding of geochemistry will help students understand water chemistry, sediment geochemistry, and igneous petrology. The course covers chemical principles applied to geologic materials and processes, including the origin and chemical composition of earth, atmosphere, and hydrosphere. Principles of stable and radiogenic isotope geochemistry are discussed. Students will use excel to solve problems. Class discussions, problems sets, and exams are used to assess student performance.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Advanced Electives

Rule: Choose at least 8 credits from the listed courses.

Note: 3 credits maximum of CHMY 492.
3 credits maximum of BIOB 492.
3 credits maximum of GEO 492.
A maximum of 5 credits of Modern Foreign Language may be applied to meet the Advanced Electives requirement.

	Course	Credits
	BIOB 490 - Adv Undergrad Research (R-10) Offered every term. Prereq., junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit.	1 To 10 Credits
	BIOB 492 - Independent Study Offered every term. Prereq., consent of instr. Independent work under the University omnibus option. See index.	1 To 10 Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits

	BIOL 453 - Ecology of Small & Large Lakes Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 342 or BIOE 370/371, CHMY 121N and CHMY 123N. The physical, chemical and biological characteristics of lake ecosystems with an emphasis on nutrient cycling, food web interactions and water quality.	3 Credits
	BIOL 454 - Stream Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371, CHMY 121N. The biota and biogeochemical processes of running waters with unifying principles and contemporary research approaches.	3 Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits
	CHMY 391 - Special Topics/Expmntl Crse (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	CHMY 402 - Advanced Inorganic Chem Lab Offered spring. Prereq., CHMY 224 AND 360 or 373 and consent of instr. Preparation of inorganic and coordination compounds. Isolation and characterization by ion exchange, column chromatography, IR, UV-VIS, derivatives, MP, and BP.	2 Credits
	CHMY 403 - Descriptive Inorganic Chem Offered spring. Prereq., CHMY 221-222, 360 or 373-371, and 401. A survey of the chemistry of the elements including transition metal reaction mechanisms, redox chemistry, organometallic chemistry, bioinorganic chemistry.	3 Credits
	CHMY 442 - Aquatic Chemistry Offered autumn odd-numbered years. Prereq., CHMY 311 or consent of instr. Application of chemical equilibria theory for understanding and modeling chemical processes in natural waters with an emphasis on spreadsheet computations. In depth examination of concepts such as pH, alkalinity, buffering, and solubility as they apply to natural waters.	3 Credits
	CHMY 445 - Indstrl Chm & Its Impct on Soc Offered every other autumn semester. Prereq., CHMY 143 or 123. A course based on local Montana chemical industries involving field trips to chemical plants, visits by company personnel and an overall evaluation of the company=s economic and environmental impact on the community.	3 Credits

	CHMY 465 - Organic Spectroscopy Offered intermittently. Prereq., CHMY 360 or 373 and one year of organic chemistry or consent of instr. Theory and interpretation of the NMR, IR, UV, and mass spectra of organic compounds with the goal of structure identification.	3 Credits
	CHMY 466 - FT-NMR Optn for Undrgrd Rsrch Offered intermittently. Prereq., CHMY 221-222; research project using NMR; consent of instr. Operation of the FT-NMR spectrometer and brief background of NMR spectroscopy.	1 Credits
	CHMY 491 - Special Topics/Expmntl Crse (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.	1 To 9 Credits
	CHMY 492 - Independent Study (R-9) Offered autumn and spring. Prereq., consent of instr. Laboratory investigations and research in the laboratory of a faculty member.	1 To 9 Credits
	GEO 320 - Global Water Offered autumn. Prereq. one semester of college chemistry, WRIT 101 or equiv., and completion of one writing course. Water is necessary for life. Without it, life as we know it cannot exist. This course discusses the chemistry of water as it moves through the hydrological cycle. We discuss how water chemistry evolves through atmospheric water, rain water, ground water, surface water, and sea water. Students will have an understanding of the chemical attributes of water in major water reservoirs. Class discussions, formal and informal writing assignments, a short laboratory experiment, and a field trip highlight examples of water chemistry. Students will use excel to solve problems and will learn citation conventions relevant for scientific writing.	4 Credits
	GEO 420 - Hydrogeology Offered spring. Prereq., GEO 101N-102N; PHSX 205N/206N or PHSX 215N/216N ; M 162 or 171 strongly recommended or consent of instr. Occurrence, movement, quality, and methods of quantification of groundwater. Geological framework and physics of groundwater flow. Supply, contamination, and management problems.	4 Credits
	GEO 492 - Independent Study (R-6) Offered every term. Specific topics of particular interest to individual students.	1 To 6 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		8 Total Credits Required

Ethics

Rule: Complete the following course

	Course	Credits
	CHMY 302E - Chem Lit and Science Writing Offered autumn and spring. Prereq., CHMY 223 and chemistry or biochemistry majors. Practicum for developing and improving skills in scientific writing and evaluation. Presentation, discussion and written evaluations of standard ethics traditions and ethical issues related to the professional practice of science. Use of library and search tools to access current literature in chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Pharmacology

Bachelor of Science - Chemistry; Pharmacology Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 88
Required Cumulative GPA: 2.0

Lower Core Courses

Rule: All subcategories must be completed

General Chemistry

Rule: Complete both courses

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Organic Chemistry

Rule: Complete all courses listed

	Course	Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		10 Total Credits Required

Biochemistry and Biology

Rule: Complete both courses

	Course	Credits
	BCH 110 - Intro Biology for Biochemists Offered spring. Prereq. CHMY 141N or equivalent. Prereq. or Coreq., CHMY 143N. Coreq., BCH 111. An introductory course that explores biomolecules and their roles in life processes. Provides a foundation for Cellular and Molecular Biology (BIOB 260), Genetics and Evolution (BIOB 272), Introductory Biochemistry Seminar (BCH 294), and many other advanced science courses.	3 Credits
	BCH 111 - Intro Biol for Biochemists Lab Offered spring. Prereq., CHMY 141N or equivalent. Prereq., or Coreq., CHMY 143N. Coreq., BCH 110. Introduction to the experimental techniques used to study biomolecules and their roles in life processes. Provides a foundation for other advanced level laboratory courses in chemistry and biochemistry.	1 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Physics

Rule: Complete either PHSX 205N-206N and 207N-208N or PHSX 215N-216N and 217N-218N

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits

	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Mathematics

Rule: Complete either M162 and M274 or M171 and M172

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 263 - Applied Differential Equations Offered spring. Prereq., one of M 162, 171 or 181 and knowledge of basic trigonometry. Solution of ordinary differential equations and systems with emphasis on applications, numerical methods and computer software.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Upper Core Courses

Rule: All subcategories must be completed

Analytical Chemistry

Rule: Complete all of the following courses

	Course	Credits
	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
	CHMY 421 - Advanced Instrument Analysis Offered spring. Prereq., CHMY 311. Theory and use of instrumental methods in the study of analytical and physical chemistry.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Physical Chemistry

Rule: Choose 1 of the listed courses

	Course	Credits
	CHMY 360 - Applied Physical Chemistry Offered spring. Prereq., CHMY 123 OR 143 AND M 162. Basic thermodynamics and chemical kinetics with applications in the biological and environmental sciences. Credit not allowed for both 360 and 373.	3 Credits
	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Inorganic Chemistry

Rule: Complete the following course

	Course	Credits
	CHMY 401 - Advanced Inorganic Chemistry Offered autumn. Prereq., CHMY 223 AND 360 OR 373 or consent of instr. Theory and principles of inorganic chemistry and a systematic coverage of descriptive inorganic chemistry in the context of the periodic table.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Biochemistry

Rule: Complete the following courses

	Course	Credits
	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Pharmacology

Rule: Complete the following courses

	Course	Credits
	PHAR 421 - Medicinal Chem I Offered autumn. The chemistry of organic compounds used medicinally and their biochemical mechanisms of action.	3 Credits
	PHAR 422 - Medicinal Chem II Offered spring. Prereq., BMED 421. Continuation of 421.	3 Credits
	PHAR 443 - Pharmacol & Toxicol I Offered autumn. Prereq., second professional year standing. Basic principles of pharmacology, toxicology and therapeutics.	4 Credits
	PHAR 444 - Pharmacology & Toxicol II Offered spring. Prereq., BMED 443. Continuation of 443.	4 Credits
Minimum Required Grade: C-		14 Total Credits Required

Biology

Rule: Complete the following course

	Course	Credits
	BIOM 400 - Medical Microbiology Offered autumn. Microbial structure and functions, pathogenic microorganisms, virology, immunology. Credit not allowed toward a major in microbiology.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Advanced Electives

Rule: Choose 3 credits from the listed courses

Note: 3 credits maximum of CHMY 492 may be applied toward degree requirements.
3 credits maximum of BIOB 490 may be applied toward degree requirements.

	Course	Credits
	BIOB 490 - Adv Undergrad Research (R-10) Offered every term. Prereq., junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit.	1 To 10 Credits
	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits
	CHMY 402 - Advanced Inorganic Chem Lab Offered spring. Prereq., CHMY 224 AND 360 or 373 and consent of instr. Preparation of inorganic and coordination compounds. Isolation and characterization by ion exchange, column chromatography, IR, UV-VIS, derivatives, MP, and BP.	2 Credits
	CHMY 403 - Descriptive Inorganic Chem Offered spring. Prereq., CHMY 221-222, 360 or 373-371, and 401. A survey of the chemistry of the elements including transition metal reaction mechanisms, redox chemistry, organometallic chemistry, bioinorganic chemistry.	3 Credits
	CHMY 442 - Aquatic Chemistry Offered autumn odd-numbered years. Prereq., CHMY 311 or consent of instr. Application of chemical equilibria theory for understanding and modeling chemical processes in natural waters with an emphasis on spreadsheet computations. In depth examination of concepts such as pH, alkalinity, buffering, and solubility as they apply to natural waters.	3 Credits
	CHMY 445 - Indstrl Chm & Its Impct on Soc Offered every other autumn semester. Prereq., CHMY 143 or 123. A course based on local Montana chemical industries involving field trips to chemical plants, visits by company personnel and an overall evaluation of the company=s economic and environmental impact on the community.	3 Credits
	CHMY 465 - Organic Spectroscopy Offered intermittently. Prereq., CHMY 360 or 373 and one year of organic chemistry or consent of instr. Theory and interpretation of the NMR, IR, UV, and mass spectra of organic compounds with the goal of structure identification.	3 Credits

	CHMY 466 - FT-NMR Optn for Undrgrd Rsrch Offered intermittently. Prereq., CHMY 221-222; research project using NMR; consent of instr. Operation of the FT-NMR spectrometer and brief background of NMR spectroscopy.	1 Credits
	CHMY 492 - Independent Study (R-9) Offered autumn and spring. Prereq., consent of instr. Laboratory investigations and research in the laboratory of a faculty member.	1 To 9 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Complete the following course

	Course	Credits
	CHMY 305E - Ethics and Writing in Science Offered autumn and spring. Prereq., CHMY 223 and chemistry or biochemistry majors. Practicum for developing and improving skills in scientific writing and evaluation. Presentation, discussion and written evaluations of standard ethics traditions and ethical issues related to the professional practice of science. Use of library and search tools to access current literature in chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Chemistry B.A.

The courses required for the B.A. degree provide a less extensive training in chemistry than do the courses required for the American Chemical Society certified B.S. degree. This is to allow the student to supplement his or her program with courses that meet his or her specific needs. Thus this degree provides the core of traditional preparation in chemistry together with latitude for combination with an interdisciplinary field or the Teacher Preparation program. It is strongly advised that students using this degree obtain faculty advice in planning their program.

Bachelor of Arts - Chemistry

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 89
Required Cumulative GPA: 2.0

Lower Core Courses

Rule: All subcategories must be completed

> *General Chemistry*
> **Rule:** Complete both courses

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Organic Chemistry

Rule: Complete all courses

	Course	Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics

Rule: Complete either PHSX 205N-206N and 207N-208N or PHSX 215N-216N and 217N-218N

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits

	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Mathematics

Rule: Complete all courses

	Course	**Credits**

	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
Minimum Required Grade: C-		12 Total Credits Required

Computer Science

Rule: Complete course

	Course	**Credits**
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Core Courses

Rule: All subcategories must be completed

Analytical Chemistry

Rule: Complete all of the following courses

	Course	**Credits**

	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
	CHMY 421 - Advanced Instrument Analysis Offered spring. Prereq., CHMY 311. Theory and use of instrumental methods in the study of analytical and physical chemistry.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Physical Chemistry

Rule: Complete all of the following courses

	Course	Credits
	CHMY 371 - Phys Chem-Qntm Chm & Spctrscpy Offered spring. Prereq., CHMY 373. Systematic treatment of the laws and theories relating to chemical phenomena.	4 Credits
	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Advanced Electives

Rule: Complete 15 credits of advanced electives

Note: Complete 15 credits of advanced electives approved by Chemistry Adviser

Minimum Required Grade: C-

15 Total Credits Required

Modern Foreign Language

Rule: Complete 10 credits of modern foreign language

Minimum Required Grade: Pass

10 Total Credits Required

Ethics

Rule: Complete the following course

	Course	Credits

	CHMY 305E - Ethics and Writing in Science Offered autumn and spring. Prereq., CHMY 223 and chemistry or biochemistry majors. Practicum for developing and improving skills in scientific writing and evaluation. Presentation, discussion and written evaluations of standard ethics traditions and ethical issues related to the professional practice of science. Use of library and search tools to access current literature in chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Chemistry

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Bachelor of Arts - Chemistry; Track: Teaching Chemistry

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 85
Required Cumulative GPA: 2.0

Lower Core Courses

Rule: All subcategories must be completed

49 Total Credits Required

General Chemistry

Rule: Complete both courses

	Course	**Credits**
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits

	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Organic Chemistry

Rule: Complete all courses

	Course	Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics

Rule: Complete either PHSX 205N-206N and 207N-208N or PHSX 215N-216N and 217N-218N

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits

	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Mathematics

Rule: Complete all courses

	Course	**Credits**

	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		16 Total Credits Required

Computer Science

Rule: Complete the following course

	Course	**Credits**
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Core Courses

Rule: All subcategories must be completed

33 Total Credits Required

Analytical Chemistry

Rule: Complete all of the following courses

	Course	**Credits**

	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
	CHMY 421 - Advanced Instrument Analysis Offered spring. Prereq., CHMY 311. Theory and use of instrumental methods in the study of analytical and physical chemistry.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Physical Chemistry

Rule: Complete all of the following courses

	Course	Credits
	CHMY 371 - Phys Chem-Qntm Chm & Spctrscpy Offered spring. Prereq., CHMY 373. Systematic treatment of the laws and theories relating to chemical phenomena.	4 Credits
	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Inorganic Chemistry

Rule: Complete all of the following courses

	Course	Credits
	CHMY 401 - Advanced Inorganic Chemistry Offered autumn. Prereq., CHMY 223 AND 360 OR 373 or consent of instr. Theory and principles of inorganic chemistry and a systematic coverage of descriptive inorganic chemistry in the context of the periodic table.	3 Credits
	CHMY 403 - Descriptive Inorganic Chem Offered spring. Prereq., CHMY 221-222, 360 or 373-371, and 401. A survey of the chemistry of the elements including transition metal reaction mechanisms, redox chemistry, organometallic chemistry, bioinorganic chemistry.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Laboratory Safety

Rule: Complete the following course

	Course	Credits
	CHMY 485 - Laboratory Safety Offered autumn. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Teaching Preparation Requirements

Rule: Complete both of the following

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Science.

	Course	Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits

	ENST 472 - Gen Sci: Conserv Ed Offered autumn and spring. A study of the foundations of environmental science and conservation education with applications to community service and teaching.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Biochemistry

Rule: Complete the following course

	Course	Credits
	BCH 380 - Biochemistry Offered autumn and spring. Prereq., CHMY 223 or BIOB 260. Fundamental biochemistry; chemistry and metabolism of biomolecules, energy relationships in metabolism; storage, transmission, and expression of genetic information. Credit not allowed for both BCH 380 and 480-482.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching.

Modern Foreign Language

Rule: Complete 10 credits of modern foreign language

Note: The foreign language requirement may be waived for a student who completes the B.A. degree in preparation for secondary teaching and who meets the requirements for teaching licensure, including the student teaching requirement. These students still must meet the foreign language/symbolic systems competency requirement (likely via M 171 and 172) for General Education as described in the Academic Policies and Procedures section of this catalog.

Minimum Required Grade: Pass

10 Total Credits Required

Ethics

Rule: Complete the following course

	Course	Credits
	CHMY 305E - Ethics and Writing in Science Offered autumn and spring. Prereq., CHMY 223 and chemistry or biochemistry majors. Practicum for developing and improving skills in scientific writing and evaluation. Presentation, discussion and written evaluations of standard ethics traditions and ethical issues related to the professional practice of science. Use of library and search tools to access current literature in chemistry.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Chemistry Minor

Minor - Chemistry (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 31
Required Cumulative GPA: 2.0

Lower Core Courses

Rule: Must complete all of the following:

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
Minimum Required Grade: C-		18 Total Credits Required

Upper Core Courses

Rule: Must complete the following:

	Course	Credits

	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Physical Chemistry Requirement

Rule: Must complete one of the following:

	Course	Credits
	CHMY 360 - Applied Physical Chemistry Offered spring. Prereq., CHMY 123 OR 143 AND M 162. Basic thermodynamics and chemical kinetics with applications in the biological and environmental sciences. Credit not allowed for both 360 and 373.	3 Credits
	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Electives

Rule: Must complete two of the following:

Note: If the student's major requires biochemistry, BCH 380 or BCH 480 and BCH 482 may not be used to satisfy this requirement.

	Course	Credits
	BCH 380 - Biochemistry Offered autumn and spring. Prereq., CHMY 223 or BIOB 260. Fundamental biochemistry; chemistry and metabolism of biomolecules, energy relationships in metabolism; storage, transmission, and expression of genetic information. Credit not allowed for both BCH 380 and 480-482.	4 Credits
	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits

	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	CHMY 371 - Phys Chem-Qntm Chm & Spctrscpy Offered spring. Prereq., CHMY 373. Systematic treatment of the laws and theories relating to chemical phenomena.	4 Credits
	CHMY 401 - Advanced Inorganic Chemistry Offered autumn. Prereq., CHMY 223 AND 360 OR 373 or consent of instr. Theory and principles of inorganic chemistry and a systematic coverage of descriptive inorganic chemistry in the context of the periodic table.	3 Credits
	CHMY 403 - Descriptive Inorganic Chem Offered spring. Prereq., CHMY 221-222, 360 or 373-371, and 401. A survey of the chemistry of the elements including transition metal reaction mechanisms, redox chemistry, organometallic chemistry, bioinorganic chemistry.	3 Credits
	CHMY 442 - Aquatic Chemistry Offered autumn odd-numbered years. Prereq., CHMY 311 or consent of instr. Application of chemical equilibria theory for understanding and modeling chemical processes in natural waters with an emphasis on spreadsheet computations. In depth examination of concepts such as pH, alkalinity, buffering, and solubility as they apply to natural waters.	3 Credits
	CHMY 445 - Indstrl Chm & Its Impct on Soc Offered every other autumn semester. Prereq., CHMY 143 or 123. A course based on local Montana chemical industries involving field trips to chemical plants, visits by company personnel and an overall evaluation of the company=s economic and environmental impact on the community.	3 Credits
	CHMY 465 - Organic Spectroscopy Offered intermittently. Prereq., CHMY 360 or 373 and one year of organic chemistry or consent of instr. Theory and interpretation of the NMR, IR, UV, and mass spectra of organic compounds with the goal of structure identification.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Teaching Chemistry Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - Chemistry (Minor); Track: Teaching Chemistry

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 60
Required Cumulative GPA: 2.0

Lower Core Courses

Rule: All subcategories must be completed

42 Total Credits Required

Chemistry

Rule: Must complete all of the following:

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

Mathematics

Rule: Must complete all of the following:

	Course	Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Physics

Rule: Must complete all of the following:

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Computer Science

Rule: Must complete one of the following:

	Course	Credits
	CSCI 100 - Intro to Programming Offered autumn and spring. This course covers basic programming concepts such as variables, data types, iteration, flow of control, input/output, functions, and objects. The course will also cover programming ideas such as data structures, algorithms, modularity, and debugging. Students will learn about the role computation can play in solving problems by writing interesting programs to solve useful goals. No prior programming experience is expected. (Two hours independent lab per week.) Credit not allowed for both CSCI 100 and CSCI 110.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Core Courses

Rule: Must complete the following:

	Course	Credits
	BCH 380 - Biochemistry Offered autumn and spring. Prereq., CHMY 223 or BIOB 260. Fundamental biochemistry; chemistry and metabolism of biomolecules, energy relationships in metabolism; storage, transmission, and expression of genetic information. Credit not allowed for both BCH 380 and 480-482.	4 Credits
	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
	CHMY 485 - Laboratory Safety Offered autumn. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.	1 Credits
Minimum Required Grade: C-		9 Total Credits Required

Physical Chemistry Requirement

Rule: Must complete one of the following:

	Course	Credits

	CHMY 360 - Applied Physical Chemistry Offered spring. Prereq., CHMY 123 OR 143 AND M 162. Basic thermodynamics and chemical kinetics with applications in the biological and environmental sciences. Credit not allowed for both 360 and 373.	3 Credits
	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching. Individuals completing a teaching minor must also complete a teaching major in another content area.

Teaching Preparation Requirements

Rule: Must complete all of the following:

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Science.

	Course	**Credits**

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
	ENST 472 - Gen Sci: Conserv Ed Offered autumn and spring. A study of the foundations of environmental science and conservation education with applications to community service and teaching.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Communication Studies Department

Steve Schwarze, Chair

Communication Studies engages in both social-scientific and humanistic approaches to the analysis, understanding and improvement of human communication. The discipline traces its roots to ancient Greek and Roman studies of the functions of public discourse in society, but in the twentieth century communication came to embrace the studies of interpersonal and small group interaction, human relations in organizations, media and society, and intercultural interaction. Although interdisciplinary in spirit, the discipline has a core of knowledge, theory, and concepts concentrating on such things as symbols, messages, interactions, networks, audiences, and persuasive campaigns. Uniting the field is the belief that the role of communication in human experience is basic to comprehending complex situations and problems in the modern world. The discipline has roles in both the broad traditions of liberal arts education and in the development and refinement of practical skills.

The Department of Communication Studies at the University of Montana-Missoula focuses on three broad areas of study: interpersonal interaction and human relationships, organizational communication, and rhetoric and public discourse. The knowledge and skills the student may acquire in each of these areas are important to functioning effectively in one's personal life, at work, and as a citizen of the larger society in a rapidly changing world.

The program in Communication Studies helps to prepare students for such diverse professions as: public relations officer, marketing analyst, human resources or personnel manager, community mediator, political speech writer, health communication trainer, social services director, or student services coordinator. Also, undergraduate and graduate study can assist the student in pursuing advanced studies for law, the ministry, and higher education.

Department Faculty

Professor

Betsy Wackernagel Bach, Professor
Sara Hayden, Professor
Gregory Larson, Professor
Steve Schwarze, Professor
Alan Sillars, Professor
Stephen Yoshimura, Professor

Associate Professors

Joel Iverson, Associate Professor
Christina Yoshimura, Associate Professor of Communication Sutides (M.A., Ph.D.) and Mental Health Counselor (M.A.)

Adjunct Instructor

Lucy Beighle, Adjunct instructor
Phyllis Ngai, Adjunct Associate Professor

Lecturer

David Airne, Director of Debate

Communication

Back to Top

- COMX 111A - Intro to Public Speaking
  Credits: 3. Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed

for both COMM 111A and COM 160A. Course Attributes: Expressive Arts Course (A)

- COMX 115S - Intro to Interpersonal Comm

  Credits: 3. Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S. Course Attributes: Social Sciences Course (S)

- COMX 191S - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Internships/Practicums Social Sciences Course (S)

- COMX 202S - Nonverbal Communication

  Credits: 3. Offered yearly. Nonverbal code systems and how they function in human communication including gestures, facial expressions, personal space, and others. Course Attributes: Social Sciences Course (S)

- COMX 204X - International & Dvlpmnt Comm

  Credits: 3. Offered yearly. International Communication is concerned with information exchange across national borders while Development Communication focuses on the historical, current, and prospective role of communication technologies in social change, improving living conditions, and enhancing life prospects - mainly in developing countries. Course Attributes: Cultural Intl Diversity (X)

- COMX 210 - Communication in Small Groups

  Credits: 3. Offered autumn and spring. Theory and research related to communication roles, collaboration, cohesion, leadership, and decision-making. Experiences provided in task oriented groups and field analyses of group processes.

- COMX 220S - Intro to Organizational Comm

  Credits: 3. Offered yearly. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations. Course Attributes: Social Sciences Course (S)

- COMX 222 - Professional Communication

  Credits: 3. Offered intermittently. Explores communication skills needed in business and professional contexts. Focus on developing a working knowledge of theory and skills for interpersonal communication, group communication, and business writing. Concepts include communication processes, diversity in the workplace, nonverbal communication, technical communication, communication with customers, and employment communication.

- COMX 240H - Intro to Rhetorical Theory

  Credits: 3. Offered yearly. An overview of rhetorical theory including an exploration of classical rhetoric, British and Continental rhetorical theory, and contemporary theories of language and persuasion. Course Attributes: Hist & Cultural Studies (H)

- COMX 241 - Persuasive Communication

  Credits: 3. Offered yearly. The use of communication in attitude and behavior change as experienced in personal, organizational, and public contexts.

- COMX 242 - Argumentation

  Credits: 3. Offered autumn and spring on the Mountain campus, offered intermittently on the Missoula College campus. Development of argumentation skills and critical judgment in decision-making and debate. Includes criticism, construction, presentation, and refutation of spoken and written arguments.

- COMX 311 - Family Communication

  Credits: 3. Offered yearly. An examination of communication in marriage/romantic partnership, parent-child, and extended family relationships. Topics include intimacy, power, decision-making, problem solving, identity formation, and interpersonal perception.

- COMX 312 - Forensics/Honors

  Credits: 1 TO 3. (R-12) Offered every term. Preparation and participation in competitive speech and debate, including Lincoln/Douglas and Parliamentary debate. The team travels to regional

competitions and hosts on-campus and intramural debates and speaking events. Up to 6 credits may apply toward a major or minor in communication studies.

- COMX 343 - Persuasive Speaking and Critic

  Credits: 3. Offered yearly. Prereq., COMM 111A or consent of instructor. The persuasive process through the criticism and creation of speeches and other rhetorical artifacts emphasizing the role persuasion plays in creating and shaping our culture.

- COMX 347 - Rhetoric Nature & Environmtlsm

  Credits: 3. Offered every other year. Same as ENST 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition. Course Attributes: Writing Course-Advanced

- COMX 349 - Comm Consump & Climate

  Credits: 3. Offered every other year. Same as CCS 349. Analyzes consumption as a communication practice, investigates discourses that promote consumption, and illuminates environmental impacts on consumption.

- COMX 351 - Principles of Public Relations

  Credits: 3. Offered yearly. The many uses of communication in the endeavor of public relations. Communication theories and models including interpersonal communication, organizational communication, and mass communication are applied to explore the internal and external communication behavior associated with public relations.

- COMX 352 - Public Relations Portfolio

  Credits: 3. Offered yearly. Writing documents such as press releases, fact sheets, brochures and speeches to create relationships between organizations and their publics.

- COMX 380 - Gender and Communication

  Credits: 3. Offered yearly. The meaning of gender in our culture. Examines how gender is displayed and perpetuated through social institutions such as the media and through our private and public verbal and nonverbal interactions.

- COMX 391 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- COMX 398 - Internship

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Preq., consent of instructor. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (398, 498) may count toward graduation. Offered C/NCR only. Course Attributes: Internships/Practicums Internship graduation limit 6

- COMX 412 - Communication and Conflict

  Credits: 3. Offered autumn and spring. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Topics include culture, power, styles, negotiation and bargaining, mediation, dissent, dispute systems, and crisis communication. Credit is not allowed for both COMM 413 and COMM 412.

- COMX 413 - Comm & Conflict-Writing

  Credits: 3. Offered yearly. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Fulfills Upper-Division Writing requirement for Communication Studies majors. Credit is not allowed for both COMX 413 and COMX 412. Course Attributes: Writing Course-Advanced

- COMX 414 - Comm in Personal Relationshps

  Credits: 3. Offered yearly. Prerequisite, COMX 115S or consent of instructor. An examination of the functions, types, and historical context of close personal relationships with an in-depth study of the role of communication in friendships and romantic relationships. Course Attributes: Writing Course-Advanced

- COMX 415 - Intercultural Communication

  Credits: 3. Offered autumn and spring. Communication principles and processes in cross-cultural environments. Non-Western cultures are emphasized by contrasting them to Western communication norms.

- COMX 421 - Comm in Non-Profit Organizatns

  Credits: 3. Offered yearly. Focuses on issues in nonprofit organizational communication at macro and micro levels. Topics include: organizational identity, change processes, public relations, fund-raising, advocacy, socialization, stress and burnout, board management and professionalization. Course Attributes: Writing Course-Advanced

- COMX 422 - Communication and Technology

  Credits: 3. Offered every other year. This course takes a critical look at the influence of communication technologies on organizational communication. Students will examine how the world of work is changing due to new technologies and explore the social and ethical implications of technical innovation, adoption and use. Course Attributes: Writing Course-Advanced

- COMX 423 - Org Comm Consult & Train

  Credits: 3. Offered every year. Prerequisite, COMX 220S or consent of instructor. Not open to PCOM. Emphasis on the theoretical and practical issues involved in communication training and consultation. Overview of theoretical models followed by the "nuts and bolts" of communication training, development, and assessment. Students will carry out a training or consultation project (e.g., planning, execution, and evaluation) to sharpen the issues explored.

- COMX 424 - Risk Crisis & Comm

  Credits: 3. Offered every other year. This course explores the communicative dynamics that both prevent and cause organizational crisis. Through case studies, the class examines how people plan, communicate and make good decisions in high-risk situations, as well as how to manage crisis public relations effectively. Course Attributes: Writing Course-Advanced

- COMX 425 - Comm in Health Organizations

  Credits: 3. Offered every other year. Not open to PCOM. This course explores the key issues at the intersection of health communication and organizational communication by considering communication processes that occur in a number of distinct contexts of health organizations. Through case studies and health campaigns students explore contemporary concerns and theory in the area of health communication.

- COMX 445 - Rhetorical Criticism & Theory

  Credits: 3. Offered yearly. Introduction to study of rhetorical criticism and theory. Current theoretical and methodological issues and approaches including traditional criticism, experiential criticism, dramatism, narrative criticism, feminist criticism, postmodern criticism. Course Attributes: Writing Course-Advanced

- COMX 447 - Rhetorical Constrctn of Woman

  Credits: 3. Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class. Course Attributes: Writing Course-Advanced

- COMX 449 - Rhetoric of Women's Activism

  Credits: 3. Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class. Course Attributes: Writing Course-Advanced

- COMX 460 - Research Methods

  Credits: 3. Offered autumn and spring. Open only to majors in COMM. Prereq., Grade of C- or better in EDLD 486 or PSYX 222 or SOCI 202 or STAT 216. Introduction to the major types of communication research and the foundations of quantitative research methods.

- COMX 461 - Communication Research Seminar

  Credits: 1 TO 3. (R-9) Offered autumn and spring. coreq., COMX 460. Application of quantitative and qualitative research methods to specialized contexts. Emphasis on direct student involvement in research activities.

- COMX 485 - Communication and Health

  Credits: 3. Offered yearly. Theory and research on the health correlates of human interaction.

- COMX 491 - Special Topics

  Credits: 1 TO 3. (R-9) Offered intermittently. Not open to PCOM. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- COMX 492 - Independent Study

  Credits: 1 TO 9. (R-9) Offered every term. Prereq., consent of instructor. Offered C/NCR only.

- COMX 510 - Sem Personal Relationships

  Credits: 3. (R-6) Offered yearly. Examines theory and research on the process and functions of communication in personal relationship contexts. Interdisciplinary readings illuminates the dynamics of communication in the development, maintenance, and deterioration of romantic relationships, friendships, and family relationships. Discussion and assignments center around theoretical, methodological, and practical issues in research on communicative activities and events in personal relationships. Level: Graduate

- COMX 511 - Survey Interpersonal Comm

  Credits: 3. Offered every other year. Survey of theories and research in interpersonal communication including definitions of interpersonal communication, its place in the field of communication, and methodological issues. Overall emphasis on foundational readings and recent research developments. Level: Graduate

- COMX 512 - Sem Comm Conflict

  Credits: 3. (R-6) Offered intermittently. A review and discussion of current research regarding conflict in different levels and contexts of communication. Level: Graduate

- COMX 514 - Alt Dispute Resolution

  Credits: 3. Offered yearly. Same as LAW 614. A study of the varieties of dispute resolution vehicles outside the court process. Focus on a 40-hour component of practical skills training for the mediation practitioner. Topics include the mediation model, interest-based negotiation and effective communication. Level: Graduate

- COMX 515 - Enviro Negotiation Mediation

  Credits: 3. Same as NRSM 515 and ENST 515. This course prepares students to effectively engage in multiparty negotiation on natural resource and environmental issues. It is grounded in theory and provides an opportunity to develop practical skills in both negotiation and facilitation/mediation. Guest speakers, case studies, and simulations allow students to develop, test, and refine best practices. The course is face-paced, highly interactive, and serves as the second of three required courses in the Natural Resources Conflict Resolution Program. Level: Graduate

- COMX 520 - Sem in Organiz Communication

  Credits: 3. (R-6) Offered every other year. Introduction to theories and research in organizational communication. Topics include culture, networks, structure, technology, identity, power, resistance, gender, and globalization. Overall emphasis on foundational readings and recent research developments. Level: Graduate

- COMX 540 - Sem Instructional Comm

  Credits: 3. Offered every other year. Instruction in the theories, concepts, principles, and skills employed university level classroom communication and instruction. Level: Graduate

- COMX 541 - COMM Teaching Methods

  Credits: 2. (R-8) Offered autumn and spring. Prereq., consent of instr. Restricted to Communication majors only. Offered C/NCR only. Level: Graduate

- COMX 555 - Sem Rhet Crit & Theory

  Credits: 3. Offered annually. Introduction to contemporary issues in rhetorical criticism and theory. Methods reviewed include classical criticism, dramatism, close textual analysis, ideographic criticism, narrative criticism, feminist criticism, and postmodern criticism. Level: Graduate

- COMX 561 - Qual Research Methods

  Credits: 3. Offered every year. An emphasis on the philosophy and practice of qualitative inquiry, the development and use of descriptive frameworks, and gathering and testing qualitative data to develop human communication theory. Level: Graduate

- COMX 572 - Family Law Mediation

  Credits: 3. Offered autumn. Same as LAW 672. Interdisciplinary course on advanced mediation skills with a focus on family mediation including divorce and other types of family problems. Psychological issues for both children and parents, power balancing, gender issues and interest-based negotiation model. Level: Graduate

- COMX 575 - Sem:Rhet&Env'l Controversy
  Credits: 3. Offered every other year. Same as ENST 575. The study of how advocates use symbols to influence meaning and action in environmental controversies. Rhetorical theory is used to identify, analyze, and evaluate persuasive strategies and tactics. Level: Graduate
- COMX 585 - Comm Across Sciences
  Credits: 3. Offered yearly. Focus on communication practices that facilitate interdisciplinary interactions across the sciences and result in more competent communication. Offered only to graduate student trainees enrolled in the M-EID program. Level: Graduate
- COMX 591 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- COMX 593 - Professional Paper
  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate
- COMX 594 - Topical Seminar
  Credits: 1 TO 2. (R-6) Offered intermittently. Prereq., consent of instr. A review and discussion of current research. Topics vary. Level: Graduate
- COMX 595 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- COMX 596 - Independent Study
  Credits: 1 TO 9. (R-9) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course Attributes: Independent Study
- COMX 599 - Thesis
  Credits: 1 TO 9. (R-9) Offered every term. Prereq., consent of instr. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

Communication and Human Relationships

Bachelor of Arts - Communication Studies; Comm & Human Relationships Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 48

Required Cumulative GPA: 2.0

Note: To graduate with a degree in Communication Studies, the student must complete 36 COMX (COMM) credits with 18 of those credits in courses numbered 300 or above. Students must also complete an approved statistics course. For the Human Relationships option, students must complete an additional 12 credits in Allied courses to reach 48 total degree credits. A maximum of 6 credits in COMX 312 (COMM 360) and a maximum of 6 credits in COMX 398 (COMM 398) may count toward a major in communication studies.

Lower Division Core Courses

Rule: Must complete all of the following courses:

Note: null

	Course	Credits

	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	COMX 220S - Intro to Organizational Comm Offered yearly. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.	3 Credits
	COMX 240H - Intro to Rhetorical Theory Offered yearly. An overview of rhetorical theory including an exploration of classical rhetoric, British and Continental rhetorical theory, and contemporary theories of language and persuasion.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper Division Core Courses

Rule: Must complete the following subcategories

6 Total Credits Required

Research

Rule: Must complete the following course

Note: Students taking COMX 460 in the fall or spring semester will also be required to take COMX 461, Communication Research Seminar. Those taking COMX 460 in summer are exempt from this requirement.

	Course	**Credits**
	COMX 460 - Research Methods Offered autumn and spring. Open only to majors in COMM. Prereq., Grade of C- or better in EDLD 486 or PSYX 222 or SOCI 202 or STAT 216. Introduction to the major types of communication research and the foundations of quantitative research methods.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing

Rule: Must complete 1 of the following courses

Note: One of these courses is required to complete the upper division writing requirement in the major. This counts toward the total credits needed for the major.

	Course	Credits
	COMX 347 - Rhetoric Nature & Environmtlsm Offered every other year. Same as ENST 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.	3 Credits
	COMX 413 - Comm & Conflict-Writing Offered yearly. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Fulfills Upper-Division Writing requirement for Communication Studies majors. Credit is not allowed for both COMX 413 and COMX 412.	3 Credits
	COMX 414 - Comm in Personal Relationshps Offered yearly. Prerequisite, COMX 115S or consent of instructor. An examination of the functions, types, and historical context of close personal relationships with an in-depth study of the role of communication in friendships and romantic relationships.	3 Credits
	COMX 421 - Comm in Non-Profit Organizatns Offered yearly. Focuses on issues in nonprofit organizational communication at macro and micro levels. Topics include: organizational identity, change processes, public relations, fund-raising, advocacy, socialization, stress and burnout, board management and professionalization.	3 Credits
	COMX 422 - Communication and Technology Offered every other year. This course takes a critical look at the influence of communication technologies on organizational communication. Students will examine how the world of work is changing due to new technologies and explore the social and ethical implications of technical innovation, adoption and use.	3 Credits
	COMX 424 - Risk Crisis & Comm Offered every other year. This course explores the communicative dynamics that both prevent and cause organizational crisis. Through case studies, the class examines how people plan, communicate and make good decisions in high-risk situations, as well as how to manage crisis public relations effectively.	3 Credits
	COMX 445 - Rhetorical Criticism & Theory Offered yearly. Introduction to study of rhetorical criticism and theory. Current theoretical and methodological issues and approaches including traditional criticism, experiential criticism, dramatism, narrative criticism, feminist criticism, postmodern criticism.	3 Credits
	COMX 447 - Rhetorical Constrctn of Woman Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.	3 Credits

	COMX 449 - Rhetoric of Women's Activism Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Comm & Human Relationships Option

Rule: Must complete the following subcategories

30 Total Credits Required

Major Courses

Rule: Must complete at least 5 of the following courses

	Course	Credits
	COMX 202S - Nonverbal Communication Offered yearly. Nonverbal code systems and how they function in human communication including gestures, facial expressions, personal space, and others.	3 Credits
	COMX 311 - Family Communication Offered yearly. An examination of communication in marriage/romantic partnership, parent-child, and extended family relationships. Topics include intimacy, power, decision-making, problem solving, identity formation, and interpersonal perception.	3 Credits
	COMX 380 - Gender and Communication Offered yearly. The meaning of gender in our culture. Examines how gender is displayed and perpetuated through social institutions such as the media and through our private and public verbal and nonverbal interactions.	3 Credits
	COMX 412 - Communication and Conflict Offered autumn and spring. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Topics include culture, power, styles, negotiation and bargaining, mediation, dissent, dispute systems, and crisis communication. Credit is not allowed for both COMM 413 and COMM 412.	3 Credits
	COMX 413 - Comm & Conflict-Writing Offered yearly. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Fulfills Upper-Division Writing requirement for Communication Studies majors. Credit is not allowed for both COMX 413 and COMX 412.	3 Credits

	COMX 414 - Comm in Personal Relationshps Offered yearly. Prerequisite, COMX 115S or consent of instructor. An examination of the functions, types, and historical context of close personal relationships with an in-depth study of the role of communication in friendships and romantic relationships.	3 Credits
	COMX 415 - Intercultural Communication Offered autumn and spring. Communication principles and processes in cross-cultural environments. Non-Western cultures are emphasized by contrasting them to Western communication norms.	3 Credits
	COMX 485 - Communication and Health Offered yearly. Theory and research on the health correlates of human interaction.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Allied Courses

Rule: Must complete at least 4 of the following courses

	Course	Credits
	ANTY 227 - Human Sexuality Offered autumn. Biological, behavioral, and cross-cultural aspects of human sexuality to help students place their own sexuality and that of others in a broader perspective. Includes sexual anatomy, physiology, development, reproduction, diseases, sex determination, as well as gender development and current issues.	3 Credits
	ANTY 427 - Anthropology of Gender Offered spring. Comparative study of the history and significance of gender in social life.	3 Credits
	COUN 242S - Intimate Relationships Offered autumn and spring semester. This course covers the fascinating, multi-faceted world of intimate relationships and explores the topic from empirical and theoretical perspectives. The examination of intimate relationships in this course will look at the subject through cultural, biological, social and developmental lenses and will explore specific topics such as attraction, communication, friendship, sexuality, love, conflict, power and violence, loss, social cognition, and repairing relationships.	3 Credits
	COUN 475 - Forgiveness & Reconcilia Offered spring. Survey of the theory and practice of healing fractured relationships at the individual and community levels, treating historical and personal issues from philosophical, psychological and religious perspectives drawn from several diverse cultures.	3 Credits

	COUN 485 - Counseling Theories Offered autumn. Prereq., PSYX 100S. Same as PSYX 442 and SW 485. Introduction to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies, and diversity issues.	3 Credits
	EDEC 310 - Child in the Family Offered spring even-numbered years. Prereq., PSYX 100S. Physical, social, emotional and intellectual development, learning theories and child rearing practices related to children 0-6 years of age.	3 Credits
	PSYX 230 - Developmental Psychology Offered autumn, spring, summer. Prereq., PSYX 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect. Appropriate for Social Work, Nursing, Addiction Studies, Education, and Psychology.	3 Credits
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits
	PSYX 345 - Child & Adolescent Psych Dis Offered intermittently. Prereq., PSYX 100S and 230. Study of causes, characteristics, assessment and treatment of emotional, social and intellectual disorders. The age span studied will range from infancy through adolescence.	3 Credits
	PSYX 348 - Psychology of Family Violence Offered spring. Prereq., PSYX 100S. Same as WGS 385. Exploration of theoretical explanations for the presence of violence in American families; research and interventions in such areas as child physical and sexual abuse, battering of women, marital rape, spousal homicide, etc.	3 Credits
	PSYX 360 - Social Psychology Offered every term. Individual behavior as a function of interpersonal interaction.	3 Credits
	PSYX 385 - Psychology of Personality Offered intermittently Prereq., PSYX 100S. Introduction to theories and research in personality. Intensive survey of theoretical concepts and a detailed examination of experimental methods and experiments in the field of personality.	3 Credits
	S W 420 - Child Abuse/Child Welfare Offered autumn. Prereq., junior standing or consent of instr. Signs and symptoms of physical and sexual abuse and neglect, family dynamics in abuse and neglect, the legal context, programs of prevention and intervention, foster care, special needs adoptions and related issues in child welfare.	3 Credits

	S W 455 - Social Gerontology Offered autumn. Examination of the field of social gerontology, including an examination of the major bio/psycho/social/cultural/spiritual theories of aging, the service system, social and health issues, family and care-giving dynamics, social policy, and end of life concerns.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 275S - Gender and Society Offered spring. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S.; gender ideologies affect the social definition and position of gendered individuals in work, family, sexual relationships, gendered divisions of labor, and social movements.	3 Credits
	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
	SOCI 350 - The Community Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.	3 Credits
	SOCI 382 - Soc Psych and Social Structure Offered autumn. Prereq., SOCI 101S. The study of the behavior of individuals in social contexts ranging from small groups to societies. Topics include attitude change, conformity, power, status, self-concept formation, and decision-making.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Additional Major Electives

Rule: May take additional COMX courses to achieve 36 degree credits

Statistics

Rule: Must complete 1 of the following courses

	Course	**Credits**

	EDU 421 - Statistical Procedures in Educ Prereq., M 115 or equiv. or consent of instr. Concepts and procedures characterizing both descriptive and inferential statistics. Awareness of common statistical errors.	3 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Organizational Communication

Bachelor of Arts - Communication Studies; Organizational Communication Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 48

Required Cumulative GPA: 2.0

Note: To graduate with a degree in Communication Studies, the student must complete 36 COMX (COMM) credits with 18 of those credits in courses numbered 300 or above. Students must also complete an approved statistics course (3 credits). In the Organizational Communication option, students must complete an additional 9 credits in Allied courses to reach 48 degree credits. A maximum of 6 credits in COMX 312 (COMM 360) and a maximum of 6 credits in COMX 398 (COMM 398) may count toward a major in communication studies.

Lower Division Core Courses

Rule: Must complete all of the following courses:

Note: null

	Course	**Credits**
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits

	COMX 115S - Intro to Interpersonal Comm Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	COMX 220S - Intro to Organizational Comm Offered yearly. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.	3 Credits
	COMX 240H - Intro to Rhetorical Theory Offered yearly. An overview of rhetorical theory including an exploration of classical rhetoric, British and Continental rhetorical theory, and contemporary theories of language and persuasion.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper Division Core Courses

Rule: Must complete the following subcategories
Minimum Required Grade: C-
6 Total Credits Required

Research

Rule: Must complete an approved statistics course prior to taking COMX 460

Note: Students taking COMX 460 in the fall or spring semester will also be required to take COMX 461, Communication Research Seminar. Those taking COMX 460 in summer are exempt from this requirement.

	Course	**Credits**
	COMX 460 - Research Methods Offered autumn and spring. Open only to majors in COMM. Prereq., Grade of C- or better in EDLD 486 or PSYX 222 or SOCI 202 or STAT 216. Introduction to the major types of communication research and the foundations of quantitative research methods.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing

Rule: Must complete 1 of the following courses

Note: One of these courses is required to complete the upper division writing requirement in the major. This counts toward the total credits needed for the major.

	Course	**Credits**

	COMX 347 - Rhetoric Nature & Environmtlsm Offered every other year. Same as ENST 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.	3 Credits
	COMX 413 - Comm & Conflict-Writing Offered yearly. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Fulfills Upper-Division Writing requirement for Communication Studies majors. Credit is not allowed for both COMX 413 and COMX 412.	3 Credits
	COMX 414 - Comm in Personal Relationshps Offered yearly. Prerequisite, COMX 115S or consent of instructor. An examination of the functions, types, and historical context of close personal relationships with an in-depth study of the role of communication in friendships and romantic relationships.	3 Credits
	COMX 421 - Comm in Non-Profit Organizatns Offered yearly. Focuses on issues in nonprofit organizational communication at macro and micro levels. Topics include: organizational identity, change processes, public relations, fund-raising, advocacy, socialization, stress and burnout, board management and professionalization.	3 Credits
	COMX 422 - Communication and Technology Offered every other year. This course takes a critical look at the influence of communication technologies on organizational communication. Students will examine how the world of work is changing due to new technologies and explore the social and ethical implications of technical innovation, adoption and use.	3 Credits
	COMX 424 - Risk Crisis & Comm Offered every other year. This course explores the communicative dynamics that both prevent and cause organizational crisis. Through case studies, the class examines how people plan, communicate and make good decisions in high-risk situations, as well as how to manage crisis public relations effectively.	3 Credits
	COMX 445 - Rhetorical Criticism and Theor Offered yearly. Introduction to study of rhetorical criticism and theory. Current theoretical and methodological issues and approaches including traditional criticism, experiential criticism, dramatism, narrative criticism, feminist criticism, postmodern criticism.	3 Credits
	COMX 447 - Rhetorical Constrctn of Woman Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.	3 Credits

	COMX 449 - Rhetoric of Women's Activism Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Organizational Communication Option

Rule: Must complete the following subcategories

27 Total Credits Required

Major Courses

Rule: Must complete at least 5 of the following courses

	Course	Credits
	COMX 210 - Communication in Small Groups Offered autumn and spring. Theory and research related to communication roles, collaboration, cohesion, leadership, and decision-making. Experiences provided in task oriented groups and field analyses of group processes.	3 Credits
	COMX 351 - Principles of Public Relations Offered yearly. The many uses of communication in the endeavor of public relations. Communication theories and models including interpersonal communication, organizational communication, and mass communication are applied to explore the internal and external communication behavior associated with public relations.	3 Credits
	COMX 352 - Public Relations Portfolio Offered yearly. Writing documents such as press releases, fact sheets, brochures and speeches to create relationships between organizations and their publics.	3 Credits
	COMX 412 - Communication and Conflict Offered autumn and spring. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Topics include culture, power, styles, negotiation and bargaining, mediation, dissent, dispute systems, and crisis communication. Credit is not allowed for both COMM 413 and COMM 412.	3 Credits
	COMX 413 - Comm & Conflict-Writing Offered yearly. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Fulfills Upper-Division Writing requirement for Communication Studies majors. Credit is not allowed for both COMX 413 and COMX 412.	3 Credits

	COMX 415 - Intercultural Communication Offered autumn and spring. Communication principles and processes in cross-cultural environments. Non-Western cultures are emphasized by contrasting them to Western communication norms.	3 Credits
	COMX 421 - Comm in Non-Profit Organizatns Offered yearly. Focuses on issues in nonprofit organizational communication at macro and micro levels. Topics include: organizational identity, change processes, public relations, fund-raising, advocacy, socialization, stress and burnout, board management and professionalization.	3 Credits
	COMX 422 - Communication and Technology Offered every other year. This course takes a critical look at the influence of communication technologies on organizational communication. Students will examine how the world of work is changing due to new technologies and explore the social and ethical implications of technical innovation, adoption and use.	3 Credits
	COMX 423 - Org Comm Consult Offered every year. Prerequisite, COMX 220S or consent of instructor. Not open to PCOM. Emphasis on the theoretical and practical issues involved in communication training and consultation. Overview of theoretical models followed by the "nuts and bolts" of communication training, development, and assessment. Students will carry out a training or consultation project (e.g., planning, execution, and evaluation) to sharpen the issues explored.	3 Credits
	COMX 424 - Risk Crisis & Comm Offered every other year. This course explores the communicative dynamics that both prevent and cause organizational crisis. Through case studies, the class examines how people plan, communicate and make good decisions in high-risk situations, as well as how to manage crisis public relations effectively.	3 Credits
	COMX 425 - Comm in Health Organizations Offered every other year. Not open to PCOM. This course explores the key issues at the intersection of health communication and organizational communication by considering communication processes that occur in a number of distinct contexts of health organizations. Through case studies and health campaigns students explore contemporary concerns and theory in the area of health communication.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Allied Courses

Rule: Must complete at least 3 of the following courses

	Course	**Credits**

	BMGT 340 - Mgmt & Organization Behavior Offered autumn and spring. Prereq., junior standing in Business. An intensive examination of the fundamentals of management and organization supported by the application of behavioral science principles to the management of people in organizations.	3 Credits
	BMGT 444 - Management Communications Offered autumn and spring. Prereq., junior standing in Business; BMGT 340. This course focuses on four modules managing external and internal communications: Communication of Innovations; Communications with Company Leadership; PR Crisis Communications; and Business Negotiations. Course projects include team research, team oral presentations, individual written executive reports, case studies and analysis, and competitive negotiations.	3 Credits
	BMGT 480 - Cross-Cultural Mgmt Offered autumn. Prereq., junior standing in Business. Study of issues related to cultural diversity within the work force and the problems inherent in the management of a firm's activities on an international scale.	3 Credits
	BMKT 325 - Principles of Marketing Offered autumn and spring. Prereq., junior standing in Business. The marketing environment, product, price, distribution, and promotion strategies including government regulation and marketing ethics.	3 Credits
	BMKT 343 - Integrated Marketing Comm Offered autumn or spring. Prereq., junior standing in Business, BMKT 325. An integrated course in promotion strategy. Topics include advertising message design, media selection, promotions, public relations, personal selling, and other selected topics.	3 Credits
	BMKT 412 - Non Profit Marketing Offered intermittently. Prereq., junior standing in Business and BMKT 325. Integration of core concepts of marketing into philanthropic and other nonprofit organizations. Includes strategies for large-scale enterprises such as unions, educational and religious institutions to small organizations that provide local support such as cultural services, human and environmental services. Student work with nonprofit organizations creating marketing communications plans in an experiential learning environment.	3 Credits
	CHTH 355 - Theory Pract Comm Hlth Ed Offered autumn. Prereq., KIN 205. History, philosophy, and theory related to community health education and health promotion. Includes the application of program development principles and health promotion strategies to community health programs.	3 Credits
	CHTH 445 - Prgrm Plan in Comm Health Offered spring. Prereq., CHTH 355. Overview of the issues, approaches, and techniques community health educators and professionals utilize in planning and implementing programs to assist communities in improving health status and reducing risky behaviors and their determinants. This course co-convenes with HHP 541.	3 Credits

	HTH 465 - Leading Hlth, Hmn Perform Orgs Offered every term. Prereq., KIN 205 and junior standing. Leadership, management, organizational structure assertiveness, conflict management, public relations, decision-making, budget management, and a broad overview of human resource management, all as they relate to health and human performance settings.	3 Credits
	PSCI 361 - Public Administration Offered autumn. Prereq., PSCI 210S and junior standing. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
	PSCI 466 - Nonprofit Adm & Pub Svc Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.	3 Credits
	PSCI 467 - Adv Nonprofit Adm Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.	3 Credits
	SOCI 306 - Sociology of Work Offered intermittently. An introduction to contemporary sociological debates on work including overwork, working poor, housework, globalization, mechanization, routinization, surveillance, and unions. Special focus on gender and class impacts on working life.	3 Credits
	SOCI 345 - Sociology of Organizations Offered intermittently. Prereq., SOCI 101S. Historical and analytical study of organizations as social systems, with an emphasis on applying theoretical models to analyzing organizational behavior and change.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Additional Major Electives

Rule: May take any COMX courses to achieve 36 degree credits

Statistics

Rule: Must complete 1 of the following courses

	Course	**Credits**

	EDU 421 - Statistical Procedures in Educ Prereq., M 115 or equiv. or consent of instr. Concepts and procedures characterizing both descriptive and inferential statistics. Awareness of common statistical errors.	3 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Rhetoric and Public Discourse

Communication Studies B.A.

Bachelor of Arts - Communication Studies

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.0

Note: To graduate with a degree in Communication Studies, the student must complete 36 COMX (COMM) credits with 18 of those credits in courses numbered 300 or above. A maximum of 6 credits in COMX 312 (COMM 360) and a maximum of 6 credits in COMX 398 (COMM 398) may count toward a major in communication studies. Students must also complete an approved statistics course (3 credits).

Lower Division Core Courses

Rule: Must complete all of the following courses:

Note: null

	Course	**Credits**
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits

	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	COMX 220S - Intro to Organizational Comm Offered yearly. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.	3 Credits
	COMX 240H - Intro to Rhetorical Theory Offered yearly. An overview of rhetorical theory including an exploration of classical rhetoric, British and Continental rhetorical theory, and contemporary theories of language and persuasion.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper Division Core Courses

Rule: Must complete the following subcategories

6 Total Credits Required

Research

Rule: Must complete the following course

Note: Students taking COMX 460 in the fall or spring semester will also be required to take COMX 461, Communication Research Seminar. Those taking COMX 460 in summer are exempt from this requirement.

	Course	**Credits**
	COMX 460 - Research Methods Offered autumn and spring. Open only to majors in COMM. Prereq., Grade of C- or better in EDLD 486 or PSYX 222 or SOCI 202 or STAT 216. Introduction to the major types of communication research and the foundations of quantitative research methods.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing

Rule: Must complete 1 of the following courses

Note: One of these courses is required to complete the upper division writing requirement in the major. These credits count toward the total credits needed for the major.

	Course	**Credits**

	COMX 347 - Rhetoric Nature & Environmtlsm Offered every other year. Same as ENST 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.	3 Credits
	COMX 413 - Comm & Conflict-Writing Offered yearly. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Fulfills Upper-Division Writing requirement for Communication Studies majors. Credit is not allowed for both COMX 413 and COMX 412.	3 Credits
	COMX 414 - Comm in Personal Relationshps Offered yearly. Prerequisite, COMX 115S or consent of instructor. An examination of the functions, types, and historical context of close personal relationships with an in-depth study of the role of communication in friendships and romantic relationships.	3 Credits
	COMX 421 - Comm in Non-Profit Organizatns Offered yearly. Focuses on issues in nonprofit organizational communication at macro and micro levels. Topics include: organizational identity, change processes, public relations, fund-raising, advocacy, socialization, stress and burnout, board management and professionalization.	3 Credits
	COMX 422 - Communication and Technology Offered every other year. This course takes a critical look at the influence of communication technologies on organizational communication. Students will examine how the world of work is changing due to new technologies and explore the social and ethical implications of technical innovation, adoption and use.	3 Credits
	COMX 424 - Risk Crisis & Comm Offered every other year. This course explores the communicative dynamics that both prevent and cause organizational crisis. Through case studies, the class examines how people plan, communicate and make good decisions in high-risk situations, as well as how to manage crisis public relations effectively.	3 Credits
	COMX 445 - Rhetorical Criticism and Theor Offered yearly. Introduction to study of rhetorical criticism and theory. Current theoretical and methodological issues and approaches including traditional criticism, experiential criticism, dramatism, narrative criticism, feminist criticism, postmodern criticism.	3 Credits
	COMX 447 - Rhetorical Constrctn of Woman Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.	3 Credits

	COMX 449 - Rhetoric of Women's Activism Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Degree Electives

Rule: Must complete a minimum of 18 additional COMX credits, 12 of which must be numbered 300 and above

	Course	Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	COMX 140L - Intro to Visual Rhetoric Offered autumn and spring. An introduction to the persuasive nature of visual symbols as texts. Readings will include historical to contemporary rhetorical criticisms on advertising, billboards, bodies, cartoons, memorials, and photography.	3 Credits
	COMX 191 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	COMX 192 - Independent Study (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	COMX 202S - Nonverbal Communication Offered yearly. Nonverbal code systems and how they function in human communication including gestures, facial expressions, personal space, and others.	3 Credits
	COMX 204X - International & Dvlpmnt Comm Offered yearly. International Communication is concerned with information exchange across national borders while Development Communication focuses on the historical, current, and prospective role of communication technologies in social change, improving living conditions, and enhancing life prospects - mainly in developing countries.	3 Credits
	COMX 210 - Communication in Small Groups Offered autumn and spring. Theory and research related to communication roles, collaboration, cohesion, leadership, and decision-making. Experiences provided in task oriented groups and field analyses of group processes.	3 Credits

	COMX 212X - Intro to Intercultural Com Offered autumn and spring. This course provides students with an introduction to communicating across cultures. Local and global case studies and theories will be explored. Students will explore the influence of immediate communication and social media on large scale social issues.	3 Credits
	COMX 217A - Oral Interpretation of Lit Offered intermittently. Introduction to orally presenting literature to an audience. Focus is on analyzing and performing prose, drama, poetry, and children's literature to express points of view.	3 Credits
	COMX 219S - Survey of Children's Comm Offered autumn. Focus on communication processes and contemporary communication environments of children and adolescents. Topics include language development and the brain, nonverbal communication development, media, contracting, bullying, and gender.	3 Credits
	COMX 220S - Intro to Organizational Comm Offered yearly. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.	3 Credits
	COMX 222 - Professional Communication Offered intermittently. Explores communication skills needed in business and professional contexts. Focus on developing a working knowledge of theory and skills for interpersonal communication, group communication, and business writing. Concepts include communication processes, diversity in the workplace, nonverbal communication, technical communication, communication with customers, and employment communication.	3 Credits
	COMX 240H - Intro to Rhetorical Theory Offered yearly. An overview of rhetorical theory including an exploration of classical rhetoric, British and Continental rhetorical theory, and contemporary theories of language and persuasion.	3 Credits
	COMX 241 - Persuasive Communication Offered yearly. The use of communication in attitude and behavior change as experienced in personal, organizational, and public contexts.	3 Credits
	COMX 242 - Argumentation Offered autumn and spring on the Mountain campus, offered intermittently on the Missoula College campus. Development of argumentation skills and critical judgment in decision-making and debate. Includes criticism, construction, presentation, and refutation of spoken and written arguments.	3 Credits
	COMX 250 - Intro to Public Relations Offered autumn and spring. Introduction to the origin, scope, and nature of public relations activities. Investigation of policies, strategies, and procedures available to an organization in establishing and controlling its communications. Course will explore the impact of public relations and media through case studies and writing exercises.	3 Credits

	COMX 291 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	COMX 292 - Independent Study (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	COMX 311 - Family Communication Offered yearly. An examination of communication in marriage/romantic partnership, parent-child, and extended family relationships. Topics include intimacy, power, decision-making, problem solving, identity formation, and interpersonal perception.	3 Credits
	COMX 312 - Forensics/Honors (R-12) Offered every term. Preparation and participation in competitive speech and debate, including Lincoln/Douglas and Parliamentary debate. The team travels to regional competitions and hosts on-campus and intramural debates and speaking events. Up to 6 credits may apply toward a major or minor in communication studies.	1 To 3 Credits
	COMX 343 - Persuasive Speaking and Critic Offered yearly. Prereq., COMM 111A or consent of instructor. The persuasive process through the criticism and creation of speeches and other rhetorical artifacts emphasizing the role persuasion plays in creating and shaping our culture.	3 Credits
	COMX 347 - Rhetoric Nature & Environmtlsm Offered every other year. Same as ENST 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.	3 Credits
	COMX 349 - Comm Consump & Climate Offered every other year. Same as CCS 349. Analyzes consumption as a communication practice, investigates discourses that promote consumption, and illuminates environmental impacts on consumption.	3 Credits
	COMX 351 - Principles of Public Relations Offered yearly. The many uses of communication in the endeavor of public relations. Communication theories and models including interpersonal communication, organizational communication, and mass communication are applied to explore the internal and external communication behavior associated with public relations.	3 Credits
	COMX 352 - Public Relations Portfolio Offered yearly. Writing documents such as press releases, fact sheets, brochures and speeches to create relationships between organizations and their publics.	3 Credits
	COMX 380 - Gender and Communication Offered yearly. The meaning of gender in our culture. Examines how gender is displayed and perpetuated through social institutions such as the media and through our private and public verbal and nonverbal interactions.	3 Credits

	COMX 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	COMX 398 - Internship (R-6) Offered autumn and spring. Preq., consent of instructor. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (398, 498) may count toward graduation. Offered C/NCR only.	1 To 6 Credits
	COMX 412 - Communication and Conflict Offered autumn and spring. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Topics include culture, power, styles, negotiation and bargaining, mediation, dissent, dispute systems, and crisis communication. Credit is not allowed for both COMM 413 and COMM 412.	3 Credits
	COMX 413 - Comm & Conflict-Writing Offered yearly. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Fulfills Upper-Division Writing requirement for Communication Studies majors. Credit is not allowed for both COMX 413 and COMX 412.	3 Credits
	COMX 414 - Comm in Personal Relationshps Offered yearly. Prerequisite, COMX 115S or consent of instructor. An examination of the functions, types, and historical context of close personal relationships with an in-depth study of the role of communication in friendships and romantic relationships.	3 Credits
	COMX 415 - Intercultural Communication Offered autumn and spring. Communication principles and processes in cross-cultural environments. Non-Western cultures are emphasized by contrasting them to Western communication norms.	3 Credits
	COMX 421 - Comm in Non-Profit Organizatns Offered yearly. Focuses on issues in nonprofit organizational communication at macro and micro levels. Topics include: organizational identity, change processes, public relations, fund-raising, advocacy, socialization, stress and burnout, board management and professionalization.	3 Credits
	COMX 422 - Communication and Technology Offered every other year. This course takes a critical look at the influence of communication technologies on organizational communication. Students will examine how the world of work is changing due to new technologies and explore the social and ethical implications of technical innovation, adoption and use.	3 Credits
	COMX 423 - Org Comm Consult Offered every year. Prerequisite, COMX 220S or consent of instructor. Not open to PCOM. Emphasis on the theoretical and practical issues involved in communication training and consultation. Overview of theoretical models followed by the "nuts and bolts" of communication training, development, and assessment. Students will carry out a training or consultation project (e.g., planning, execution, and evaluation) to sharpen the issues explored.	3 Credits

	COMX 424 - Risk Crisis & Comm Offered every other year. This course explores the communicative dynamics that both prevent and cause organizational crisis. Through case studies, the class examines how people plan, communicate and make good decisions in high-risk situations, as well as how to manage crisis public relations effectively.	3 Credits
	COMX 425 - Comm in Health Organizations Offered every other year. Not open to PCOM. This course explores the key issues at the intersection of health communication and organizational communication by considering communication processes that occur in a number of distinct contexts of health organizations. Through case studies and health campaigns students explore contemporary concerns and theory in the area of health communication.	3 Credits
	COMX 445 - Rhetorical Criticism and Theor Offered yearly. Introduction to study of rhetorical criticism and theory. Current theoretical and methodological issues and approaches including traditional criticism, experiential criticism, dramatism, narrative criticism, feminist criticism, postmodern criticism.	3 Credits
	COMX 447 - Rhetorical Constrctn of Woman Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.	3 Credits
	COMX 449 - Rhetoric of Women's Activism Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.	3 Credits
	COMX 460 - Research Methods Offered autumn and spring. Open only to majors in COMM. Prereq., Grade of C- or better in EDLD 486 or PSYX 222 or SOCI 202 or STAT 216. Introduction to the major types of communication research and the foundations of quantitative research methods.	3 Credits
	COMX 461 - Communication Research Seminar (R-9) Offered autumn and spring. coreq., COMX 460. Application of quantitative and qualitative research methods to specialized contexts. Emphasis on direct student involvement in research activities.	1 To 3 Credits
	COMX 485 - Communication and Health Offered yearly. Theory and research on the health correlates of human interaction.	3 Credits
	COMX 491 - Special Topics (R-9) Offered intermittently. Not open to PCOM. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 3 Credits
	COMX 492 - Independent Study (R-9) Offered every term. Prereq., consent of instructor. Offered C/NCR only.	1 To 9 Credits

Minimum Required Grade: C-	18 Total Credits Required

Statistics

Rule: Must complete 1 of the following courses

	Course	Credits
	EDU 421 - Statistical Procedures in Educ Prereq., M 115 or equiv. or consent of instr. Concepts and procedures characterizing both descriptive and inferential statistics. Awareness of common statistical errors.	3 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Communication Studies Minor

Minor - Communication Studies (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 20

Required Cumulative GPA: 2.0

Note: Once admitted to earn a minor, the student must complete a minimum of 20 credits in COMX courses, with at least 9 credits in courses numbered 300 and above.

Lower Division Core Courses

Rule: Must complete all of the following:

	Course	Credits

	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Electives

Rule: Must complete 17 credits from the following:

Note: A maximum of 6 credits in COMX 312 may count toward a minor in communication studies.

	Course	Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	COMX 140L - Intro to Visual Rhetoric Offered autumn and spring. An introduction to the persuasive nature of visual symbols as texts. Readings will include historical to contemporary rhetorical criticisms on advertising, billboards, bodies, cartoons, memorials, and photography.	3 Credits
	COMX 191 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	COMX 192 - Independent Study (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	COMX 202S - Nonverbal Communication Offered yearly. Nonverbal code systems and how they function in human communication including gestures, facial expressions, personal space, and others.	3 Credits
	COMX 204X - International & Dvlpmnt Comm Offered yearly. International Communication is concerned with information exchange across national borders while Development Communication focuses on the historical, current, and prospective role of communication technologies in social change, improving living conditions, and enhancing life prospects - mainly in developing countries.	3 Credits
	COMX 210 - Communication in Small Groups Offered autumn and spring. Theory and research related to communication roles, collaboration, cohesion, leadership, and decision-making. Experiences provided in task oriented groups and field analyses of group processes.	3 Credits

	COMX 212X - Intro to Intercultural Com Offered autumn and spring. This course provides students with an introduction to communicating across cultures. Local and global case studies and theories will be explored. Students will explore the influence of immediate communication and social media on large scale social issues.	3 Credits
	COMX 217A - Oral Interpretation of Lit Offered intermittently. Introduction to orally presenting literature to an audience. Focus is on analyzing and performing prose, drama, poetry, and children's literature to express points of view.	3 Credits
	COMX 219S - Survey of Children's Comm Offered autumn. Focus on communication processes and contemporary communication environments of children and adolescents. Topics include language development and the brain, nonverbal communication development, media, contracting, bullying, and gender.	3 Credits
	COMX 220S - Intro to Organizational Comm Offered yearly. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.	3 Credits
	COMX 222 - Professional Communication Offered intermittently. Explores communication skills needed in business and professional contexts. Focus on developing a working knowledge of theory and skills for interpersonal communication, group communication, and business writing. Concepts include communication processes, diversity in the workplace, nonverbal communication, technical communication, communication with customers, and employment communication.	3 Credits
	COMX 240H - Intro to Rhetorical Theory Offered yearly. An overview of rhetorical theory including an exploration of classical rhetoric, British and Continental rhetorical theory, and contemporary theories of language and persuasion.	3 Credits
	COMX 241 - Persuasive Communication Offered yearly. The use of communication in attitude and behavior change as experienced in personal, organizational, and public contexts.	3 Credits
	COMX 242 - Argumentation Offered autumn and spring on the Mountain campus, offered intermittently on the Missoula College campus. Development of argumentation skills and critical judgment in decision-making and debate. Includes criticism, construction, presentation, and refutation of spoken and written arguments.	3 Credits
	COMX 250 - Intro to Public Relations Offered autumn and spring. Introduction to the origin, scope, and nature of public relations activities. Investigation of policies, strategies, and procedures available to an organization in establishing and controlling its communications. Course will explore the impact of public relations and media through case studies and writing exercises.	3 Credits

	COMX 291 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	COMX 292 - Independent Study (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	COMX 311 - Family Communication Offered yearly. An examination of communication in marriage/romantic partnership, parent-child, and extended family relationships. Topics include intimacy, power, decision-making, problem solving, identity formation, and interpersonal perception.	3 Credits
	COMX 312 - Forensics/Honors (R-12) Offered every term. Preparation and participation in competitive speech and debate, including Lincoln/Douglas and Parliamentary debate. The team travels to regional competitions and hosts on-campus and intramural debates and speaking events. Up to 6 credits may apply toward a major or minor in communication studies.	1 To 3 Credits
	COMX 343 - Persuasive Speaking and Critic Offered yearly. Prereq., COMM 111A or consent of instructor. The persuasive process through the criticism and creation of speeches and other rhetorical artifacts emphasizing the role persuasion plays in creating and shaping our culture.	3 Credits
	COMX 347 - Rhetoric Nature & Environmtlsm Offered every other year. Same as ENST 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.	3 Credits
	COMX 349 - Comm Consump & Climate Offered every other year. Same as CCS 349. Analyzes consumption as a communication practice, investigates discourses that promote consumption, and illuminates environmental impacts on consumption.	3 Credits
	COMX 351 - Principles of Public Relations Offered yearly. The many uses of communication in the endeavor of public relations. Communication theories and models including interpersonal communication, organizational communication, and mass communication are applied to explore the internal and external communication behavior associated with public relations.	3 Credits
	COMX 352 - Public Relations Portfolio Offered yearly. Writing documents such as press releases, fact sheets, brochures and speeches to create relationships between organizations and their publics.	3 Credits
	COMX 380 - Gender and Communication Offered yearly. The meaning of gender in our culture. Examines how gender is displayed and perpetuated through social institutions such as the media and through our private and public verbal and nonverbal interactions.	3 Credits

	COMX 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	COMX 412 - Communication and Conflict Offered autumn and spring. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Topics include culture, power, styles, negotiation and bargaining, mediation, dissent, dispute systems, and crisis communication. Credit is not allowed for both COMM 413 and COMM 412.	3 Credits
	COMX 413 - Comm & Conflict-Writing Offered yearly. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Fulfills Upper-Division Writing requirement for Communication Studies majors. Credit is not allowed for both COMX 413 and COMX 412.	3 Credits
	COMX 414 - Comm in Personal Relationshps Offered yearly. Prerequisite, COMX 115S or consent of instructor. An examination of the functions, types, and historical context of close personal relationships with an in-depth study of the role of communication in friendships and romantic relationships.	3 Credits
	COMX 415 - Intercultural Communication Offered autumn and spring. Communication principles and processes in cross-cultural environments. Non-Western cultures are emphasized by contrasting them to Western communication norms.	3 Credits
	COMX 421 - Comm in Non-Profit Organizatns Offered yearly. Focuses on issues in nonprofit organizational communication at macro and micro levels. Topics include: organizational identity, change processes, public relations, fund-raising, advocacy, socialization, stress and burnout, board management and professionalization.	3 Credits
	COMX 422 - Communication and Technology Offered every other year. This course takes a critical look at the influence of communication technologies on organizational communication. Students will examine how the world of work is changing due to new technologies and explore the social and ethical implications of technical innovation, adoption and use.	3 Credits
	COMX 423 - Org Comm Consult Offered every year. Prerequisite, COMX 220S or consent of instructor. Not open to PCOM. Emphasis on the theoretical and practical issues involved in communication training and consultation. Overview of theoretical models followed by the "nuts and bolts" of communication training, development, and assessment. Students will carry out a training or consultation project (e.g., planning, execution, and evaluation) to sharpen the issues explored.	3 Credits
	COMX 424 - Risk Crisis & Comm Offered every other year. This course explores the communicative dynamics that both prevent and cause organizational crisis. Through case studies, the class examines how people plan, communicate and make good decisions in high-risk situations, as well as how to manage crisis public relations effectively.	3 Credits

	COMX 425 - Comm in Health Organizations Offered every other year. Not open to PCOM. This course explores the key issues at the intersection of health communication and organizational communication by considering communication processes that occur in a number of distinct contexts of health organizations. Through case studies and health campaigns students explore contemporary concerns and theory in the area of health communication.	3 Credits
	COMX 445 - Rhetorical Criticism and Theor Offered yearly. Introduction to study of rhetorical criticism and theory. Current theoretical and methodological issues and approaches including traditional criticism, experiential criticism, dramatism, narrative criticism, feminist criticism, postmodern criticism.	3 Credits
	COMX 447 - Rhetorical Constrctn of Woman Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.	3 Credits
	COMX 449 - Rhetoric of Women's Activism Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.	3 Credits
	COMX 460 - Research Methods Offered autumn and spring. Open only to majors in COMM. Prereq., Grade of C- or better in EDLD 486 or PSYX 222 or SOCI 202 or STAT 216. Introduction to the major types of communication research and the foundations of quantitative research methods.	3 Credits
	COMX 461 - Communication Research Seminar (R-9) Offered autumn and spring. coreq., COMX 460. Application of quantitative and qualitative research methods to specialized contexts. Emphasis on direct student involvement in research activities.	1 To 3 Credits
	COMX 485 - Communication and Health Offered yearly. Theory and research on the health correlates of human interaction.	3 Credits
	COMX 491 - Special Topics (R-9) Offered intermittently. Not open to PCOM. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 3 Credits
	COMX 492 - Independent Study (R-9) Offered every term. Prereq., consent of instructor. Offered C/NCR only.	1 To 9 Credits
Minimum Required Grade: C-		17 Total Credits Required

Computer Science Department

Andrew Ware, Chair

Travis Wheeler, Assistant Chair

The growing utility of computers in research and education, as well as the increased impact of computers on our modern society, strongly implies that knowledge of computers and their capabilities should be a part of the basic education of all students. The courses listed below are designed to provide the student with this knowledge and to prepare the student for a career in a field in which there is a growing need for trained personnel. The objective of the undergraduate curriculum in computer science is to develop professionally competent, broadly educated computer scientists who wish to pursue professional careers or graduate studies.

The B.S. program is accredited by the Computing Accreditation Commission of ABET. For more information, access the Computer Science Department homepage or email the chair Andrew Ware.

High School Preparation: In addition to general University admission requirements, pre-college preparation should include as many computer science courses as possible, and four years of high school mathematics, to include algebra, trigonometry and pre-calculus. Also recommended are physics, chemistry and biology.

»Admission Requirements

Admission to computer science courses varies according to course level and other departmental standards. However, students must have completed all prerequisite courses with a grade of at least a "C-".

Lower-Division Courses

Most 100- and 200-level courses are open on a first-come, first-served basis to all students who have the prerequisites.

Upper-Division Courses

Admission to 300-level or above courses requires successful completion of the prerequisites.

Major-Minor Status

Completed change of major forms along with college transcripts must be turned in to the department when declaring computer science as a major or minor.

Department Faculty

Professor

Jesse Johnson, Professor
Yolanda Reimer, Professor
Andrew Ware, Professor

Assistant Professor

Rob Smith, Assistant Professor
Travis Wheeler, Assistant Professor, Assistant Chair of Computer Science

Lecturer

Michael Cassens, Lecturer
Patricia Duce, Lecturer
Mike O'Conner, Lecturer, Undergraduate Advisor

Research Faculty

Dave Opitz, Research Professor
Orest Pilskalns, Research Professor
Douglas Raiford, Research Professor

Emeritus

Ray Ford, Emeritus Professor
Alden Wright, Emeritus Professor

Computer Applications

Back to Top

- CAPP 171 - Communicating via Computers

  Credits: 3. Offered intermittently. Prereq., previous computer experience or consent of instr. The use of the computer for information presentation and communication; emphasis placed on the use of electronic resources for the access, management, and presentation of information. Students taking CS classes with computer programming components should expect to use additional computer lab time outside of class.

Computer Science/Programming

Back to Top

- CSCI 100 - Intro to Programming

  Credits: 3. Offered autumn and spring. This course covers basic programming concepts such as variables, data types, iteration, flow of control, input/output, functions, and objects. The course will also cover programming ideas such as data structures, algorithms, modularity, and debugging. Students will learn about the role computation can play in solving problems by writing interesting programs to solve useful goals. No prior programming experience is expected. (Two hours independent lab per week.) Credit not allowed for both CSCI 100 and CSCI 110.

- CSCI 105 - Computer Fluency

  Credits: 3. Offered autumn and spring. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CSCI 105 and CRT 111 and CS 111.

- CSCI 106 - Careers in Computer Science

  Credits: 1. Offered autumn. Exploration of various careers available in the general area of Computer Science. Includes discussion of strategies for success in the major. Computer Science faculty members also will discuss possible undergraduate research opportunities and motivation for graduate education.

- CSCI 135 - Fund of Computer Science I

  Credits: 3. Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.

- CSCI 136 - Fund of Computer Science II

  Credits: 3. Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.

- CSCI 172 - Intro to Computer Modeling

  Credits: 3. Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.

- CSCI 181 - Web Design and Programming

  Credits: 3. Electronic Publishing on the World Wide Web

- CSCI 191 - Special Topics

  Credits: 0 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Students taking CS classes with computer programming components should expect to use additional computer lab time outside of class.

- CSCI 198 - Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements on and off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- CSCI 205 - Programming Languages w/ C/C++

  Credits: 4. Offered spring. Prereq., CSCI 232 and M 225. Concepts and principles of programming languages with an emphasis on C, C++, and object-oriented programming. Syntax and semantics of object-oriented languages. Principles and implementation of late binding, memory allocation and de-allocation, type-checking, scope, polymorphism, inheritance.

- CSCI 216E - Technology, Ethics & Society

  Credits: 3. An examination of ethical issues related to new technologies in the context of ethical theory in the western secular tradition. Focus will be on applying central concepts, principles, and problems of ethical theory to particular areas of technology, such as artificial intelligence and robotics, social networks, nanotechnology, genetic engineering, and privacy in a digital age. Course Attributes: Ethical & Human Values Course Writing Course-Intermediate

- CSCI 232 - Data Structures and Algorithms

  Credits: 4. Offered autumn. Prereq., 'B-' or better in CSCI 136; or consent of instr. Abstract data types, algorithm analysis, stacks, queues, lists, recursion, trees, hashing, graphs, and applications of data structures in algorithm development. Python programming language used.

- CSCI 250 - Computer Mdlng/Science Majors

  Credits: 3. Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.

- CSCI 291 - Special Topics

  Credits: 1 TO 6. (R-9) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Writing Course-Lower-Division

- CSCI 298 - Internship

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements on and off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- CSCI 315E - Computers, Ethics, and Society

  Credits: 3. Offered autumn. Prereq., University approved intermediate level writing course. Ethical problems that computer scientists face. The codes of ethics of professional computing societies. The social implications of computers, computing, and other digital technologies. Course Attributes: Ethical & Human Values Course Writing Course-Advanced

- CSCI 323 - Software Science

  Credits: 3. Offered autumn. Prereq., CSCI 136. Study, implementation, and assessment of software processes, techniques, methods, and CASE tools. Project management and cost estimation techniques will be examined. A group project may be required.

- CSCI 332 - Design/Analysis of Algorithms

  Credits: 3. Offered spring. Prereq., CSCI 232 and M 225 or consent of instr. Algorithm design, analysis, and correctness. Commonly used algorithms including searching and sorting, string search, dynamic programming, branch and bound, graph algorithms, and parallel algorithms. Introduction to NP-complete problems.

- CSCI 340 - Database Design

  Credits: 3. Offered spring. Prereq., CSCI 232 or consent of instr. Fundamentals of data modeling, the relational mode, normal forms, file organization, index structures and SQL. Major project involving the design and implementation of a relational database.

- CSCI 361 - Computer Architecture

  Credits: 3. Offered spring. Prereq., CSCI 136 or consent of instr. Functional view of computer system components, BCPU, ALU, memory, bus, cache, I/O module. Instruction set design: formats, addressing modes. Basic circuit design. Pipelining and assembly language. Interrupt handling. Implementation of ALU and control unit. Detailed design of an RISC-like instruction set. Datapath and performance comparisons. Basic multiprocessor design.

- CSCI 390 - Research

Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student. Course Attributes: Research & Creative Schlrshp

- CSCI 391 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., junior standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- CSCI 394 - Seminar

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.

- CSCI 398 - Internship

  Credits: 1 TO 3. (R-3) Offered intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from faculty supervisor and the Internship Services office. Only three credits applicable to computer science major or minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- CSCI 411 - Advanced Web Programming

  Credits: 3. Offered intermittently. Prereq., CSCI 136. Programming and software development techniques for developing web-based applications. Scripting and other programming languages that are used for web-based development.

- CSCI 412 - Game and Mobile App

  Credits: 3. Offered intermittently. Prereq., CSCI 232 and 323. Programming and software development techniques for developing gaming and mobile applications. Multiple gaming environments and mobile programming languages are introduced and examined to build modern applications.

- CSCI 426 - Adv Prgrmng Theory/Practice I

  Credits: 3. Offered autumn. Prereq., CSCI 205, 232, 323 and M 225, or consent of instr. Examination and implementation of modern best practices in the areas of software design, coding, testing and maintenance. Focus on design patterns and design pattern languages used to build modern software systems in a variety of areas.

- CSCI 427 - Adv Prgrmng Theory/Practice II

  Credits: 3. Offered spring. Prereq., CSCI 426. Design and implementation of a major software project in a group setting, with required documentation, presentation, installation, and approval by the instructor.

- CSCI 438 - Theory of Computation

  Credits: 3. Offered intermittently. Prereq., M 225 or M 307. This course focuses on understanding the limitations & capabilities of abstract models of computation, through rigorous mathematical analysis. Topics will include finite & pushdown automata, nondeterministic computation, regular expressions, generative grammars, Turing machines, undecidability, and computational complexity.

- CSCI 441 - Computer Graphics Programming

  Credits: 3. Offered intermittently. Prereq., CSCI 232 and M 221 or consent of instr. The graphics pipeline, its implementation in hardware and emphasis on the programmable portions of the pipeline. Matrix transformations for modeling, viewing, clipping, and windowing. Application of lighting, coloring, and texturing models. Hierarchical modeling of objects. Programmable shaders. OpenGL and WebGL.

- CSCI 443 - User Interface Design

  Credits: 3. Offered intermittently. Prereq., CSCI 232 or consent of instr. Introduction to usability and key concepts of human behavior. Focus on the process of user-centered design, including requirements specification, prototyping, and methods of evaluation. Incorporation of regular design critiques of classmates' work, and emphasis on both oral and written communication skills. Credit not allowed for CSCI 543 and this course. Course Attributes: Co-Convened Course

- CSCI 444 - Data Visualization

  Credits: 3. Offered intermittently. Prereq., M 171; programming experience; and junior, senior, or graduate status; or consent of instr. Visualization fundamentals and applications using special visualization software; formulation of 3-D empirical models; translation of 3-D models into graphical displays; time sequences and pseudo-animation; interactive versus presentation techniques; special techniques for video, CD and other media.

- CSCI 446 - Artificial Intelligence

  Credits: 3. Offered intermittently. Prereq., M 225 or M 307, and CSCI 232, or consent of instr. Using computers and software to solve problems that require intelligence. Specific topics may include knowledge representation, logical and probabilistic reasoning, machine learning, planning, game playing, information retrieval, computer vision, and robotics.

- CSCI 447 - Machine Learning

  Credits: 3. Offered intermittently. Prereq., CSCI 232 or consent of instr. Introduction to the framework of learning from examples, various learning algorithms such as neural networks, and generic learning principles such as inductive bias, Occam's Razor, and data mining. Credit not allowed for both CSCI 447 and CSCI 547. Course Attributes: Co-Convened Course

- CSCI 448 - Pattern Recognition

  Credits: 3. Offered intermittently. Prereq., Junior or Senior status. Introduction to the framework of unsupervised learning techniques such as clustering (agglomerative, fuzzy, graph theory based, etc.), multivariate analysis approaches (PCA, MDS, LDA, etc.), image analysis (edge detection, etc.), as well as feature selection and generation. Emphasis will be on the underlying algorithms and their implementation. Credit not allowed for both CSCI 448 and CSCI 548. Course Attributes: Co-Convened Course

- CSCI 451 - Computational Biology

  Credits: 3. Offered Autumn. Designed for attendance by both computer scientists and biologists. The course will explore the interdisciplinary nature at the juncture of the two fields. Students will be introduced to bioinformatics (emphasis: computational genomics), with exposure to fundamental problems, algorithms, and tools in the field. This includes a basic introduction to genomics, along with in-depth coverage of algorithms and methods relevant to modern computational genomics, including: biological sequence alignment, sequence database homology search, and phylogeny inference. The programming expectations are limited for a 400-level computer science course, but at least one semester of a programming-intensive course is required. Credit not allowed for CSCI 558 and this course Course Attributes: Co-Convened Course

- CSCI 460 - Operating Systems

  Credits: 3. Offered autumn. Prereq., CSCI 232, or consent of instr. Operating system design principles. Processes, threads, synchronization, deadlock, memory management, file management and file systems, protection, and security, comparison of commonly used existing operating systems, writing programs that make use of operating system services. It is recommended, but not required, that the student also attend Programming Languages (in order to be prepared to write C programs) and Architecture (in order to understand interactions between the operating system and processor hardware) prior to attending this course.

- CSCI 464 - Applications of Mining Big Data

  Credits: 3. Offered intermittently. Prereq., upper division or consent of instr. Co-convenes with CSCI 564. Introduction to existing data mining software systems and their use, with focus on practical exercises. Topics include data acquisition, data cleansing, feature selection, and data analysis. Credit not allowed for both CSCI 464 and CSCI 564. Course Attributes: Co-Convened Course

- CSCI 466 - Networks

  Credits: 3. Offered spring. Prereq., CSCI 232. Concepts and practice of computer networking, network protocol layers, switching, routing, flow, and congestion control. Network programming.

- CSCI 477 - Simulation

  Credits: 3. Co-convene with CSCI 577. Prereq., M 172, CSCI 135, or consent of instr. Matrix languages. ODE solving; Euler-Richardson, Runge-Kutta, PDE solving; finite differences, finite elements, multi-grid techniques. Discrete methods for solution, renormalization group method, critical phenomena. Emphasis on presentation of results and interactive programs. Credit not allowed for CSCI 577 and this course. Course Attributes: Co-Convened Course

- CSCI 480 - Applied Parallel Computing Techniques

  Credits: 3. Prereq., CSCI 205 and 232, or instructor consent. This course is an introduction to parallelism and parallel programming. Topics include the various forms of parallelism on modern computer hardware (e.g. SIMD vector instructions, GPUs, multiple cores, and networked clusters), with coverage of locality and latency, shared vs non-shared memory, and synchronization mechanisms (locking, atomicity, etc). We will introduce patterns that appear in essentially all programs that need to run fast. We will discuss how to recognize these patterns in a variety of practical problems, discuss efficient algorithms for implementing them, and how to compose

these patterns into larger applications. We will address computer architecture at a high level, sufficient to understand the relative costs of operations like arithmetic and data transfer. We also introduce useful tools for debugging correctness and performance of parallel programs. Assignments will include significant parallel programming projects. Co-convenes with CSCI 580. Credit not allowed for both CSCI 480 and CSCI 580. Course Attributes: Co-Convened Course

- CSCI 490 - Research

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student. Course Attributes: Research & Creative Schlrshp

- CSCI 491 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- CSCI 492 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- CSCI 494 - Seminar

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.

- CSCI 498 - Internship

  Credits: 1 TO 3. (R-3) Offered Intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Only three credits of CSCI 398 and/or CSCI 498 applicable to computer science major or minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- CSCI 499 - Senior Thesis/Capstone

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of thesis/project director and chair of the Computer Science Department. Senior thesis for computer science majors and/or Watkins scholars.

- CSCI 521 - IT Infrastructure

  Credits: 3. Offered infrequently. Prereq., CSCI 446 or IS 372 or consent of instr. Identification and classification of background environment, hardware, software, and service components in an enterprise IT environment; management and security concerns for each component; consideration of how the components fit together to form an enterprise information technology environment. Level: Graduate

- CSCI 531 - Desgn & Anal Algorithms

  Credits: 3. Offered intermittently. Prereq., CSCI 332. Algorithm design, analysis, and correctness, with an emphasis on more advanced techniques than covered in CS 332. Design of algorithms by induction. Recurrences and their solutions. Parallel algorithms. Complexity theory: NP-hard and NP-complete problems. Approximation algorithms for intractable problems. Level: Graduate

- CSCI 543 - Human-Computer Interaction

  Credits: 3. Offered intermittently. Prereq., CSCI 232 or consent of instr. Principles of good design for interactive systems and web-based applications. User-centered design methodology including requirements specification, low and high-fidelity prototyping, heuristic evaluation, cognitive walkthrough, predictive modeling, and usability testing. Advanced HCI research project. Credit not allowed for both CSCI 443 and CSCI 543. Level: Graduate Course Attributes: Co-Convened Course

- CSCI 547 - Machine Learning

  Credits: 3. Offered intermittently. Prereq., CSCI 232 or consent of instr. Fundamentals of machine learning including neural networks, decision trees, Bayesian learning, instance-based learning, and genetic algorithms; inductive bias, Occam's razor, and learning theory; data mining; software agents. Credit not allowed for CSCI 447 and CSCI 547. Level: Graduate Course Attributes: Co-Convened Course

- CSCI 548 - Pattern Recognition

  Credits: 3. Offered intermittently. Introduction to the framework of unsupervised learning techniques such as clustering (agglomerative, fuzzy, graph theory based, etc.), multivariate analysis approaches (PCA, MDS, LDA, etc.), image analysis (edge detection, etc.), as well as feature selection and generation. Techniques in exploratory data analysis when faced with large, multivariate

datasets. Opportunities at implementation of some algorithmic approaches as well as use of preexisting tools such as the R-project statistics package. Emphasis will be on the underlying algorithms and their implementation. Credit not allowed for both CSCI 448 and CSCI 548. Level: Graduate Course Attributes: Co-Convened Course

- CSCI 555 - Topics Artificial Intelligence

  Credits: 3. Offered intermittently. Prereq., M 225 or M 307, and CSCI 232, or consent of instr. The study and design of artificial intelligent agents. Specific topics may include knowledge representation, logical and probabilistic reasoning, machine learning, planning, game playing, information retrieval, computer vision, and robotics. Level: Graduate

- CSCI 558 - Intro to Bioinformatics

  Credits: 3. Offered autumn. Designed for attendance by both computer scientists and biologists. The course will explore the interdisciplinary nature at the juncture of the two fields. Students will be introduced to bioinformatics (emphasis: computational genomics), with exposure to fundamental problems, algorithms, and tools in the field. This includes a basic introduction to genomics, along with in-depth coverage of algorithms and methods relevant to modern computational genomics, including: biological sequence alignment, sequence database homology search, and phylogeny inference. The programming expectations are limited for a 500-level computer science course, but at least one semester of a programming-intensive course is required. A substantial project is a key component of the course. Level: Graduate Course Attributes: Co-Convened Course

- CSCI 564 - Applications of Mining Big Data

  Credits: 3. Offered intermittently. Co-convenes with CSCI 464. Introduction to existing data mining software systems and their use, with focus on practical exercises. Topics include data acquisition, data cleansing, feature selection, and data analysis. Credit not allowed for both CSCI 464 and CSCI 564. Level: Graduate Course Attributes: Co-Convened Course

- CSCI 577 - Simulation Modeling

  Credits: 3. Co-convene with CSCI 477. Prereq., M 172, CSCI 135, or consent of instr. Matrix languages. ODE solving; Euler-Richardson, Runge-Kutta, PDE solving; finite differences, finite elements, multi-grid techniques. Discrete methods for solution, renormalization group method, critical phenomena. Emphasis on presentation of results and interactive programs. Conduct, document, and present graduate level research involving computer simulation methods. Credit not allowed for CSCI 477 and this course. Level: Graduate Course Attributes: Co-Convened Course

- CSCI 580 - Parallel Computing

  Credits: 3. Offered intermittently. Prereq., CSCI 232, 205. Parallel processing architectures and programming languages. Co-convenes with CSCI 580. Credit not allowed for both CSCI 480 and CSCI 580. Level: Graduate Course Attributes: Co-Convened Course

- CSCI 594 - Graduate Seminar

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Seminar on current research topics in computer science. Level: Graduate

- CSCI 595 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offering of current topics. Level: Graduate

- CSCI 596 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course Attributes: Independent Study

- CSCI 597 - Research

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate

- CSCI 598 - Internship

  Credits: 1 TO 9. (R-3) Offered intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from faculty supervisor and the Internship Services office. Only three credits applicable to computer science major or minor. Level: Graduate Course Attributes: Internships/Practicums

- CSCI 599 - Thesis/Project
  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Research for and preparation of the master thesis or professional paper. Level: Graduate

Computer Science Professional B.S.

Bachelor of Science - Computer Science; Track: Professional

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 87

Required Cumulative GPA: 2.0

Computer Science Core Courses

Rule: Must complete all of the following:courses

Note: .

Note: 100-level CSCI courses other than CSCI 106, CSCI 135-136, and 200-level CSCI courses other than CSCI 205 and CSCI 232 do not count toward the degree or track requirements. However, they do count in the 60 credit limit in the major.
CSCI 315E will fulfill the upper division writing requirement.

	Course	Credits
	CSCI 106 - Careers in Computer Science Offered autumn. Exploration of various careers available in the general area of Computer Science. Includes discussion of strategies for success in the major. Computer Science faculty members also will discuss possible undergraduate research opportunities and motivation for graduate education.	1 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 205 - Programming Languages w/ C/C++ Offered spring. Prereq., CSCI 232 and M 225. Concepts and principles of programming languages with an emphasis on C, C++, and object-oriented programming. Syntax and semantics of object-oriented languages. Principles and implementation of late binding, memory allocation and de-allocation, type-checking, scope, polymorphism, inheritance.	4 Credits

	CSCI 232 - Data Structures and Algorithms Offered autumn. Prereq., 'B-' or better in CSCI 136; or consent of instr. Abstract data types, algorithm analysis, stacks, queues, lists, recursion, trees, hashing, graphs, and applications of data structures in algorithm development. Python programming language used.	4 Credits
	CSCI 315E - Computers, Ethics, and Society Offered autumn. Prereq., University approved intermediate level writing course. Ethical problems that computer scientists face. The codes of ethics of professional computing societies. The social implications of computers, computing, and other digital technologies.	3 Credits
	CSCI 323 - Software Science Offered autumn. Prereq., CSCI 136. Study, implementation, and assessment of software processes, techniques, methods, and CASE tools. Project management and cost estimation techniques will be examined. A group project may be required.	3 Credits
	CSCI 332 - Design/Analysis of Algorithms Offered spring. Prereq., CSCI 232 and M 225 or consent of instr. Algorithm design, analysis, and correctness. Commonly used algorithms including searching and sorting, string search, dynamic programming, branch and bound, graph algorithms, and parallel algorithms. Introduction to NP-complete problems.	3 Credits
	CSCI 361 - Computer Architecture Offered spring. Prereq., CSCI 136 or consent of instr. Functional view of computer system components, BCPU, ALU, memory, bus, cache, I/O module. Instruction set design: formats, addressing modes. Basic circuit design. Pipelining and assembly language. Interrupt handling. Implementation of ALU and control unit. Detailed design of an RISC-like instruction set. Datapath and performance comparisons. Basic multiprocessor design.	3 Credits
	CSCI 426 - Adv Prgrmng Theory/Practice I Offered autumn. Prereq., CSCI 205, 232, 323 and M 225, or consent of instr. Examination and implementation of modern best practices in the areas of software design, coding, testing and maintenance. Focus on design patterns and design pattern languages used to build modern software systems in a variety of areas.	3 Credits
	CSCI 427 - Adv Prgrmng Theory/Practice II Offered spring. Prereq., CSCI 426. Design and implementation of a major software project in a group setting, with required documentation, presentation, installation, and approval by the instructor.	3 Credits
Minimum Required Grade: C-		33 Total Credits Required

Degree Electives

Rule: Must complete 18 credits from the following courses

Note: A total of at most 3 of the 18 credits of CS electives may be in CSCI 398 or 498.

	Course	**Credits**

	CSCI 340 - Database Design Offered spring. Prereq., CSCI 232 or consent of instr. Fundamentals of data modeling, the relational mode, normal forms, file organization, index structures and SQL. Major project involving the design and implementation of a relational database.	3 Credits
	CSCI 390 - Research (R-6) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student.	1 To 6 Credits
	CSCI 391 - Special Topics (R-6) Offered intermittently. Prereq., junior standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	CSCI 394 - Seminar (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.	1 To 6 Credits
	CSCI 398 - Internship (R-3) Offered intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from faculty supervisor and the Internship Services office. Only three credits applicable to computer science major or minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 3 Credits
	CSCI 411 - Advanced Web Programming Offered intermittently. Prereq., CSCI 136. Programming and software development techniques for developing web-based applications. Scripting and other programming languages that are used for web-based development.	3 Credits
	CSCI 412 - Game and Mobile App Offered intermittently. Prereq., CSCI 232 and 323. Programming and software development techniques for developing gaming and mobile applications. Multiple gaming environments and mobile programming languages are introduced and examined to build modern applications.	3 Credits
	CSCI 441 - Computer Graphics Programming Offered intermittently. Prereq., CSCI 232 and M 221 or consent of instr. The graphics pipeline, its implementation in hardware and emphasis on the programmable portions of the pipeline. Matrix transformations for modeling, viewing, clipping, and windowing. Application of lighting, coloring, and texturing models. Hierarchical modeling of objects. Programmable shaders. OpenGL and WebGL.	3 Credits
	CSCI 443 - User Interface Design Offered intermittently. Prereq., CSCI 232 or consent of instr. Introduction to usability and key concepts of human behavior. Focus on the process of user-centered design, including requirements specification, prototyping, and methods of evaluation. Incorporation of regular design critiques of classmates' work, and emphasis on both oral and written communication skills. Credit not allowed for CSCI 543 and this course.	3 Credits

	CSCI 444 - Data Visualization Offered intermittently. Prereq., M 171; programming experience; and junior, senior, or graduate status; or consent of instr. Visualization fundamentals and applications using special visualization software; formulation of 3-D empirical models; translation of 3-D models into graphical displays; time sequences and pseudo-animation; interactive versus presentation techniques; special techniques for video, CD and other media.	3 Credits
	CSCI 446 - Artificial Intelligence Offered intermittently. Prereq., M 225 or M 307, and CSCI 232, or consent of instr. Using computers and software to solve problems that require intelligence. Specific topics may include knowledge representation, logical and probabilistic reasoning, machine learning, planning, game playing, information retrieval, computer vision, and robotics.	3 Credits
	CSCI 447 - Machine Learning Offered intermittently. Prereq., CSCI 232 or consent of instr. Introduction to the framework of learning from examples, various learning algorithms such as neural networks, and generic learning principles such as inductive bias, Occam's Razor, and data mining. Credit not allowed for both CSCI 447 and CSCI 547.	3 Credits
	CSCI 448 - Pattern Recognition Offered intermittently. Prereq., Junior or Senior status. Introduction to the framework of unsupervised learning techniques such as clustering (agglomerative, fuzzy, graph theory based, etc.), multivariate analysis approaches (PCA, MDS, LDA, etc.), image analysis (edge detection, etc.), as well as feature selection and generation. Emphasis will be on the underlying algorithms and their implementation. Credit not allowed for both CSCI 448 and CSCI 548.	3 Credits
	CSCI 451 - Computational Biology Offered Autumn. Designed for attendance by both computer scientists and biologists. The course will explore the interdisciplinary nature at the juncture of the two fields. Students will be introduced to bioinformatics (emphasis: computational genomics), with exposure to fundamental problems, algorithms, and tools in the field. This includes a basic introduction to genomics, along with in-depth coverage of algorithms and methods relevant to modern computational genomics, including: biological sequence alignment, sequence database homology search, and phylogeny inference. The programming expectations are limited for a 400-level computer science course, but at least one semester of a programming-intensive course is required. Credit not allowed for CSCI 558 and this course	3 Credits
	CSCI 460 - Operating Systems Offered autumn. Prereq., CSCI 232, or consent of instr. Operating system design principles. Processes, threads, synchronization, deadlock, memory management, file management and file systems, protection, and security, comparison of commonly used existing operating systems, writing programs that make use of operating system services. It is recommended, but not required, that the student also attend Programming Languages (in order to be prepared to write C programs) and Architecture (in order to understand interactions between the operating system and processor hardware) prior to attending this course.	3 Credits

	CSCI 466 - Networks Offered spring. Prereq., CSCI 232. Concepts and practice of computer networking, network protocol layers, switching, routing, flow, and congestion control. Network programming.	3 Credits
	CSCI 477 - Simulation Co-convene with CSCI 577. Prereq., M 172, CSCI 135, or consent of instr. Matrix languages. ODE solving; Euler-Richardson, Runge-Kutta, PDE solving; finite differences, finite elements, multi-grid techniques. Discrete methods for solution, renormalization group method, critical phenomena. Emphasis on presentation of results and interactive programs. Credit not allowed for CSCI 577 and this course.	3 Credits
	CSCI 490 - Research (R-6) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student.	1 To 6 Credits
	CSCI 491 - Special Topics (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	CSCI 494 - Seminar (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.	1 To 6 Credits
	CSCI 498 - Internship (R-3) Offered Intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Only three credits of CSCI 398 and/or CSCI 498 applicable to computer science major or minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 3 Credits
	CSCI 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., consent of thesis/project director and chair of the Computer Science Department. Senior thesis for computer science majors and/or Watkins scholars.	1 To 6 Credits
Minimum Required Grade: C-		18 Total Credits Required

Communication

Rule: Must complete 1 of the following courses

	Course	**Credits**
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits

	COMX 242 - Argumentation Offered autumn and spring on the Mountain campus, offered intermittently on the Missoula College campus. Development of argumentation skills and critical judgment in decision-making and debate. Includes criticism, construction, presentation, and refutation of spoken and written arguments.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Mathematics

Rule: Take the following:

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 221 - Introduction to Linear Algebra Offered autumn and spring. Prereq., M 172 or 182. Vectors in the plane and space, systems of linear equations and Gauss–Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.	4 Credits
	M 225 - Intro to Discrete Mathematics Offered autumn. Prereq., one of M 162, 171, or 181 or consent of instr. Mathematical concepts used in computer science with an emphasis on mathematical reasoning and proof techniques. Elementary logic, sets, functions and relations, combinatorics, mathematical induction, recursion and algorithms. Mathematics majors should take M 307 instead of 225.	3 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
Minimum Required Grade: C-		18 Total Credits Required

Science Core

Rule: Must complete 1 of the following subcategories of science sequences

9-10 Total Credits Required

Biology

Rule: May complete the following sequence

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
Minimum Required Grade: C-		9 Total Credits Required

Chemistry

Rule: May complete the following sequence

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics

Rule: May complete the following sequence

	Course	Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Science Electives

Rule: Must complete 2 of the following courses

Note: The Biology, Chemistry, or Physics sequence chosen to fulfill the science core may not count toward the science electives requirement.
Laboratory courses must be taken in conjunction with their associated lecture course.

	Course	Credits
	ASTR 131N - Elementary Astronomy I Offered autumn. Prereq., high school algebra and geometry. An introduction to observational, historical, and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits
	ASTR 132N - Elementary Astronomy II Offered spring. Prereq., high school algebra and geometry. An introduction to stars, stellar evolution, galaxies, and cosmology. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits

	ASTR 134N - Elementary Astronomy Lab I Offered autumn. Prereq. or coreq., ASTR 131N Laboratory exercises in observational and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	1 Credits
	ASTR 135N - Elementary Astronomy Lab II Offered spring. Prereq. or coreq., ASTR 132N. Laboratory exercises in observational, stellar, and galactic astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	1 Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOM 250N - Microbiology for Hlth Sciences Offered spring. Infectious diseases, including concepts of virulence, resistance, prevention and control of microbial diseases in the individual and in the community. If laboratory experience is desired, the student may enroll concurrently in BIOM 251. Credit not allowed toward a major in microbiology.	3 Credits
	BIOM 251 - Microbiology Hlth Sciences Lab Offered spring. Prereq. or coreq., BIOM 250N. Observation of live microorganisms, their characteristics and activities. Experience with microbiological techniques. Credit not allowed toward a major in microbiology.	1 Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits

	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits
	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
	GEO 225 - Earth Materials Offered autumn. Prereq., GEO 101N, GEO 102N, and CHMY 121N or 141N. Study of minerals and rocks utilizing an Earth Systems approach; mineral identification and paragenesis; survey of the distribution of minerals from the interior to the surfaces of planets and the processes that led to their formation.	4 Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 343 - Modern Physics Offered autumn. Prereq., one year of college physics; coreq., M 273. Includes historical background for development of modern physics and an introduction to quantum mechanics, atomic and nuclear physics. Credit not allowed for graduate degree in physics.	3 Credits

	PHSX 444 - Advanced Physics Lab Offered autumn. Prereq., PHSX 343 or equiv., PHSX 327 or equiv.; PHSX 322 suggested but not required. Advanced experiments in classical and modern physics, including optics, spectroscopy, laser science, atomic, nuclear, and particle physics, Data analysis techniques for experimental scientists. Recommended for students entering graduate school in any experimental science.	3 Credits
Minimum Required Grade: C-		6-10 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track. After completion of this track the student will be awarded a Bachelor of Science in Computer Science.

Computer Science Interdisciplinary

Bachelor of Science - Computer Science; Track: Interdisciplinary

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 87

Required Cumulative GPA: 2.0

Computer Science Core Courses

Rule: Must complete all of the following:courses

Note: .

Note: 100-level CSCI courses other than CSCI 106, CSCI 135-136, and 200-level CSCI courses other than CSCI 205 and CSCI 232 do not count toward the degree or track requirements. However, they do count in the 60 credit limit in the major.
CSCI 315E will fulfill the upper division writing requirement. CSCI 250 may be substituted for CSCI 135.

	Course	**Credits**
	CSCI 106 - Careers in Computer Science Offered autumn. Exploration of various careers available in the general area of Computer Science. Includes discussion of strategies for success in the major. Computer Science faculty members also will discuss possible undergraduate research opportunities and motivation for graduate education.	1 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits

	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 205 - Programming Languages w/ C/C++ Offered spring. Prereq., CSCI 232 and M 225. Concepts and principles of programming languages with an emphasis on C, C++, and object-oriented programming. Syntax and semantics of object-oriented languages. Principles and implementation of late binding, memory allocation and de-allocation, type-checking, scope, polymorphism, inheritance.	4 Credits
	CSCI 232 - Data Structures and Algorithms Offered autumn. Prereq., 'B-' or better in CSCI 136; or consent of instr. Abstract data types, algorithm analysis, stacks, queues, lists, recursion, trees, hashing, graphs, and applications of data structures in algorithm development. Python programming language used.	4 Credits
	CSCI 315E - Computers, Ethics, and Society Offered autumn. Prereq., University approved intermediate level writing course. Ethical problems that computer scientists face. The codes of ethics of professional computing societies. The social implications of computers, computing, and other digital technologies.	3 Credits
	CSCI 323 - Software Science Offered autumn. Prereq., CSCI 136. Study, implementation, and assessment of software processes, techniques, methods, and CASE tools. Project management and cost estimation techniques will be examined. A group project may be required.	3 Credits
	CSCI 332 - Design/Analysis of Algorithms Offered spring. Prereq., CSCI 232 and M 225 or consent of instr. Algorithm design, analysis, and correctness. Commonly used algorithms including searching and sorting, string search, dynamic programming, branch and bound, graph algorithms, and parallel algorithms. Introduction to NP-complete problems.	3 Credits
	CSCI 361 - Computer Architecture Offered spring. Prereq., CSCI 136 or consent of instr. Functional view of computer system components, BCPU, ALU, memory, bus, cache, I/O module. Instruction set design: formats, addressing modes. Basic circuit design. Pipelining and assembly language. Interrupt handling. Implementation of ALU and control unit. Detailed design of an RISC-like instruction set. Datapath and performance comparisons. Basic multiprocessor design.	3 Credits
	CSCI 426 - Adv Prgrmng Theory/Practice I Offered autumn. Prereq., CSCI 205, 232, 323 and M 225, or consent of instr. Examination and implementation of modern best practices in the areas of software design, coding, testing and maintenance. Focus on design patterns and design pattern languages used to build modern software systems in a variety of areas.	3 Credits
	CSCI 427 - Adv Prgrmng Theory/Practice II Offered spring. Prereq., CSCI 426. Design and implementation of a major software project in a group setting, with required documentation, presentation, installation, and approval by the instructor.	3 Credits

Minimum Required Grade: C-	33 Total Credits Required

Degree Electives

Rule: Must complete 6 credits from the following courses

Note: A total of at most 3 of the 6 credits of CS electives may be in CSCI 398 or 498.

	Course	Credits
	CSCI 340 - Database Design Offered spring. Prereq., CSCI 232 or consent of instr. Fundamentals of data modeling, the relational mode, normal forms, file organization, index structures and SQL. Major project involving the design and implementation of a relational database.	3 Credits
	CSCI 390 - Research (R-6) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student.	1 To 6 Credits
	CSCI 391 - Special Topics (R-6) Offered intermittently. Prereq., junior standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	CSCI 394 - Seminar (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.	1 To 6 Credits
	CSCI 398 - Internship (R-3) Offered intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from faculty supervisor and the Internship Services office. Only three credits applicable to computer science major or minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 3 Credits
	CSCI 411 - Advanced Web Programming Offered intermittently. Prereq., CSCI 136. Programming and software development techniques for developing web-based applications. Scripting and other programming languages that are used for web-based development.	3 Credits
	CSCI 412 - Game and Mobile App Offered intermittently. Prereq., CSCI 232 and 323. Programming and software development techniques for developing gaming and mobile applications. Multiple gaming environments and mobile programming languages are introduced and examined to build modern applications.	3 Credits
	CSCI 438 - Theory of Computation Offered intermittently. Prereq., M 225 or M 307. This course focuses on understanding the limitations & capabilities of abstract models of computation, through rigorous mathematical analysis. Topics will include finite & pushdown automata, nondeterministic computation, regular expressions, generative grammars, Turing machines, undecidability, and computational complexity.	3 Credits

	CSCI 441 - Computer Graphics Programming Offered intermittently. Prereq., CSCI 232 and M 221 or consent of instr. The graphics pipeline, its implementation in hardware and emphasis on the programmable portions of the pipeline. Matrix transformations for modeling, viewing, clipping, and windowing. Application of lighting, coloring, and texturing models. Hierarchical modeling of objects. Programmable shaders. OpenGL and WebGL.	3 Credits
	CSCI 443 - User Interface Design Offered intermittently. Prereq., CSCI 232 or consent of instr. Introduction to usability and key concepts of human behavior. Focus on the process of user-centered design, including requirements specification, prototyping, and methods of evaluation. Incorporation of regular design critiques of classmates' work, and emphasis on both oral and written communication skills. Credit not allowed for CSCI 543 and this course.	3 Credits
	CSCI 444 - Data Visualization Offered intermittently. Prereq., M 171; programming experience; and junior, senior, or graduate status; or consent of instr. Visualization fundamentals and applications using special visualization software; formulation of 3-D empirical models; translation of 3-D models into graphical displays; time sequences and pseudo-animation; interactive versus presentation techniques; special techniques for video, CD and other media.	3 Credits
	CSCI 446 - Artificial Intelligence Offered intermittently. Prereq., M 225 or M 307, and CSCI 232, or consent of instr. Using computers and software to solve problems that require intelligence. Specific topics may include knowledge representation, logical and probabilistic reasoning, machine learning, planning, game playing, information retrieval, computer vision, and robotics.	3 Credits
	CSCI 447 - Machine Learning Offered intermittently. Prereq., CSCI 232 or consent of instr. Introduction to the framework of learning from examples, various learning algorithms such as neural networks, and generic learning principles such as inductive bias, Occam's Razor, and data mining. Credit not allowed for both CSCI 447 and CSCI 547.	3 Credits
	CSCI 448 - Pattern Recognition Offered intermittently. Prereq., Junior or Senior status. Introduction to the framework of unsupervised learning techniques such as clustering (agglomerative, fuzzy, graph theory based, etc.), multivariate analysis approaches (PCA, MDS, LDA, etc.), image analysis (edge detection, etc.), as well as feature selection and generation. Emphasis will be on the underlying algorithms and their implementation. Credit not allowed for both CSCI 448 and CSCI 548.	3 Credits

	CSCI 451 - Computational Biology Offered Autumn. Designed for attendance by both computer scientists and biologists. The course will explore the interdisciplinary nature at the juncture of the two fields. Students will be introduced to bioinformatics (emphasis: computational genomics), with exposure to fundamental problems, algorithms, and tools in the field. This includes a basic introduction to genomics, along with in-depth coverage of algorithms and methods relevant to modern computational genomics, including: biological sequence alignment, sequence database homology search, and phylogeny inference. The programming expectations are limited for a 400-level computer science course, but at least one semester of a programming-intensive course is required. Credit not allowed for CSCI 558 and this course	3 Credits
	CSCI 460 - Operating Systems Offered autumn. Prereq., CSCI 232, or consent of instr. Operating system design principles. Processes, threads, synchronization, deadlock, memory management, file management and file systems, protection, and security, comparison of commonly used existing operating systems, writing programs that make use of operating system services. It is recommended, but not required, that the student also attend Programming Languages (in order to be prepared to write C programs) and Architecture (in order to understand interactions between the operating system and processor hardware) prior to attending this course.	3 Credits
	CSCI 466 - Networks Offered spring. Prereq., CSCI 232. Concepts and practice of computer networking, network protocol layers, switching, routing, flow, and congestion control. Network programming.	3 Credits
	CSCI 477 - Simulation Co-convene with CSCI 577. Prereq., M 172, CSCI 135, or consent of instr. Matrix languages. ODE solving; Euler-Richardson, Runge-Kutta, PDE solving; finite differences, finite elements, multi-grid techniques. Discrete methods for solution, renormalization group method, critical phenomena. Emphasis on presentation of results and interactive programs. Credit not allowed for CSCI 577 and this course.	3 Credits
	CSCI 490 - Research (R-6) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student.	1 To 6 Credits
	CSCI 491 - Special Topics (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	CSCI 494 - Seminar (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.	1 To 6 Credits

	CSCI 498 - Internship (R-3) Offered Intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Only three credits of CSCI 398 and/or CSCI 498 applicable to computer science major or minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 3 Credits
	CSCI 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., consent of thesis/project director and chair of the Computer Science Department. Senior thesis for computer science majors and/or Watkins scholars.	1 To 6 Credits
Minimum Required Grade: C-		6 Total Credits Required

Interdisciplinary Electives

Rule: Must complete 12 credits numbered 200 or above in a field other than Computer Science

Note: Student must complete all the requirements for a minor or additional major in any field other than Computer Science.

Minimum Required Grade: C-

12 Total Credits Required

Communication

Rule: Must complete 1 of the following courses

	Course	**Credits**
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	COMX 242 - Argumentation Offered autumn and spring on the Mountain campus, offered intermittently on the Missoula College campus. Development of argumentation skills and critical judgment in decision-making and debate. Includes criticism, construction, presentation, and refutation of spoken and written arguments.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Mathematics

Rule: Take the following:

	Course	**Credits**

	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 221 - Introduction to Linear Algebra Offered autumn and spring. Prereq., M 172 or 182. Vectors in the plane and space, systems of linear equations and Gauss–Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.	4 Credits
	M 225 - Intro to Discrete Mathematics Offered autumn. Prereq., one of M 162, 171, or 181 or consent of instr. Mathematical concepts used in computer science with an emphasis on mathematical reasoning and proof techniques. Elementary logic, sets, functions and relations, combinatorics, mathematical induction, recursion and algorithms. Mathematics majors should take M 307 instead of 225.	3 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
Minimum Required Grade: C-		18 Total Credits Required

Science Core

Rule: Must complete 1 of the following subcategories of science sequences

9-10 Total Credits Required

Biology

Rule: May complete the following sequence

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits

	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
Minimum Required Grade: C-		9 Total Credits Required

Chemistry

Rule: May complete the following sequence

	Course	**Credits**
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics

Rule: May complete the following sequence

	Course	**Credits**
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits

	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Science Electives

Rule: Must complete 2 of the following courses

Note: The Biology, Chemistry, or Physics sequence chosen to fulfill the science core may not count toward the science electives requirement.
Laboratory courses must be taken in conjunction with their associated lecture course.
A total of 17-18 credits of science is required from the science core plus the science electives.

	Course	Credits
	ASTR 131N - Elementary Astronomy I Offered autumn. Prereq., high school algebra and geometry. An introduction to observational, historical, and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits
	ASTR 132N - Elementary Astronomy II Offered spring. Prereq., high school algebra and geometry. An introduction to stars, stellar evolution, galaxies, and cosmology. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits
	ASTR 134N - Elementary Astronomy Lab I Offered autumn. Prereq. or coreq., ASTR 131N Laboratory exercises in observational and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	1 Credits
	ASTR 135N - Elementary Astronomy Lab II Offered spring. Prereq. or coreq., ASTR 132N. Laboratory exercises in observational, stellar, and galactic astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	1 Credits

	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOM 250N - Microbiology for Hlth Sciences Offered spring. Infectious diseases, including concepts of virulence, resistance, prevention and control of microbial diseases in the individual and in the community. If laboratory experience is desired, the student may enroll concurrently in BIOM 251. Credit not allowed toward a major in microbiology.	3 Credits
	BIOM 251 - Microbiology Hlth Sciences Lab Offered spring. Prereq. or coreq., BIOM 250N. Observation of live microorganisms, their characteristics and activities. Experience with microbiological techniques. Credit not allowed toward a major in microbiology.	1 Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits

	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
	GEO 225 - Earth Materials Offered autumn. Prereq., GEO 101N, GEO 102N, and CHMY 121N or 141N. Study of minerals and rocks utilizing an Earth Systems approach; mineral identification and paragenesis; survey of the distribution of minerals from the interior to the surfaces of planets and the processes that led to their formation.	4 Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 343 - Modern Physics Offered autumn. Prereq., one year of college physics; coreq., M 273. Includes historical background for development of modern physics and an introduction to quantum mechanics, atomic and nuclear physics. Credit not allowed for graduate degree in physics.	3 Credits
Minimum Required Grade: C-		6-10 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track. After completion of this track the student will be awarded a Bachelor of Science in Computer Science.

Computer Science-Mathematical Sciences (Combined Major)

The purpose of the combined program is to provide a thorough background in both allied disciplines and to inculcate a deeper understanding of their goals and methods. A student must complete 60 credits in the two disciplines: 30 of these credits in Computer Science courses and 30 of these credits in Mathematical Sciences courses. Each student plans a program in consultation with a Computer Science and a Mathematical Sciences advisor. Students planning to attend graduate school in computer science or the mathematical sciences should consult with their respective advisors.

Bachelor of Science - Computer Sci-Mathematical Sci

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 73

Required Cumulative GPA: 2.0

Note: null

Mathematical Sciences

Rule: Complete the following subcategories.

31 Total Credits Required

Mathematical Sciences Core

Rule: Complete all of the following courses.

Note: The following substitutions are allowed: M 181 for M 171, M 182 for M 172, and M 225 for M 307.

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 221 - Introduction to Linear Algebra Offered autumn and spring. Prereq., M 172 or 182. Vectors in the plane and space, systems of linear equations and Gauss–Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits

	M 307 - Intro to Abstract Mathematics Offered autumn and spring. Prereq., M 172 or 182. Designed to prepare students for upper–division proof–based mathematics courses. Topics include proof techniques, logic, sets, relations, functions and axiomatic methods. Students planning to take both M 221 and 307 are encouraged to take M 221 first.	3 Credits
Minimum Required Grade: C-		19 Total Credits Required

Mathematical Sciences Electives

Rule: Complete 12 credits from the following courses.

Note: The combined nine credits of Computer Science Electives and twelve credits of Mathematical Sciences Electives must include at least three 3– or 4–credit courses numbered 400 or above, with at least one chosen from each department (not including M 429 and STAT 451, 452).

	Course	**Credits**
	-	
	M 311 - Ordinary Diff Equations/System Offered autumn. Prereq., M 273. Ordinary differential equations. Systems of linear differential equations from a matrix viewpoint. Series solutions. Existence and uniqueness for initial value problems. Numerical methods. Stability and selected topics. M 317 computer lab recommended.	3 Credits
	M 325 - Discrete Mathematics Offered spring. Prereq., M 171 and 225 or 307. Continuation of 225 and topics from graph theory, Boolean algebras, automata theory, coding theory, computability and formal languages.	3 Credits
	M 326 - Number Theory Offered spring. Prereq., M 225 or 307. Congruences, Diophantine equations, properties of primes, quadratic residues, continued fractions, algebraic numbers.	3 Credits
	M 361 - Discrete Optimization Offered spring. Prereq., one of M 162, 172 or 182 (221 or 225 recommended). Intended for non–mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.	3 Credits
	M 362 - Linear Optimization Offered autumn. Prereq., one of M 162, 172 or 182 (221 recommended). Coreq., M 363 recommended. Intended for non–mathematics majors as well as majors. Introduction to linear programming and modeling techniques with applications. Topics include the simplex method, duality, sensitivity analysis and network models.	3 Credits
	M 381 - Advanced Calculus I Offered autumn . Prereq., M 307. Rigorous development of single-variable calculus with formal proof. Functions, sequences, limits, continuity, differentiation, and integration.	3 Credits

	M 412 - Partial Differential Equations Offered spring. Prereq., M 311. Fourier series, Sturm–Liouville and boundary value problems. Partial differential equations: Cauchy problems and the method of characteristics, separation of variables and Laplace transform methods. Numerical methods and selected topics. M 418 computer lab recommended. Level: Undergraduate-Graduate	3 Credits
	M 414 - Deterministic Models Offered spring. Prereq., M 263 or 311 or consent of instr. Linear and nonlinear difference and differential equations: stability, phase–plane analysis, oscillatory behavior, limit cycles, and chaos. Eigenvalues and eigenfunctions. Emphasis on models in biology. Level: Undergraduate-Graduate	3 Credits
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 431 - Abstract Algebra I Offered autumn. Prereq., M 221 and 307 or consent of instr. An introduction to modern ideas of algebra through the study of groups, rings, and fields. Level: Undergraduate-Graduate	4 Credits
	M 432 - Abstract Algebra II Offered spring. Prereq., M 431. Continues the investigation of groups, rings, and fields begun in M 431. Further topics include vector spaces and field extensions. Level: Undergraduate-Graduate	4 Credits
	M 439 - Euclidean & Non-Euclidean Geo Offered autumn. Prereq., M 307. Euclidean geometry from a rigorous, axiomatic viewpoint and Non–Euclidean geometries chosen from Lobachevskian, projective, finite and Riemannian. Level: Undergraduate-Graduate	3 Credits
	M 440 - Numerical Analysis Offered intermittently. Prereq., 311, one computer language. Error analysis; approximation and interpolation, numerical solution of linear and non-linear equations, numerical integration of ordinary and partial differential equations. Level: Undergraduate-Graduate	4 Credits
	M 445 - Stat/Math/Comp Modeling Offered autumn odd-numbered years. Prereq., consent of instr. An interdisciplinary course on the integration of statistical and dynamical models with applications to biological problems. Linear and nonlinear models, estimation, systems of ordinary differential equations, numerical integration, bootstrapping, MCMC methods. Intended both for students in mathematics and the natural sciences. Level: Undergraduate-Graduate	4 Credits

	M 461 - Practical Big Data Analytics Offered autumn. Prereq., STAT 341, and one of M 221 or M 273, or consent of instructor. This is a methods course supporting the Big Data Certificate Program. The course provides the students with the essential tools for the analysis of big data. The content consists of map reduce and canonical information methods for analyzing massively large data sets, windowing methods for the analysis of streaming data, an introduction to predictive analytics, and an introduction to data visualization methods. Level: Undergraduate-Graduate	3 Credits
	M 462 - Theoretical Big Data Analytics Offered spring. Prereq., M 221 and two other Mathematics / Statistics classes at the 200-level or above, or consent of instr. The main goal of this course is to provide students with a unique opportunity to acquire conceptual knowledge and theoretical background behind mathematical tools applicable to Big Data Analytics and Real Time Computations. Specific challenges of Big Data Analytics, e.g., problems of extracting, unifying, updating, and merging information, and processing of highly parallel and distributed data, will be reviewed. The tools for Big Data Analytics, such as regression analysis, linear estimation, calibration problems, real time processing of incoming (potentially infinite) data, will be studied in more detail. It will be shown how these approaches can be transformed to conform to the Big Data demands. Level: Undergraduate-Graduate	3 Credits
	M 472 - Intro to Complex Analysis Offered spring. Prereq., M 273, M 307. Analytic functions, complex integration, singularities and application to contour integration, harmonic functions, spaces of analytic functions. Level: Undergraduate-Graduate	4 Credits
	M 473 - Introduction to Real Analysis Offered autumn odd-numbered years. Prereq., M 273, M 307. Theory of metric spaces and point set topology, Riemann-Stieltjes integral, sequences and series of functions. Stone-Weierstrass theorem, theorem of Arzela-Ascoli, introduction to Lebesgue integration. Level: Undergraduate-Graduate	4 Credits
	M 485 - Graph Theory Offered autumn. Prereq., M 325, or M 307 and M 361, or consent of instr. Theory and applications of graphs. Topics chosen from trees, matchings, connectivity, coloring, planarity, Ramsey theory, random graphs, combinatorial designs and matroid theory. Level: Undergraduate-Graduate	3 Credits
	STAT 341 - Intro to Probability and Stat Offered autumn and spring. Prereq., one of M 162, 172 or 182. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.	3 Credits
	STAT 421 - Probability Theory Offered autumn. Prereq., M 273 or consent of instructor (STAT 341 recommended). An introduction to probability, random variables and their probability distributions, estimation and hypothesis testing. This course is the foundation on which more advanced statistics courses build. Level: Undergraduate-Graduate	3 Credits

	STAT 422 - Mathematical Statistics Offered spring. Prereq., STAT 421. Continuation of 421. Level: Undergraduate-Graduate	3 Credits
	STAT 451 - Statistical Methods I Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate	3 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Computer Science

Rule: Complete the following subcategories.

30 Total Credits Required

Computer Science Core

Rule: Complete all of the following courses.

	Course	Credits
	CSCI 106 - Careers in Computer Science Offered autumn. Exploration of various careers available in the general area of Computer Science. Includes discussion of strategies for success in the major. Computer Science faculty members also will discuss possible undergraduate research opportunities and motivation for graduate education.	1 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits

	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 205 - Programming Languages w/ C/C++ Offered spring. Prereq., CSCI 232 and M 225. Concepts and principles of programming languages with an emphasis on C, C++, and object-oriented programming. Syntax and semantics of object-oriented languages. Principles and implementation of late binding, memory allocation and de-allocation, type-checking, scope, polymorphism, inheritance.	4 Credits
	CSCI 232 - Data Structures and Algorithms Offered autumn. Prereq., 'B-' or better in CSCI 136; or consent of instr. Abstract data types, algorithm analysis, stacks, queues, lists, recursion, trees, hashing, graphs, and applications of data structures in algorithm development. Python programming language used.	4 Credits
	CSCI 332 - Design/Analysis of Algorithms Offered spring. Prereq., CSCI 232 and M 225 or consent of instr. Algorithm design, analysis, and correctness. Commonly used algorithms including searching and sorting, string search, dynamic programming, branch and bound, graph algorithms, and parallel algorithms. Introduction to NP-complete problems.	3 Credits
	CSCI 361 - Computer Architecture Offered spring. Prereq., CSCI 136 or consent of instr. Functional view of computer system components, BCPU, ALU, memory, bus, cache, I/O module. Instruction set design: formats, addressing modes. Basic circuit design. Pipelining and assembly language. Interrupt handling. Implementation of ALU and control unit. Detailed design of an RISC-like instruction set. Datapath and performance comparisons. Basic multiprocessor design.	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

Computer Science Electives

Rule: Complete 9 credits from the following courses.

Note: (1) A total of at most three of the nine credits of Computer Science Electives may be in CSCI 398 or 498.
(2) The combined nine credits of Computer Science Electives and twelve credits of Mathematical Sciences Electives must include at least three 3– or 4–credit courses numbered 400 or above, with at least one chosen from each department (not including M 429 and STAT 451, 452).

	Course	**Credits**

	CSCI 315E - Computers, Ethics, and Society Offered autumn. Prereq., University approved intermediate level writing course. Ethical problems that computer scientists face. The codes of ethics of professional computing societies. The social implications of computers, computing, and other digital technologies.	3 Credits
	CSCI 323 - Software Science Offered autumn. Prereq., CSCI 136. Study, implementation, and assessment of software processes, techniques, methods, and CASE tools. Project management and cost estimation techniques will be examined. A group project may be required.	3 Credits
	CSCI 340 - Database Design Offered spring. Prereq., CSCI 232 or consent of instr. Fundamentals of data modeling, the relational mode, normal forms, file organization, index structures and SQL. Major project involving the design and implementation of a relational database.	3 Credits
	CSCI 390 - Research (R-6) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student.	1 To 6 Credits
	CSCI 391 - Special Topics (R-6) Offered intermittently. Prereq., junior standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	CSCI 394 - Seminar (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.	1 To 6 Credits
	CSCI 398 - Internship (R-3) Offered intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from faculty supervisor and the Internship Services office. Only three credits applicable to computer science major or minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 3 Credits
	CSCI 411 - Advanced Web Programming Offered intermittently. Prereq., CSCI 136. Programming and software development techniques for developing web-based applications. Scripting and other programming languages that are used for web-based development.	3 Credits
	CSCI 412 - Game and Mobile App Offered intermittently. Prereq., CSCI 232 and 323. Programming and software development techniques for developing gaming and mobile applications. Multiple gaming environments and mobile programming languages are introduced and examined to build modern applications.	3 Credits

	CSCI 426 - Adv Prgrmng Theory/Practice I Offered autumn. Prereq., CSCI 205, 232, 323 and M 225, or consent of instr. Examination and implementation of modern best practices in the areas of software design, coding, testing and maintenance. Focus on design patterns and design pattern languages used to build modern software systems in a variety of areas.	3 Credits
	CSCI 427 - Adv Prgrmng Theory/Practice II Offered spring. Prereq., CSCI 426. Design and implementation of a major software project in a group setting, with required documentation, presentation, installation, and approval by the instructor.	3 Credits
	CSCI 438 - Theory of Computation Offered intermittently. Prereq., M 225 or M 307. This course focuses on understanding the limitations & capabilities of abstract models of computation, through rigorous mathematical analysis. Topics will include finite & pushdown automata, nondeterministic computation, regular expressions, generative grammars, Turing machines, undecidability, and computational complexity.	3 Credits
	CSCI 441 - Computer Graphics Programming Offered intermittently. Prereq., CSCI 232 and M 221 or consent of instr. The graphics pipeline, its implementation in hardware and emphasis on the programmable portions of the pipeline. Matrix transformations for modeling, viewing, clipping, and windowing. Application of lighting, coloring, and texturing models. Hierarchical modeling of objects. Programmable shaders. OpenGL and WebGL.	3 Credits
	CSCI 443 - User Interface Design Offered intermittently. Prereq., CSCI 232 or consent of instr. Introduction to usability and key concepts of human behavior. Focus on the process of user-centered design, including requirements specification, prototyping, and methods of evaluation. Incorporation of regular design critiques of classmates' work, and emphasis on both oral and written communication skills. Credit not allowed for CSCI 543 and this course.	3 Credits
	CSCI 444 - Data Visualization Offered intermittently. Prereq., M 171; programming experience; and junior, senior, or graduate status; or consent of instr. Visualization fundamentals and applications using special visualization software; formulation of 3-D empirical models; translation of 3-D models into graphical displays; time sequences and pseudo-animation; interactive versus presentation techniques; special techniques for video, CD and other media.	3 Credits
	CSCI 446 - Artificial Intelligence Offered intermittently. Prereq., M 225 or M 307, and CSCI 232, or consent of instr. Using computers and software to solve problems that require intelligence. Specific topics may include knowledge representation, logical and probabilistic reasoning, machine learning, planning, game playing, information retrieval, computer vision, and robotics.	3 Credits

	CSCI 447 - Machine Learning Offered intermittently. Prereq., CSCI 232 or consent of instr. Introduction to the framework of learning from examples, various learning algorithms such as neural networks, and generic learning principles such as inductive bias, Occam's Razor, and data mining. Credit not allowed for both CSCI 447 and CSCI 547.	3 Credits
	CSCI 448 - Pattern Recognition Offered intermittently. Prereq., Junior or Senior status. Introduction to the framework of unsupervised learning techniques such as clustering (agglomerative, fuzzy, graph theory based, etc.), multivariate analysis approaches (PCA, MDS, LDA, etc.), image analysis (edge detection, etc.), as well as feature selection and generation. Emphasis will be on the underlying algorithms and their implementation. Credit not allowed for both CSCI 448 and CSCI 548.	3 Credits
	CSCI 451 - Computational Biology Offered Autumn. Designed for attendance by both computer scientists and biologists. The course will explore the interdisciplinary nature at the juncture of the two fields. Students will be introduced to bioinformatics (emphasis: computational genomics), with exposure to fundamental problems, algorithms, and tools in the field. This includes a basic introduction to genomics, along with in-depth coverage of algorithms and methods relevant to modern computational genomics, including: biological sequence alignment, sequence database homology search, and phylogeny inference. The programming expectations are limited for a 400-level computer science course, but at least one semester of a programming-intensive course is required. Credit not allowed for CSCI 558 and this course	3 Credits
	CSCI 460 - Operating Systems Offered autumn. Prereq., CSCI 232, or consent of instr. Operating system design principles. Processes, threads, synchronization, deadlock, memory management, file management and file systems, protection, and security, comparison of commonly used existing operating systems, writing programs that make use of operating system services. It is recommended, but not required, that the student also attend Programming Languages (in order to be prepared to write C programs) and Architecture (in order to understand interactions between the operating system and processor hardware) prior to attending this course.	3 Credits
	CSCI 464 - Applications Mining Big Data Offered intermittently. Prereq., upper division or consent of instr. Co-convenes with CSCI 564. Introduction to existing data mining software systems and their use, with focus on practical exercises. Topics include data acquisition, data cleansing, feature selection, and data analysis. Credit not allowed for both CSCI 464 and CSCI 564.	3 Credits
	CSCI 466 - Networks Offered spring. Prereq., CSCI 232. Concepts and practice of computer networking, network protocol layers, switching, routing, flow, and congestion control. Network programming.	3 Credits

	CSCI 477 - Simulation Co-convene with CSCI 577. Prereq., M 172, CSCI 135, or consent of instr. Matrix languages. ODE solving; Euler-Richardson, Runge-Kutta, PDE solving; finite differences, finite elements, multi-grid techniques. Discrete methods for solution, renormalization group method, critical phenomena. Emphasis on presentation of results and interactive programs. Credit not allowed for CSCI 577 and this course.	3 Credits
	CSCI 480 - Parallel Computing Prereq., CSCI 205 and 232, or instructor consent. This course is an introduction to parallelism and parallel programming. Topics include the various forms of parallelism on modern computer hardware (e.g. SIMD vector instructions, GPUs, multiple cores, and networked clusters), with coverage of locality and latency, shared vs non-shared memory, and synchronization mechanisms (locking, atomicity, etc). We will introduce patterns that appear in essentially all programs that need to run fast. We will discuss how to recognize these patterns in a variety of practical problems, discuss efficient algorithms for implementing them, and how to compose these patterns into larger applications. We will address computer architecture at a high level, sufficient to understand the relative costs of operations like arithmetic and data transfer. We also introduce useful tools for debugging correctness and performance of parallel programs. Assignments will include significant parallel programming projects. Co-convenes with CSCI 580. Credit not allowed for both CSCI 480 and CSCI 580.	3 Credits
	CSCI 490 - Research (R-6) Offered intermittently. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student.	1 To 6 Credits
	CSCI 491 - Special Topics (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	CSCI 494 - Seminar (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.	1 To 6 Credits
	CSCI 498 - Internship (R-3) Offered Intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Only three credits of CSCI 398 and/or CSCI 498 applicable to computer science major or minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 3 Credits
	CSCI 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., consent of thesis/project director and chair of the Computer Science Department. Senior thesis for computer science majors and/or Watkins scholars.	1 To 6 Credits

Minimum Required Grade: C-	9 Total Credits Required

Science Requirement

Rule: Complete the course work from 1 of the following subcategories.

9-10 Total Credits Required

Biology

Rule: If you choose biology, complete all of the following courses.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
Minimum Required Grade: C-		9 Total Credits Required

Chemistry

Rule: If you choose chemistry, complete all of the following courses.

	Course	Credits

	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics

Rule: If you choose physics, complete all of the following courses.

	Course	Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Public Speaking Requirement

Rule: Complete 1 of the following courses.

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	COMX 242 - Argumentation Offered autumn and spring on the Mountain campus, offered intermittently on the Missoula College campus. Development of argumentation skills and critical judgment in decision-making and debate. Includes criticism, construction, presentation, and refutation of spoken and written arguments.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Advanced College Writing Requirement

Rule: Complete 1 of the following courses.

Note: Any other approved Advanced College Writing course will also fulfill this requirement.

	Course	Credits
	CSCI 315E - Computers, Ethics, and Society Offered autumn. Prereq., University approved intermediate level writing course. Ethical problems that computer scientists face. The codes of ethics of professional computing societies. The social implications of computers, computing, and other digital technologies.	3 Credits
	CSCI 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., consent of thesis/project director and chair of the Computer Science Department. Senior thesis for computer science majors and/or Watkins scholars.	1 To 6 Credits
	M 429 - History of Mathematics Offered spring. Prereq., M307. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century. Level: Undergraduate-Graduate	3 Credits
	M 499 - Senior Thesis (R–12) Offered autumn and spring. Prereq., consent of instr. Senior thesis for mathematics majors and/or Watkins Scholars.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

Suggested Curricula

Note: Students are encouraged to choose their Computer Science and Mathematical Sciences Electives according to one of the following curricula; these tracks are suggestions only and, as such, optional. Note that the suggested curricula do not include an advanced College Writing Course.

Applied Math–Scientific Programming: M 311, 412, 414, and one course chosen from M 381, 440, 472, 473 and STAT 341. Three courses chosen from CSCI 441, 444, 460, 477.

Combinatorics and Optimization–Artificial Intelligence: M 361, 362, and two courses chosen from M 325, 414, 485 and STAT 341; and CSCI 446, 447, and 460.

Data Science (Big Data Analytics): M 461, 462, and STAT 341, 451, and 452. Three courses chosen from CSCI 444, 447, 448, 464, and 480

Statistics–Machine Learning: STAT 341, 421, and two courses chosen from M 325, 362, 485 and STAT 422. Three courses chosen from CSCI 340, 444, 446, 447, and 451.

Algebra–Analysis: M 381, 431, and two courses chosen from M 326, 432, 472, 473; CSCI 426, 460, and one other course.

Computer Science Minor

Minor - Computer Science (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 21

Required Cumulative GPA: 2.0

Note: The traditional minor in computer science emphasizes computer programming and related skills.

Computer Science Courses

Rule: Must complete the following subcategories

Minimum Required Grade: C-

18 Total Credits Required

Fundamentals

Rule: Must complete all of the following courses

	Course	Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
		6 Total Credits Required

Minor Electives

Rule: Must complete 12 credits of electives

Note: In addition to the six credits of Fundamentals, students must select 12 credits of electives chosen from CS 181, CSCI 100, 250, 232, 205, 361 and courses numbered 300 and above with the restrictions: both CSCI 100 and 250 cannot be counted, and at least 6 credits of electives must be at the 300 level or above.

Minor - Computer Applications (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 21

Required Cumulative GPA: 2.0

Note: The minor in computer applications emphasizes use of applications such as programming languages, word processors, spreadsheets, and data bases in the management and manipulation of electronic information.

Computer Science Fundamentals

Rule: Take 1 or both of the following courses

	Course	Credits
	CSCI 100 - Intro to Programming Offered autumn and spring. This course covers basic programming concepts such as variables, data types, iteration, flow of control, input/output, functions, and objects. The course will also cover programming ideas such as data structures, algorithms, modularity, and debugging. Students will learn about the role computation can play in solving problems by writing interesting programs to solve useful goals. No prior programming experience is expected. (Two hours independent lab per week.) Credit not allowed for both CSCI 100 and CSCI 110.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
Minimum Required Grade: C-		3-6 Total Credits Required

Computer Science Electives

Rule: Complete at least 1 and no more than 3 of the following courses

	Course	Credits
	CAPP 171 - Communicating via Computers Offered intermittently. Prereq., previous computer experience or consent of instr. The use of the computer for information presentation and communication; emphasis placed on the use of electronic resources for the access, management, and presentation of information. Students taking CS classes with computer programming components should expect to use additional computer lab time outside of class.	3 Credits

	CSCI 105 - Computer Fluency Offered autumn and spring. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CSCI 105 and CRT 111 and CS 111.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	CSCI 181 - Web Design and Programming Electronic Publishing on the World Wide Web	3 Credits
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
Minimum Required Grade: C-		3-9 Total Credits Required

Degree Electives

Rule: May complete remaining degree credits from the following courses for a total of 21 degree credits

Note: Selection of CSCI 191, 291, 391, or 491 must be pre-approved by the advisor.
CSCI 135 may not be counted toward 2 categories of requirements.
6 credits may be taken outside of the Computer Science department but must be pre-approved by the advisor.

	Course	**Credits**
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 191 - Special Topics (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Students taking CS classes with computer programming components should expect to use additional computer lab time outside of class.	0 To 6 Credits

	CSCI 205 - Programming Languages w/ C/C++ Offered spring. Prereq., CSCI 232 and M 225. Concepts and principles of programming languages with an emphasis on C, C++, and object-oriented programming. Syntax and semantics of object-oriented languages. Principles and implementation of late binding, memory allocation and de-allocation, type-checking, scope, polymorphism, inheritance.	4 Credits
	CSCI 232 - Data Structures and Algorithms Offered autumn. Prereq., 'B-' or better in CSCI 136; or consent of instr. Abstract data types, algorithm analysis, stacks, queues, lists, recursion, trees, hashing, graphs, and applications of data structures in algorithm development. Python programming language used.	4 Credits
	CSCI 291 - Special Topics (R-9) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	CSCI 391 - Special Topics (R-6) Offered intermittently. Prereq., junior standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	CSCI 444 - Data Visualization Offered intermittently. Prereq., M 171; programming experience; and junior, senior, or graduate status; or consent of instr. Visualization fundamentals and applications using special visualization software; formulation of 3-D empirical models; translation of 3-D models into graphical displays; time sequences and pseudo-animation; interactive versus presentation techniques; special techniques for video, CD and other media.	3 Credits
	CSCI 491 - Special Topics (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
Minimum Required Grade: C-		6-15 Total Credits Required

Certificate in Bioinformatics

The Biological Sciences have become more and more data intensive. Many biological biochemistry experiments, including genomic sequencing, gene expression experiments, Nuclear Magnetic Resonance, Mass Spec, Etc., generate huge quantities of data. This certificate ensures that the student has the computational skills necessary to analyze and manipulates such large quantities of data.

Professional Certificate - Bioinformatics

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 12

Required Cumulative GPA: 2.0

Required Courses

Rule: 6 Credits

	Course	Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
	CSCI 451 - Computational Biology Offered Autumn. Designed for attendance by both computer scientists and biologists. The course will explore the interdisciplinary nature at the juncture of the two fields. Students will be introduced to bioinformatics (emphasis: computational genomics), with exposure to fundamental problems, algorithms, and tools in the field. This includes a basic introduction to genomics, along with in-depth coverage of algorithms and methods relevant to modern computational genomics, including: biological sequence alignment, sequence database homology search, and phylogeny inference. The programming expectations are limited for a 400-level computer science course, but at least one semester of a programming-intensive course is required. Credit not allowed for CSCI 558 and this course	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Elective Courses

Rule: Student must complete one of the following courses

Note: BIOB 488 may fulfill this requirement if not taken as part of the core.

	Course	Credits
	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
	BIOB 486 - Genomics Offered autumn. Prereq., BIOB 272. Principles and mechanisms of genome biology of animals and microbes, including genome function, evolution, and basic molecular and computational methodology used in genome biology.	3 Credits

	BIOB 488 - Programming for Biology Offered spring. Prereq., BIOB 486 or A- or higher in BIOB 272. An introduction to computer programming using genomic and evolutionary examples. No prior programming experience expected or required.	3 Credits
	CSCI 444 - Data Visualization Offered intermittently. Prereq., M 171; programming experience; and junior, senior, or graduate status; or consent of instr. Visualization fundamentals and applications using special visualization software; formulation of 3-D empirical models; translation of 3-D models into graphical displays; time sequences and pseudo-animation; interactive versus presentation techniques; special techniques for video, CD and other media.	3 Credits
	CSCI 448 - Pattern Recognition Offered intermittently. Prereq., Junior or Senior status. Introduction to the framework of unsupervised learning techniques such as clustering (agglomerative, fuzzy, graph theory based, etc.), multivariate analysis approaches (PCA, MDS, LDA, etc.), image analysis (edge detection, etc.), as well as feature selection and generation. Emphasis will be on the underlying algorithms and their implementation. Credit not allowed for both CSCI 448 and CSCI 548.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Certificate in Computer Programming

Professional Certificate - Computer Programming

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 12
Required Cumulative GPA: 2.0

Required Courses

Rule: Student must complete the following courses
Note: Students may take either CSCI 135 or CSCI 250 to meet the requirement.

	Course	**Credits**
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits

	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 232 - Data Structures and Algorithms Offered autumn. Prereq., 'B-' or better in CSCI 136; or consent of instr. Abstract data types, algorithm analysis, stacks, queues, lists, recursion, trees, hashing, graphs, and applications of data structures in algorithm development. Python programming language used.	4 Credits
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Elective Courses

Rule: Students must complete one of the following courses

	Course	**Credits**
	CSCI 205 - Programming Languages w/ C/C++ Offered spring. Prereq., CSCI 232 and M 225. Concepts and principles of programming languages with an emphasis on C, C++, and object-oriented programming. Syntax and semantics of object-oriented languages. Principles and implementation of late binding, memory allocation and de-allocation, type-checking, scope, polymorphism, inheritance.	4 Credits
	CSCI 323 - Software Science Offered autumn. Prereq., CSCI 136. Study, implementation, and assessment of software processes, techniques, methods, and CASE tools. Project management and cost estimation techniques will be examined. A group project may be required.	3 Credits
	CSCI 340 - Database Design Offered spring. Prereq., CSCI 232 or consent of instr. Fundamentals of data modeling, the relational mode, normal forms, file organization, index structures and SQL. Major project involving the design and implementation of a relational database.	3 Credits
	CSCI 411 - Advanced Web Programming Offered intermittently. Prereq., CSCI 136. Programming and software development techniques for developing web-based applications. Scripting and other programming languages that are used for web-based development.	3 Credits

	CSCI 412 - Game and Mobile App Offered intermittently. Prereq., CSCI 232 and 323. Programming and software development techniques for developing gaming and mobile applications. Multiple gaming environments and mobile programming languages are introduced and examined to build modern applications.	3 Credits
	CSCI 443 - User Interface Design Offered intermittently. Prereq., CSCI 232 or consent of instr. Introduction to usability and key concepts of human behavior. Focus on the process of user-centered design, including requirements specification, prototyping, and methods of evaluation. Incorporation of regular design critiques of classmates' work, and emphasis on both oral and written communication skills. Credit not allowed for CSCI 543 and this course.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Programming is an essential skill for solving problems in many fields. Programming gives maximum flexibility in processing and understanding data, constructing computational models, and building user friendly applications. Programming skills are in high demand in the marketplace. Completing this certificate could be the first step towards a career that involves software development.

Students will apply object-oriented principles to develop software systems. Students will learn to apply and program data structures like lists, trees, and hash tables. The elective course allows the student to learn about software engineering, web programming, mobile device programming, or user interface design.

History Department

Robert H. Greene, Chair

The History Department offers an exciting program of instruction for undergraduates in search of an education. The curriculum is designed to provide knowledge and understanding of the background and ramifications of present local, national, and world affairs. The program emphasizes historical analysis and critical thought rather than the memorization of facts. History majors are taught how to read critically, analyze thoughtfully, conduct research carefully, and write intelligently.

The department offers a wide variety of courses ranging in time, space, and theme. Courses span the full range of American history from the colonial period through the recent past. More specialized courses in local and regional history focus on Montana, the West, and the northern Rockies. Offerings in European and world history emphasize social, cultural, and intellectual history, French and German history, British history, Russian and Soviet history, Latin American history, Islamic civilization, East Asian history, and Central and Southwest Asian history. Topical courses explore issues of democracy, diplomacy, human rights, war and peace, terrorism, race and gender, religion, and environmental history.

History provides not only a basis for future employment but also, more importantly, furnishes knowledge and perspective for intelligent leadership in community affairs. Graduates are employed in federal, state, or local governments, with positions ranging from elected office to research analysts. Many teach history in middle schools and high schools while others pursue advanced degrees at the graduate level. Still others go on to attain professional degrees in law, journalism, and business.

The History Department at the University of Montana boasts professors with award-winning scholarship and active research agendas, which greatly enhances the education and training we provide to our students.

The Department offers the Bachelor of Arts, Bachelor of Arts for teaching, Master of Arts, and the Doctor of Philosophy degrees. Our graduate students have found great success in a diverse range of occupations in public history, in education, and in academia.

Department Faculty

Professor

Richard Drake, Professor of History
John Eglin, Professor of History
Linda S. Frey, Professor of History
Anya Jabour, Regents Professor of History; Co-Director, Women & Gender Studies
Mehrdad Kia, Professor of History; Director, Central and Southwest Asian Studies Center

Michael Mayer, Professor of History

Associate Professor

Robert H. Greene, Associate Professor of History; Chair of the History Department
Jody Pavilack, Associate Professor of History; Director of Undergraduate Studies
Tobin Miller Shearer, Associate Professor of History; Director of Graduate Studies (History); Director of African-American Studies
Kyle G. Volk, Associate Professor of History
Jeff Wiltse, Associate Professor of History

Assistant Professor

Claire Rydell Arcenas, Assistant Professor of History
Eric Schluessel, Assistant Professor of History and Political Science

Adjunct

Gillian Glaes, Visiting Associate Professor of History
Jonathan Hall, Visiting Assistant Professor of History

Lecturer

George Price, Lecturer

Research Faculty

Ted Catton, Associate Research Professor
Diane Krahe, Faculty Affiliate
Steven I. Levine, Research Faculty Associate

Affiliates

Hayden Ausland, Professor
David Beck, Professor
Richmond Clow, Professor
Wade Davies, Professor & Co-Chair
Ardeshir Kia, Associate Director, Central and Southwest Asia Program

Emeritus

George Dennison, Past President of the University of Montana; Professor Emeritus of History
David Emmons, Professor Emeritus of History
William E. Farr, Professor Emeritus of History; Associate Director, Center for the Rocky Mountain West
Dan Flores, A.B. Hammond Professor Emeritus of Western History
Harry Fritz, Professor Emeritus of History
Paul Gordon Lauren, Regents Professor Emeritus of History and Distinguished Mansfield Fellow
Ken Lockridge, Professor Emeritus of History
Frederick Skinner, Professor Emeritus of History

History

Back to Top

- HIST 141H - Black: Africa to Hip-Hop

  Credits: 3. Offered autumn. Same as AAS 141H. This course introduces students to the primary questions, themes, and approaches to African-American Studies. In addition to examining key historical periods such as Reconstruction, the Harlem Renaissance, and the Civil Rights era, students will encounter Hip-Hop, African-American film, African-American religion, and contemporary identity politics. This course concludes by discussing the reasons for and new directions in African-American studies, including diaspora studies, Pan-Africanism, and post-

colonial studies. Overall students will gain new insight into the social, cultural, political, and intellectual, experiences of a diverse people and into the history and contemporary experience of the United States. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)

- HIST 208H - Discovering Africa
  Credits: 3. Same as AAST 208H. Interdisciplinary study of the history of pre-colonial Africa, focusing on social, economic, political and cultural institutions and traditions including the wealth, diversity and complexity of ancient and classical African civilizations and cultures. Course Attributes: Hist & Cultural Studies (H)
- HIST 262 - Abolitionism
  Credits: 3. Same as AAST 262. Interdisciplinary, historical perspective on the early 19th century movement to abolish slavery and racial discrimination in the United States.
- HIST 462 - Central Asia Seminar
  Credits: 3. Advanced analysis of the historical and contemporary issues involving the human communities, cultures, and economies in Central and Southwest Asia.
- HIST 464 - Hist of Indian Affairs to 1776
  Credits: 3. Same as NASX 464. A study of American Indian relations with Europeans and the United States from first contact to 1776.
- HIST 465 - Hist Amer Indian Affrs 19 Cent
  Credits: 3. Same as NASX 465. A study of tribal encounters and adjustments to the American nations in the nineteenth century.
- HIST 466 - Hist of Indian Affrs from 1890
  Credits: 3. Same as NASX 466. A study of tribal encounters and adjustments to the American nation from 1890.
- HIST 482 - Revolution & Reform in China
  Credits: 3. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.

History: American

Back to Top

- HSTA 101H - American History I
  Credits: 4. (AM) Offered autumn. A comprehensive introductory history of Colonial, Revolutionary and 19th century America, to 1877. Lecture-discussion. Credit not allowed for both 101H and 103H. Course Attributes: Hist & Cultural Studies (H) Democracy and Citizenship (Y)
- HSTA 102H - American History II
  Credits: 4. (AM) Offered spring. A comprehensive introductory history of the U.S. since 1877. Lecture-discussion. Credit not allowed for both HSTA 102H and 104H. Course Attributes: Hist & Cultural Studies (H) Democracy and Citizenship (Y)
- HSTA 103H - Honors American History I
  Credits: 4. (AM) Offered autumn. Enrollment by consent of instructor. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1877. Lecture-honors discussion. Credit not allowed for both 103H and 101H. Course Attributes: Honors Course Hist & Cultural Studies (H) Democracy and Citizenship (Y)
- HSTA 104H - Honors American History II
  Credits: 4. (AM) Offered spring. Enrollment by consent of instructor. A comprehensive introductory history of the U. S. since 1877. Lecture-honors discussion. Credit not allowed for both HSTA 102H and 104H. Course Attributes: Honors Course Hist & Cultural Studies (H) Democracy and Citizenship (Y)
- HSTA 191 - Special Topics
  Credits: 1 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- HSTA 198 - Internship

Credits: 1 TO 6. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

- HSTA 255 - Montana History

  Credits: 3. (AM) Offered autumn. An introductory and interpretive history from Lewis and Clark to 2000.

- HSTA 262 - Abolitionism

  Credits: 3. (AM) Same as AAS 262. Interdisciplinary, historical perspective on early 19th century movement to abolish slavery and racial discrimination in the United States.

- HSTA 291 - Special Topics

  Credits: 1 TO 12. (R-12) (AM) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- HSTA 311 - Early America

  Credits: 3. (AM) Emphasis changes from year to year. Can touch upon the political economy of Puritanism, through gender and family to the preconditions for the American Revolution.

- HSTA 315 - Early American Republic

  Credits: 3. (AM) Democracy, nationalism and sectionalism, the War of 1812, the second party system, social order and disorder, the capitalist revolution. Course Attributes:
  Writing Course-Intermediate

- HSTA 316 - American Civil War Era

  Credits: 3. (AM) Civil War and Reconstruction; the triumph of the industrialist and capitalist ethic.

- HSTA 320 - Birth of Modern US

  Credits: 3. (AM) The history of the U.S. from 1877 to 1920 is largely the story of Americans responding to profound social, cultural and economic change. In an effort to bring order to their changing world, Americans created new institutions, retooled their ideologies, and improved the nation's infrastructure. The order they created is, in modified form, still with us today. Students will explore the myriad changes that transformed the United States during this period and study the social, political, and cultural struggles that shaped the emergence of Modern America.

- HSTA 321 - America in Crisis

  Credits: 3. (AM) This era in U.S. history was marked by a series of crises: the contested transition to modernity during the 1920s, the Great Depression, and World War II and its aftermath. This course will explore how Americans responded to these crises, why they responded to them the way they did, and how their responses altered the society in which they lived.

- HSTA 322 - U.S. History: WWII to Present

  Credits: 3. (AM) The Cold War and its consequences, the civil rights revolution, affluence and anxiety, counter-culture, political radicalism, feminism, the Nixon years, Watergate and after.

- HSTA 323 - U.S. in the 1950s

  Credits: 3. (AM) Examines the political, social, cultural, intellectual developments of America in the 1950s. Particular emphasis is placed on cultural history.

- HSTA 324 - U.S. in the 1960s

  Credits: 3. (AM) Examines the political, social, cultural, intellectual developments of America in the 1960s. Topics include the Great Society, political radicalism, the counter culture, black radicalism, and Vietnam.

- HSTA 333 - American Military History

  Credits: 3. (R-6) (AM) The French and Indian Wars to Vietnam and beyond; chronological and topical accounts.

- HSTA 335 - Movie America

  Credits: 3. (AM) This course examines major topics and themes in United States history from the early twentieth century to the present using movies as primary sources.

- HSTA 342H - Afr Amer Hist to 1865

Credits: 3. (AM) Offered intermittently. Same as AAS 342H. Survey of the African American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism. Course Attributes: Historical & Cultural Course

- HSTA 343H - Afr Amer Hist Since 1865

  Credits: 3. (AM) Same as AAS 343H. Study of the African American experience since the Civil War. Change and continuity in the African American experience, the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges. Course Attributes: Hist & Cultural Studies (H)

- HSTA 344 - Afro-American Struggle for Equ

  Credits: 3. (AM) A survey of the various efforts by African Americans to achieve racial equality in the United States from the late 19th century through the 1960s.

- HSTA 347 - Voodoo,Muslim,Church:Black Rel

  Credits: 3. (AM) The African American religious experience encompasses Islam, Christianity, Santeria, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course question, "How did religion shape the experience of the African-American community?" Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history. Same as AAS 347. Course Attributes: Writing Course-Intermediate

- HSTA 361 - The American South

  Credits: 3. (AM) Social history of the American South with particular attention to race, class, and gender.

- HSTA 370H - Wmn Amer Colonial to Civil War

  Credits: 3. Offered autumn. Interpretive overview of major themes and events in U.S. womens history to 1865. Same as WGS 370H. Course Attributes: Hist & Cultural Studies (H)

- HSTA 371H - Wmn Amer Civil War to Present

  Credits: 3. Offered spring. Interpretive overview of major themes and events in U.S. women's history from 1865 to the present. Same as WGS 371. Course Attributes: Hist & Cultural Studies (H)

- HSTA 372 - The American Revolution

  Credits: 3. (AM) Delving into the history of the early modern Atlantic world, this course examines the transnational ramifications of the American Revolution. Specifically, it examines the Revolution's economic and ideological origins, European involvement in the Revolutionary War, as well as the Revolution's impact on African American slavery and the slave trade. We will also consider its implications for Haitian and Latin American independence. And finally, we will discuss the creation of the U.S. Constitution, America's struggle for political sovereignty, and the Revolution's impact on Native Americans, women and families, and conceptions of American identity during the Early National period.

- HSTA 377 - Alcohol in American History

  Credits: 3. (AM) This course explores the controversial history of alcohol in American history beginning in the colonial period and ending in the recent past. It blends varied historical approaches, including political, legal, business, social, and cultural history, to interrogate the manifold ways that alcohol has shaped the American nation and the everyday lives of its citizens.

- HSTA 380 - AmericanConstitutional History

  Credits: 3. (AM) An examination of major issues in the American constitutional past. Topics include the creation of the U.S. Constitution and the problem of ?original intent,? courts and judicial review, slavery and anti-slavery, the bill o frights, industrial capitalism and the welfare state, and majority rule and minority rights in American democracy.

- HSTA 382H - History of American Law

  Credits: 3. (AM) Issues in the social history of law from the colonial period to the present. Course Attributes: Historical & Cultural Course

- HSTA 385 - Families & Children in America

  Credits: 3. (AM) Historical overview of families and children in the United States from the colonial era to the present. Topics include changing patterns of family life, the evolution of attitudes toward children and youth, the relationship between the American family and the nation-state,

and debates over "family values" from the nation's founding to the present. Course Attributes: Writing Course-Intermediate

- HSTA 391 - Special Topics

  Credits: 1 TO 12. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- HSTA 415 - The Black Radical Tradition

  Credits: 3. Offered intermittently. Same as HSTA 415. Prereq., HSTR 200 and only open to majors and minors in history or consent of instructor. From slave revolts through to the Move rebellion in Philadelphia, this course examines how the African-American community has engaged in radical efforts to change the status quo in the name of seeking justice. Course Attributes: Writing Course-Advanced

- HSTA 417 - Prayer & Civil Rights

  Credits: 3. (AM) Same as HSTA 417. HSTR 200 and only open to majors and minors in history or consent of instructor. This course explores the meaning of public prayer in the Civil Rights Movement. Built around the question, "Does religion help or hinder the pursuit of social change?" this class combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. By focusing on a particular religious practice - in this case prayer - in a specific, but limited period of time, this course challenges students to consider how meaning is formed through historical action and study the social significance of religious practice. This formed through historical action and study the social significance of religious practice. This course complicates prevailing ideas about the normalcy of African-American religious practitioners' prayer, invites students to examine their assumptions about the nature of prayer, and traces how religion spilled out of sanctuaries into the streets during the civil rights era. Course Attributes: Writing Course-Advanced

- HSTA 422 - U.S. After WWII: Research Sem

  Credits: 3. (AM) Prereq. HSTR 200. Enrollment for history majors and minors , graduate students in history, or by consent of the instructor. This course offers students an opportunity to do original research and produce an article-length research paper on a topic in post-war American history. It meets the department's requirement of an upper-level research seminar as well as the upper-division writing expectation in the major. Course Attributes: Writing Course-Advanced

- HSTA 461 - Research in Montana History

  Credits: 3. (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. This course is a research and writing seminar in Montana history. Students will learn advanced research methodology in history and will be exposed to a variety of databases and source collections in Montana history that are available locally and online. Students will research and write a primary-source based paper on a topic in Montana history. This course fulfills the upper-division writing requirement for the history department and the university. Course Attributes: Writing Course-Advanced

- HSTA 471 - Writing Women's Lives

  Credits: 3. (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Consent of instructor required. Upper-division writing-intensive seminar in women's history. Students will write an original research paper based on primary source materials. Course Attributes: Writing Course-Advanced

- HSTA 491 - Special topics

  Credits: 1 TO 12. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.

- HSTA 494 - Seminar

  Credits: 1 TO 6. (R-6) Consent of instructor.

- HSTA 501 - Readings in Early Am Hist

  Credits: 3. Graduate readings course in U.S. history covering the period from pre-contact to 1877. Level: Graduate

- HSTA 502 - Readings in Modern Am Hist

  Credits: 3. Graduate readings course in U.S. history covering the period from 1877 to the present. Level: Graduate

- HSTA 550 - Early America

  Credits: 3. Intensive reading. Level: Graduate

- HSTA 551 - The Early American Republic
  Credits: 3. Intensive reading. Level: Graduate
- HSTA 553 - Modern America
  Credits: 3. Intensive reading. Level: Graduate
- HSTA 564 - US Environmental History
  Credits: 3. Intensive reading. Level: Graduate
- HSTA 566 - The American West
  Credits: 3. Intensive reading. Level: Graduate
- HSTA 567 - Research in History
  Credits: 3. Intensive reading. Level: Graduate
- HSTA 570 - U.S. Women's History
  Credits: 3. Intensive readings. Level: Graduate
- HSTA 594 - Seminar
  Credits: 1 TO 12. (R-12) Prereq., 27 credits in history. Directed research. Level: Graduate
- HSTA 595 - Special Topics
  Credits: 0 TO 9. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- HSTA 596 - Independent Study
  Credits: 0 TO 12. (R-12) Course material appropriate to the needs and objectives of the individual student. Level: Graduate
- HSTA 597 - Independent Study
  Credits: 1 TO 9. (R-9) Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate
- HSTA 598 - Internship
  Credits: 1 TO 8. (R-8) Prereq., consent of department and Internship Services office. Practical application of classroom learning in off-campus placements. Level: Graduate
- HSTA 599 - Professional Paper
  Credits: 1 TO 6. (R-6) Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate
- HSTA 699 - Thesis/Dissertation
  Credits: 1 TO 6. (R-6) Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

History: World

Back to Top

- HSTR 101H - Western Civilization I
  Credits: 4. (EU) Offered autumn. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-discussion. Credit not allowed for both 101H and 103H. Course Attributes: Hist & Cultural Studies (H) Democracy and Citizenship (Y)
- HSTR 102H - Western Civilization II
  Credits: 4. (EU) Offered spring. A comprehensive, introductory history of western civilization from 1648 to the present. Lecture-discussion. Credit not allowed for both HSTR 102H and 104H. Course Attributes: Hist & Cultural Studies (H) Democracy and Citizenship (Y)
- HSTR 103H - Honors Western Civilization I
  Credits: 4. (EU) Offered autumn. Limited enrollment by consent of instr. only. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-honors discussion. Credit not allowed for both 103H and 101H. Course Attributes: Honors Course Hist & Cultural Studies (H) Democracy and Citizenship (Y)

- HSTR 104H - Honors Western Civilization II

  Credits: 4. (EU) Offered spring. Limited enrollment by consent of instructor only. A comprehensive introductory history of western civilization from 1648 to the present. Lecture-honors discussion. Credit not allowed for both HSTR 102H and 104H. Course Attributes: Honors Course Hist & Cultural Studies (H) Democracy and Citizenship (Y)

- HSTR 146H - The Silk Road

  Credits: 3. (WRLD) Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road. Course Attributes: Historical & Cultural Course Cultural Intl Diversity (X)

- HSTR 191 - Special Topics

  Credits: 1 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- HSTR 198 - Cooperative Educ/Internship I,

  Credits: 1 TO 6. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- HSTR 200 - Intro: Historical Methods

  Credits: 1. Offered autumn and spring. Enrollment limited to history majors or by consent of the instructor. This course introduces students to the practice of history and prepares them for upper-division courses in the field. Students will learn to critically read secondary sources, research in primary sources, analyze documents, and write clear and convincing historical essays. This course is required for recently declared history majors and minors. Students should take it before taking upper-division history courses.

- HSTR 230H - Colonial Latin America

  Credits: 3. (WRLD) Offered autumn. Latin America from conquest by Spain and Portugal to wars for independence. Focus on social relations, imperial and local politics, hegemony, resistance, and change. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)

- HSTR 231H - Modern Latin America

  Credits: 3. (WRLD) Offered spring. Latin America from wars of independence to the present. Focus on social relations, development models, politics, and popular movements. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)

- HSTR 240 - East Asian Civilizations

  Credits: 3. (WRLD) An interdisciplinary, pluralist, and exploratory introduction to civilizations of East Asia. Primary focus on China, Japan, and Korea, the relations among them and their patterns of interaction with the outside world in pre-modern and modern periods.

- HSTR 241H - Central Asian Cult & Civ

  Credits: 3. (WRLD) Same as ANTY 241H. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)

- HSTR 262H - Islamic Civil: Classical Age

  Credits: 3. (WRLD) A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire. Course Attributes: Hist & Cultural Studies (H)

- HSTR 272E - Terrorism:Viol Mod Wrld

  Credits: 3. (WRLD) The rise and spread of terrorism in the modern world, from the French Revolution to the present. Course Attributes: Ethical & Human Values Course

- HSTR 291 - Special Topics

  Credits: 1 TO 12. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- HSTR 300 - Writing For History

Credits: 3. Students will learn the fundamentals of writing history through study of a topic that will change according to the expertise of the instructor of record. Through a multi-drafting writing process students will hone their research skills, learn how to craft interpretive theses, develop outlines, and gain experience in drafting and re-drafting their written work. Students will also learn how to compose strong prose, organize historical arguments, and manage the mechanics of proper citation. Course Attributes: Writing Course-Intermediate

- HSTR 301X - Ancient Greek Social History

  Credits: 3. (EU) Offered intermittently. Various aspects of personal, social, and political life of classical times in Greece. Primary readings in various ancient authors supplemented by some audio-visual or other informational presentations. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)

- HSTR 302H - Ancient Greece

  Credits: 3. (EU) Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians. Course Attributes: Hist & Cultural Studies (H)

- HSTR 304H - Ancient Rome

  Credits: 3. (EU) Offered intermittently. Roman history from the time of the Kings through the early Empire. Based on the writings of the Roman historians. Course Attributes: Historical & Cultural Course

- HSTR 312 - Age of Absolut 1648-1789

  Credits: 3. (EU) The political, economic, intellectual, and social development of Europe 1648-1789.

- HSTR 320 - Europ Social & Intellect Hist

  Credits: 3. (EU) The influence of the Renaissance, Baroque and Classical Ages, and the Enlightenment on early modern history.

- HSTR 323 - Europ Social & Intellect Hist

  Credits: 3. (EU) Romanticism, Realism, and the Avant-Garde against the historical background of the Industrial Revolution and urbanization.

- HSTR 325 - Europ Social & Intellect Hist

  Credits: 3. (EU) The triumph of the Avant-Garde and the decline of traditional culture: 1914-1945.

- HSTR 326 - Contemporary Europe

  Credits: 3. (EU) European politics, culture, and society since 1945.

- HSTR 334 - Latin Am: Reform & Revolution

  Credits: 3. (WRLD) Different ideologies and projects in Latin America aimed at gradual or radical transformation of political systems and/or socio-economic relations. From the Haitian Revolution to the Bolivarian vision of Hugo Chavez. Course Attributes: Writing Course-Intermediate

- HSTR 335 - Lat Am Workers & Labor

  Credits: 3. (WRLD) Study of the experiences and agency of diverse working people in Latin America. Influence of race, ethnicity, gender, religion, and generation on working class identity and movements. Labor organizations and politics in historic context.

- HSTR 345H - Modern China

  Credits: 3. (WRLD) Offered autumn. China since 180, emphasizing internal weaknesses of the Manchu dynasty, confrontation with the west, and the emergence of Nationalist and Communist regimes. Course Attributes: Historical & Cultural Course

- HSTR 348 - Britain 1485-1688

  Credits: 3. (EU) Social, political, religious, and intellectual history of the British peoples during the tumultuous period of reformation, exploration, constitutional crisis, and civil war.

- HSTR 349 - Britain from Rev - Reform 1688

  Credits: 3. (EU) The social, political, cultural, and intellectual consequences of British expansion, financial and industrial revolutions, and revolutionary movements.

- HSTR 350 - Modern Britain

  Credits: 3. (EU) Social, political, intellectual and cultural history of the United Kingdom from an age of industry, empire, and political reform to one of economic decline and international retreat.

- HSTR 352 - France Revol 1789-1848
  Credits: 3. (EU) Political, economic, and social upheaval and development.
- HSTR 353 - Modern France
  Credits: 3. (EU) Political, economic and social development.
- HSTR 354 - Italy: 1300-1800
  Credits: 3. (EU) The emergence of the Italian states with an emphasis on cultural achievements in the late Medieval, Renaissance, Baroque, and Neoclassical periods.
- HSTR 355 - Italy: 1800-Present
  Credits: 3. (EU) The emergence of a united Italy, the triumph of fascism and contemporary Italian society.
- HSTR 357 - Russia to 1881
  Credits: 3. (EU) Emphasis on the autocratic political tradition, Westernization, and territorial expansion.
- HSTR 358 - Russia Since 1881
  Credits: 3. (EU) Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system. Course Attributes:
  Writing Course-Intermediate
- HSTR 361 - Germ:Augsburg-Bismarck
  Credits: 3. (EU) Political, economic and social development of the states of the Holy Roman Empire from 1555-1866.
- HSTR 363 - Eastern Europe
  Credits: 3. (EU) Main currents in the history of Eastern Europe from earliest times to the present. Focus on the lands of Poland, Bohemia, Hungary, and the Balkan region.
- HSTR 364 - Environmental History
  Credits: 3. (AM) Prereq., lower-division course in Perspective 5 or consent of instr. A history of the human-nature interaction in the United States.
- HSTR 367 - 19th Cent Amer West
  Credits: 3. (AM) Euro-American movement and conflict in the nineteenth century trans-Mississippi west.
- HSTR 368 - Iran Between Two Revolutions
  Credits: 3. (WRLD) The several intellectual traditions and philosophies some ephemeral and visionary, most eclectic and confused, and virtually all conflicting that are usually believed to underlie the varying concept of Iranian and Arab nationalism in the 20th century.
- HSTR 369 - 20th Cent Amer West
  Credits: 3. (AM) The contemporary trans-Mississippi West.
- HSTR 374 - War, Peace, & Society
  Credits: 3. (WRLD) A thematic and interdisciplinary approach to warfare and peace, sociopolitical structures and military organization, power among states, technological change, the role of the individual in organized violence, and moral views of war and peace.
- HSTR 377 - European Internal Relat
  Credits: 3. (EU) The nature, evolution, and functions of the European diplomatic system from the Ancient World to 1870.
- HSTR 386 - Nationalism Modern Middle East
  Credits: 3. (WRLD) The socioeconomic, political, and cultural causes which resulted in the transformation of the Iranian society from a traditional Islamic entity to a modern secular state and the factors which led to the downfall of the secular state and the establishment of an Islamic republic.
- HSTR 391 - Special Topics
  Credits: 1 TO 12. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- HSTR 392 - Independent Study
  Credits: 1 TO 12. (R-12)
- HSTR 394 - Seminar
  Credits: 1 TO 6. (R-6) A review and discussion of current research. Topics vary.
- HSTR 396 - Independent Study
  Credits: 1 TO 12. (R-12) Course material appropriate to the needs and objectives of the individual student.
- HSTR 398 - Internship
  Credits: 1 TO 6. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums
- HSTR 400 - Historical Research Seminar
  Credits: 3. Prereq., HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Topics vary according to the instructor. The goal of this course is for students to propose and execute a substantial research project. Upper division writing course for the history major. Course Attributes: Writing Course-Advanced
- HSTR 401 - The Great Historians
  Credits: 3. (EU) The history and philosophy of history. Course Attributes: Writing Course-Intermediate
- HSTR 418 - Britain 1500 - 1800
  Credits: 3. (EU) Prereq., HSTR 200. Recommended HSTR 348 or 349. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Students will discuss specific issues in the historiography of the early modern period in British history (c1500-1800) and produce research papers grounded in primary sources. Course Attributes: Writing Course-Advanced
- HSTR 435 - Lat Am Human Rgts & Memory
  Credits: 3. (WRLD) The legacy of state violence and ongoing struggles for truth and justice in select Latin American case studies. Different uses of memory and narration in bearing witness to social and political conflict and human rights violations.
- HSTR 437 - US-Latin America Relations
  Credits: 3. (WRLD) Prereq., HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Research and writing seminar on U.S.-Latin American relations from the late 18th century through the 20th century. Course Attributes: Writing Course-Advanced
- HSTR 441 - Islam and the West
  Credits: 3. (WRLD) Advanced analysis of the historical and contemporary issues involving the human communities, cultures, and economies in Central and Southwest Asia.
- HSTR 442 - Cities/Landscps Central Asia
  Credits: 3. (WRLD) Same as ANTY 442. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.
- HSTR 448 - Tradition & Reform in China
  Credits: 3. (WRLD) Prereq., junior standing or consent of instructor. A history of key reform movements from the mid-19th century (when China was rocked by rebellion and the entry of the West) to the Maoist period.
- HSTR 459 - Artistic Trad Cent & SW Asia
  Credits: 3. (WRLD) Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.
- HSTR 491 - Special Topics
  Credits: 1 TO 12. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.

- HSTR 492 - Independent Study
  Credits: 1 TO 12. (R-12) Prereq., consent of instr.
- HSTR 494 - Seminar
  Credits: 1 TO 6. (R-6) Prereq., consent of instr. A review and discussion of current research. Topics vary.
- HSTR 495 - Special Topics
  Credits: 1 TO 12. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- HSTR 500 - Tchg Discussion Sections
  Credits: 1. (R-4) Supervised teaching and reading keyed to survey courses in American history and western civilization. Level: Graduate
- HSTR 516 - Modern Europe
  Credits: 3. Offered alternate years. Intensive reading in 19th and 20th century European history. Level: Graduate
- HSTR 540 - Europ Cultural & Intellect
  Credits: 3. Intensive reading. Level: Graduate
- HSTR 585 - Latin America
  Credits: 3. Intensive reading in Colonial and Modern Latin American history. Level: Graduate
- HSTR 594 - Seminar
  Credits: 1 TO 12. (R-12) Prereq., 27 credits in history. Directed research. Level: Graduate
- HSTR 595 - Special Topics
  Credits: 1 TO 9. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- HSTR 596 - Independent Study
  Credits: 1 TO 12. (R-12) Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course Attributes: Independent Study
- HSTR 597 - Research in History
  Credits: 1 TO 9. (R-9) Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate
- HSTR 598 - Internship
  Credits: 1 TO 8. (R-8) Prereq., consent of department and Internship Services office. Practical application of classroom learning in off-campus placements. Level: Graduate Course Attributes: Internships/Practicums
- HSTR 599 - Professional Paper
  Credits: 1 TO 6. (R-6) Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate
- HSTR 699 - Thesis/Dissertation
  Credits: 1 TO 9. (R-6) Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

History-Political Science

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

This major is intended solely for students who want to be licensed to teach history, government, and one additional social science at the middle and high school levels. Requirements for the combined history/political science major are as follows: **in history,** a minimum of 31 credits, including: HSTR 101 or 102, HSTA 101 and 102, HSTR 200, HSTA 255, one elective course in world history, three upper-division elective courses to include at least one American and one European course, and one HSTA/HSTR 400-level approved writing course; **in political science,** a minimum of 30 credits, including: PSCI 210, 220, 230, 250, three upper-division elective courses in American government or public law, and three upper-division elective courses in comparative or international relations; **in one additional social science,** a minimum of 9 elective credits in economics or geography or psychology or sociology; and EDU 497 (C&I 428). Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. Students are eligible for a teaching license in social studies broadfield. See the Department of Curriculum & Instruction for more information.

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Bachelor of Arts - History-Political Science; Track: Teaching Social Studies

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 73

Required Cumulative GPA: 2.0

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional
education licensure requirements. Students who complete the history/political science combined major are eligible for a teaching license in social studies broadfield. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching.

Lower Division Core Courses

Rule: Must complete the following subcategories

28 Total Credits Required

Core Courses

Rule: Must complete all of the following courses:

	Course	Credits
	HSTA 255 - Montana History (AM) Offered autumn. An introductory and interpretive history from Lewis and Clark to 2000.	3 Credits
	HSTR 200 - Intro: Historical Methods Offered autumn and spring. Enrollment limited to history majors or by consent of the instructor. This course introduces students to the practice of history and prepares them for upper-division courses in the field. Students will learn to critically read secondary sources, research in primary sources, analyze documents, and write clear and convincing historical essays. This course is required for recently declared history majors and minors. Students should take it before taking upper-division history courses.	1 Credits

	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
	PSCI 220S - Intro to Comparative Govt Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures.	3 Credits
	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
	PSCI 250E - Intro to Political Theory Offered spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to define the nature of the "good" society.	3 Credits
Minimum Required Grade: C-		16 Total Credits Required

American History Introductory Courses

Rule: Must complete 2 of the following courses

Note: Student must select either the regular or honors version of a course to apply to the requirement.

	Course	**Credits**
	HSTA 101H - American History I (AM) Offered autumn. A comprehensive introductory history of Colonial, Revolutionary and 19th century America, to 1877. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTA 102H - American History II (AM) Offered spring. A comprehensive introductory history of the U.S. since 1877. Lecture-discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTA 103H - Honors American History I (AM) Offered autumn. Enrollment by consent of instructor. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1877. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTA 104H - Honors American History II (AM) Offered spring. Enrollment by consent of instructor. A comprehensive introductory history of the U. S. since 1877. Lecture-honors discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits

Minimum Required Grade: C-	8 Total Credits Required

Western History Introductory Courses

Rule: Must complete 1 of the following courses

Note: Student must select either the regular or honors version of a course to apply to the requirement.

	Course	Credits
	HSTR 101H - Western Civilization I (EU) Offered autumn. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTR 102H - Western Civilization II (EU) Offered spring. A comprehensive, introductory history of western civilization from 1648 to the present. Lecture-discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits
	HSTR 103H - Honors Western Civilization I (EU) Offered autumn. Limited enrollment by consent of instr. only. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTR 104H - Honors Western Civilization II (EU) Offered spring. Limited enrollment by consent of instructor only. A comprehensive introductory history of western civilization from 1648 to the present. Lecture-honors discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Upper Division History Elective

Rule: Must complete at least 3 credits of upper division HSTA or HSTA electives

Minimum Required Grade: C-

3 Total Credits Required

American History Elective

Rule: Choose at least 3 credits from the following courses

Note: Students are expected to take 3 additional Upper Division History credits beyond those specified and may be selected from this category.

Note: HSTR 391, 392, 491, 492 and HSTA 391 and 491 may apply to this requirement depending on the course content.

	Course	Credits

	HSTA 311 - Early America (AM) Emphasis changes from year to year. Can touch upon the political economy of Puritanism, through gender and family to the preconditions for the American Revolution.	3 Credits
	HSTA 315 - Early American Republic (AM) Democracy, nationalism and sectionalism, the War of 1812, the second party system, social order and disorder, the capitalist revolution.	3 Credits
	HSTA 316 - American Civil War Era (AM) Civil War and Reconstruction; the triumph of the industrialist and capitalist ethic.	3 Credits
	HSTA 320 - Birth of Modern US (AM) The history of the U.S. from 1877 to 1920 is largely the story of Americans responding to profound social, cultural and economic change. In an effort to bring order to their changing world, Americans created new institutions, retooled their ideologies, and improved the nation's infrastructure. The order they created is, in modified form, still with us today. Students will explore the myriad changes that transformed the United States during this period and study the social, political, and cultural struggles that shaped the emergence of Modern America.	3 Credits
	HSTA 321 - America in Crisis (AM) This era in U.S. history was marked by a series of crises: the contested transition to modernity during the 1920s, the Great Depression, and World War II and its aftermath. This course will explore how Americans responded to these crises, why they responded to them the way they did, and how their responses altered the society in which they lived.	3 Credits
	HSTA 322 - American History: WWII to Pres (AM) The Cold War and its consequences, the civil rights revolution, affluence and anxiety, counter-culture, political radicalism, feminism, the Nixon years, Watergate and after.	3 Credits
	HSTA 323 - U.S. in the 1950s (AM) Examines the political, social, cultural, intellectual developments of America in the 1950s. Particular emphasis is placed on cultural history.	3 Credits
	HSTA 324 - U.S. in the 1960s (AM) Examines the political, social, cultural, intellectual developments of America in the 1960s. Topics include the Great Society, political radicalism, the counter culture, black radicalism, and Vietnam.	3 Credits
	HSTA 333 - Key Events in American Militar (R-6) (AM) The French and Indian Wars to Vietnam and beyond; chronological and topical accounts.	3 Credits
	HSTA 335 - Movie America (AM) This course examines major topics and themes in United States history from the early twentieth century to the present using movies as primary sources.	3 Credits

	HSTA 342H - Afr Amer Hist to 1865 (AM) Offered intermittently. Same as AAS 342H. Survey of the African American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism.	3 Credits
	HSTA 343H - Afr Amer Hist Since 1865 (AM) Same as AAS 343H. Study of the African American experience since the Civil War. Change and continuity in the African American experience, the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges.	3 Credits
	HSTA 347 - Voodoo, Muslim, Church (AM) The African American religious experience encompasses Islam, Christianity, Santeria, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course question, "How did religion shape the experience of the African-American community?" Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history. Same as AAS 347.	3 Credits
	HSTA 354X - Ind MT Since Reserv Era (AM) Offered autumn odd-numbered years. Same as ANTH 324X and NAS 324X. Examination of the history of Montana Indians since the establishment of the reservations, contemporary conditions, and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.	3 Credits
	HSTA 361 - The American South (AM) Social history of the American South with particular attention to race, class, and gender.	3 Credits
	HSTA 370H - Wmn Amer Colonial to Civil War Offered autumn. Interpretive overview of major themes and events in U.S. womens history to 1865. Same as WGS 370H.	3 Credits
	HSTA 371H - Wmn Amer Civil War to Present Offered spring. Interpretive overview of major themes and events in U.S. women's history from 1865 to the present. Same as WGS 371.	3 Credits
	HSTA 372 - The American Revolution (AM) Delving into the history of the early modern Atlantic world, this course examines the transnational ramifications of the American Revolution. Specifically, it examines the Revolution's economic and ideological origins, European involvement in the Revolutionary War, as well as the Revolution's impact on African American slavery and the slave trade. We will also consider its implications for Haitian and Latin American independence. And finally, we will discuss the creation of the U.S. Constitution, America's struggle for political sovereignty, and the Revolution's impact on Native Americans, women and families, and conceptions of American identity during the Early National period.	3 Credits

	HSTA 380 - AmericanConstitutional History (AM) An examination of major issues in the American constitutional past. Topics include the creation of the U.S. Constitution and the problem of ? original intent,? courts and judicial review, slavery and anti-slavery, the bill o frights, industrial capitalism and the welfare state, and majority rule and minority rights in American democracy.	3 Credits
	HSTA 382H - History of American Law (AM) Issues in the social history of law from the colonial period to the present.	3 Credits
	HSTA 385 - Families & Children in America (AM) Historical overview of families and children in the United States from the colonial era to the present. Topics include changing patterns of family life, the evolution of attitudes toward children and youth, the relationship between the American family and the nation-state, and debates over "family values" from the nation's founding to the present.	3 Credits
	HSTA 494 - Seminar (R-6) Consent of instructor.	1 To 6 Credits
	HSTR 364 - Environmental History (AM) Prereq., lower-division course in Perspective 5 or consent of instr. A history of the human-nature interaction in the United States.	3 Credits
	HSTR 367 - 19th Cent Amer West (AM) Euro-American movement and conflict in the nineteenth century trans-Mississippi west.	3 Credits
	HSTR 369 - 20th Cent Amer West (AM) The contemporary trans-Mississippi West.	3 Credits
	NASX 464 - Hist Amer Indian Affrs to 1776 Offered Autumn. Same as HIST 464. A study of American Indian relations with Europeans and the United States from first contact to 1776.	3 Credits
	NASX 465 - Hist Amer Indian Affrs 10 Cent Offered Spring. Same as HIST 465. A study of tribal encounters and adjustments to the American nations in the nineteenth century.	3 Credits
	NASX 466 - Hist of Indian Affrs from 1890 Offered Autumn. Same as HIST 466. A study of tribal encounters and adjustments to the American nation from 1890.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

World History Elective

Rule: Choose at least 3 credits from the following courses

Note: Students are expected to take 3 additional Upper Division History credits beyond those specified and may be selected from this category.

Note: HSTR 191, 291, 391, 392, 491, 492 may apply to this requirement depending on the course content.

	Course	**Credits**

	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	HSTR 230H - Colonial Latin America (WRLD) Offered autumn. Latin America from conquest by Spain and Portugal to wars for independence. Focus on social relations, imperial and local politics, hegemony, resistance, and change.	3 Credits
	HSTR 231H - Modern Latin America (WRLD) Offered spring. Latin America from wars of independence to the present. Focus on social relations, development models, politics, and popular movements.	3 Credits
	HSTR 240 - East Asian Civilizations (WRLD) An interdisciplinary, pluralist, and exploratory introduction to civilizations of East Asia. Primary focus on China, Japan, and Korea, the relations among them and their patterns of interaction with the outside world in pre-modern and modern periods.	3 Credits
	HSTR 241H - Central Asian Cult & Civ (WRLD) Same as ANTY 241H. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits
	HSTR 262H - Islamic Civil: Classical Age (WRLD) A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire.	3 Credits
	HSTR 264 - Islamic Civ: Modrn Era (WRLD) History of the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952.	3 Credits
	HSTR 272E - Terrorism:Viol Mod Wrld (WRLD) The rise and spread of terrorism in the modern world, from the French Revolution to the present.	3 Credits
	HSTR 334 - Latin America: Reform and Revo (WRLD) Different ideologies and projects in Latin America aimed at gradual or radical transformation of political systems and/or socio-economic relations. From the Haitian Revolution to the Bolivarian vision of Hugo Chavez.	3 Credits
	HSTR 335 - Lat Am Workers & Labor (WRLD) Study of the experiences and agency of diverse working people in Latin America. Influence of race, ethnicity, gender, religion, and generation on working class identity and movements. Labor organizations and politics in historic context.	3 Credits
	HSTR 345H - Modern China (WRLD) Offered autumn. China since 180, emphasizing internal weaknesses of the Manchu dynasty, confrontation with the west, and the emergence of Nationalist and Communist regimes.	3 Credits

	HSTR 435 - Lat Am Human Rgts & Memory (WRLD) The legacy of state violence and ongoing struggles for truth and justice in select Latin American case studies. Different uses of memory and narration in bearing witness to social and political conflict and human rights violations.	3 Credits
	HSTR 449 - Revolution & Reform in China (WRLD) Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
	HSTR 459 - Artistic Trad Cent & SW Asia (WRLD) Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

European History Elective

Rule: Choose at least 3 credits from the following courses

Note: Students are expected to take 3 additional Upper Division History credits beyond those specified and may be selected from this category.

Note: HSTR 391, 392, 491, 492 may apply to this requirement depending on the course content.

	Course	**Credits**
	HSTR 302 - Ancient Greece (EU) Offered intermittently. Same as MCLG 301H. Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians. Cannot receive credit for both HSTR 302 and MCLG 301H.	3 Credits
	HSTR 312 - Age of Absolut 1648-1789 (EU) The political, economic, intellectual, and social development of Europe 1648-1789.	3 Credits
	HSTR 320 - Europ Social & Intellect Hist (EU) The influence of the Renaissance, Baroque and Classical Ages, and the Enlightenment on early modern history.	3 Credits
	HSTR 323 - Europ Social & Intellect Hist: (EU) Romanticism, Realism, and the Avant-Garde against the historical background of the Industrial Revolution and urbanization.	3 Credits
	HSTR 348 - Britain 1485-1688 (EU) Social, political, religious, and intellectual history of the British peoples during the tumultuous period of reformation, exploration, constitutional crisis, and civil war.	3 Credits

	HSTR 349 - Britain from Rev - Reform 1688 (EU) The social, political, cultural, and intellectual consequences of British expansion, financial and industrial revolutions, and revolutionary movements.	3 Credits
	HSTR 352 - France Revol 1789-1848 (EU) Political, economic, and social upheaval and development.	3 Credits
	HSTR 353 - Modern France (EU) Political, economic and social development.	3 Credits
	HSTR 354 - Italy: 1300-1800 (EU) The emergence of the Italian states with an emphasis on cultural achievements in the late Medieval, Renaissance, Baroque, and Neoclassical periods.	3 Credits
	HSTR 355 - Italy: 1800-Present (EU) The emergence of a united Italy, the triumph of fascism and contemporary Italian society.	3 Credits
	HSTR 357 - Russia to 1881 (EU) Emphasis on the autocratic political tradition, Westernization, and territorial expansion.	3 Credits
	HSTR 358 - Russia Since 1881 (EU) Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system.	3 Credits
	HSTR 361 - Germ:Augsburg-Bismarck (EU) Political, economic and social development of the states of the Holy Roman Empire from 1555-1866.	3 Credits
	HSTR 363 - Eastern Europe (EU) Main currents in the history of Eastern Europe from earliest times to the present. Focus on the lands of Poland, Bohemia, Hungary, and the Balkan region.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

American Government/Public Law Electives

Rule: Must complete 9 credits in the following courses

	Course	Credits
	PSCI 340 - Exp Offering: American Govt (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 6 Credits
	PSCI 341 - Political Parties and Election Offered spring even-numbered years. Prereq., PSCI 210S and junior standing. Political party organization, nominations, campaigns and elections in the United States.	3 Credits
	PSCI 342 - Media, Public Opinion, Polling Offered intermittently. Prereq., PSCI 210S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.	3 Credits

	PSCI 344 - State and Local Government Offered intermittently. Prereq., PSCI 210S and junior standing. Analysis of American state and local government with emphasis on governmental organization, intergovernmental relations, local government powers, and self-government charters. Special attention to Montana.	3 Credits
	PSCI 346 - American Presidency Offered autumn. Prereq., PSCI 210S. The constitutional foundation and evolution of the executive branch, the structure of the office and executive functions and powers.	3 Credits
	PSCI 348 - US Multicultural Politics Offered intermittently. Examines the politics of diversity in the U.S., including national community, identity, citizenship, immigration, assimilation, and racial issues such as voting rights, affirmative action, segregation and integration, and public opinion.	3 Credits
	PSCI 352 - American Political Thought Offered spring. Prereq., PSCI 250E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
	PSCI 370 - Courts and Judicial Politics Offered spring. Prereq., PSCI 210S and junior standing. Introduction to American courts with emphasis on judicial policy making.	3 Credits
	PSCI 433 - International Law & Org Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.	3 Credits
	PSCI 440 - Exp Offering: American Govt (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government.	1 To 9 Credits
	PSCI 443 - Politics of Social Movements Offered spring. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.	3 Credits
	PSCI 444 - Am Political Participation Offered intermittently. Prereq., PSCI 210S. Examination of the individual and institutional factors affecting voter turnout, the influences on voter decision making, and non-electoral forms of participation in the United States.	3 Credits
	PSCI 445 - Political Psychology Offered intermittently. Applies psychological theories such as personality, emotion, cognition, and social influence to political attitudes and actions, including political opinion formation, conformity, prejudice, genocide, and political leadership.	3 Credits

	PSCI 461 - Administrative Law Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
	PSCI 468 - Public Policy Offered intermittently. Prereq., Junior standing. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.	3 Credits
	PSCI 471 - American Constitutional Law Offered autumn. Prereq., junior standing or consent of instr. Survey of U.S. Supreme Court's interpretation of the U.S. Constitution's provisions on separation of powers, federalism, civil rights, and civil liberties.	3 Credits
	PSCI 474 - Civil Rights Seminar Offered spring. Prereq., PSCI 471 or consent of instr. Intensive analysis, discussion, and writing about key U.S. Supreme Court constitutional cases on expression, religion, privacy, criminal justice, and discrimination.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Comparative/International Relations Electives

Rule: Must complete 9 credits in the following courses

	Course	Credits
	PSCI 320 - Exp Offering: Comp Politics (R- 6) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 6 Credits
	PSCI 321 - Post-Communist Politics Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of politics in post-communist states with an emphasis on Eastern Europe and Russia.	3 Credits
	PSCI 322 - Politics of Europe Offered autumn. Prereq., junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.	3 Credits
	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits

	PSCI 325 - Politics of Latin America Offered autumn. Prereq., junior standing. Latin American politics from both historical and contemporary perspectives.	3 Credits
	PSCI 326 - Politics of Africa Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.	3 Credits
	PSCI 327 - Politics of Mexico Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.	3 Credits
	PSCI 328 - Politics of China Prereq., junior standing or consent of instr. Institutions and political development in China.	3 Credits
	PSCI 329 - Politics of Japan Offered autumn. Prereq., junior standing or consent of instr. Institutions and political development in Japan.	3 Credits
	PSCI 330 - Exp Offering: Intrnt Relations (R-6) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 6 Credits
	PSCI 332 - Global Environmental Pol. Offered fall. Prereq. PSCI 230X and junior standing or consent of instructor. This course focuses on the unique set of collective action problems faced by global actors in the governance of the environment and the institutions they use to overcome those problems. Themes include the tragedy of the commons, climate change, and environmental security.	3 Credits
	PSCI 334 - International Security Offered Spring. Prereq. PSCI 230 and junior standing or consent of instr. Explores the meaning, sources, and future of human, national, and international security. Considers a range of historical and contemporary threats (interstate war, civil war, terrorism, crime, natural disaster, human accident, disease, and deprivation), assesses the vulnerability of individuals and states to each threat, and evaluates national and international strategies to reduce them.	3 Credits
	PSCI 335 - American Foreign Policy Prereq., PSCI 230X and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.	3 Credits
	PSCI 336 - European Union Offered spring. Prereq junior standing or consent of instructor. Historical and contemporary analysis of political and economic integration in Europe with a focus on the political system of the European Union.	3 Credits

	PSCI 337 - Model United Nations Offered autumn. Prereq., sophomore standing or consent of instr. History and structure of the UN. Contemporary global problems, and the UN's role in addressing them. Class has both active learning and service learning dimensions. Students plan, organize and run the annual Montana Model UN high school conference.	3 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
	PSCI 430 - Exp Offering: Intrnt Relations (R-9) Offered intermittently. Prereq., junior standing. Experimental or one-time offerings in the subfield of international relations.	1 To 9 Credits
	PSCI 431 - Politics of Global Migration Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.	3 Credits
	PSCI 433 - International Law & Org Offered fall. Prereq. PSCI 230 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.	3 Credits
	PSCI 463 - Development Administration Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus on alleviating poverty and underdevelopment. Includes project design and development planning activities.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Additional Electives

Rule: Must complete 9 credits in 1 of the following fields

9 Total Credits Required

Economics

Rule: May complete 9 credits

Note: ECNS 191, 391, 392, 491, and 492 may apply to this requirement depending on the course content.

	Course	**Credits**

	ECNS 101S - Economic Way of Thinking Offered autumn and spring. A critical examination of the market mechanism as a social decision-making device to guide the use of a nation's resources. The limitations of these processes in light of current economic problems such as the rise of the large corporation, monopoly, environmental degradation, economic discrimination and the increasing role of the government.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits
	ECNS 217X - Issues in Economic Development Offered intermittently. Prereq., ECNS 201S. Study of the processes of economic growth and development in the less developed world.	3 Credits
	ECNS 301 - Intermediate Micro with Calc Offered spring and autumn. Prereq., ECNS 201S and M 162 or equiv. Analysis of consumer behavior, production, factor pricing, externalities and public goods.	3 Credits
	ECNS 302 - Intermediate Macroeconomics Offered autumn and spring. Prereq., ECNS 202S. Analysis of national income determination, unemployment, and inflation with emphasis on the role of fiscal and monetary policy.	3 Credits
	ECNS 310 - Intro Health Economics Offered intermittently. Prereq., economics course. Survey of market forces that govern the production and consumption of medical care in the U.S. market; uncertainty, asymmetric information, and concentrations of market power resulting in inefficient outcomes. Topics include cost escalations, role of medical insurance, and problems of an aging population.	3 Credits
	ECNS 312 - Labor Economics Offered intermittently. Prereq., ECNS 201S. Economic analysis of labor markets. Theories of wage determination, discrimination and poverty with implications for manpower policy.	3 Credits
	ECNS 313 - Money and Banking Offered intermittently. Prereq., ECNS 202S. Definition and role of money; banks and other financial institutions as suppliers of money; the federal reserve system as a regulator of money; monetary theories, history, and policy.	3 Credits
	ECNS 315 - History of Economic Thought Offered intermittently. Prereq., ECNS 202S. A survey of economic ideas from antiquity through the present.	3 Credits

	ECNS 320 - Public Finance Offered intermittently. Prereq., ECNS 201S. Rationale for governmental expenditure; public goods; public choice. Analysis of expenditure policy. Intergovernmental relations.	3 Credits
	ECNS 403 - Introduction to Econometrics Offered autumn. Prereq., an introductory statistics course. Quantitative methods in economics with emphasis on regression analysis.	4 Credits
	ECNS 405 - Game Theory Offered every other autumn. Prereq., ECNS 201S. An introduction to the tools of game theory and how they are applied. In many real-world economic situations, outcomes are jointly determined where one agent's choices will affect another's welfare, and vice versa. Game theory provides a method of analyzing these economic situations where decisions are interrelated, and each agent recognizes this fact and thus makes decisions strategically.	3 Credits
	ECNS 406 - Industrial Organization Offered intermittently. Prereq., ECNS 201S. The theoretical basis for public policy solutions to market power. Emphasis on case studies in matters of antitrust, regulation of public utilities, and public ownership of business enterprises.	3 Credits
	ECNS 431 - International Trade Offered intermittently. Prereq., ECNS 201 or consent of instr. International trade: theory, policy, institutions, and issues. Analysis of comparative advantage and trade restrictions, negotiations, and agreements.	3 Credits
	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	ECNS 445 - Int Env Econ & Clim Change Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.	3 Credits
	ECNS 450 - Adv. Topics in Economic Dev. Offered intermittently. Prereq., ECNS 201S and ECNS 202S, or consent of instructor. Advanced treatment of the processes of economic growth and development in the less developed world.	3 Credits
	ECNS 488 - Res Meth & Thesis Design Offered autumn. Prereq., senior standing, economics major. Development of senior thesis proposal; presentation of research topics and methods by economics faculty and seminar participants.	2 Credits

Minimum Required Grade: C-	9 Total Credits Required

Geography

Rule: May complete 9 credits

Note: GPHY 391, 491, and 492 may apply to this requirement depending on the course content.

	Course	Credits
	GPHY 111N - Intro to Physical Geography Offered autumn and spring. Introduction to the earth's major natural environmental systems, their spatial distribution and interrelationships, including weather and climate, vegetation and ecosystems, soils, landforms, and earth-surface processes.	3 Credits
	GPHY 112N - Intro to Phys Geography Lab Offered autumn and spring. Prereq. or coreq., GPHY 111N. Introduction to concepts and techniques needed to understand and analyze the information contained in various types of maps, graphs, aerial photos, imagery, and other graphics and geographic data sets. This is prerequisite to GPHY 385.	1 Credits
	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
	GPHY 141S - Geography of World Regions Offered autumn and/or spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood.	3 Credits
	GPHY 144 - Montana's Mountains Consent of Instructor. A field-based course offered during winter session in the winter splendor of the North Fork of the Flathead River and Glacier National Park. Topics addressed include physical geography, geology, winter ecology, national park management, environmental history, and the changing economy of the region.	3 Credits
	GPHY 241 - Montana Offered autumn. The physical, cultural, economic, political, and historical geography of the state including Montana's mountains and the prairies.	3 Credits
	GPHY 243S - Africa Offered autumn even numbered years. A survey of the biophysical and cultural geography of Sub Saharan Africa. Emphasis is on the region's cultural historical development and current ecological, demographic, and economic patterns.	3 Credits

	GPHY 245X - The Middle East Offered intermittently. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change; prehistory; patterns of cultural and historical change; issues of socio-economic, religious, and political diversity; and the broader political significance of the region.	3 Credits
	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits
	GPHY 291 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	GPHY 314 - Global Mountain Environments Offered autumn odd-numbered years. The study of mountain environments and their physical processes around the globe: Andes, Appalachians, East African Mountains, European Alps, Hindu Kush-Himalaya-Karakoram, Pamir, Rocky Mountains, Southern Alps of New Zealand, Tien Shan, and others. Topics include mountain building, alpine glaciers, mountain geomorphology and climatology, mountain watersheds, mountain biogeography, and mountain hazards such as earthquakes and mass movements.	3 Credits
	GPHY 317 - Geomorphology Offered autumn even-numbered years. Prereq., GPHY 111N or GEO 101N. Important landforms and landscapes, their biophysical processes, and their formative elements.	3 Credits
	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	GPHY 336 - Exploration & Discovery Offered intermittently. Emphasis on the evidence of language, genetics, material culture, and transoceanic plant and animal exchanges in assessing mobility and population distributions in prehistory; factors that motivate exploration; the history of navigation; the impacts of exploration upon science, society, economics, and government.	3 Credits

	GPHY 338 - Mountains and Society Offered spring. Physical and cultural aspects of the mountains of North and South America, Europe, Africa, and Asia. Emphasis on combining the physical landscape with an overview of the indigenous people who inhabit the worlds' heights.	3 Credits
	GPHY 342 - North America Offered intermittently. Physiographic regions of North America; highlights of historical geography blended with physical and cultural aspects of the continent. Lesser known places are explored.	3 Credits
	GPHY 344 - Crown of the Continent Offered autumn. The study of the geographical setting of the Crown of the Continent of North America, including the richness of physical geography, history, culture, and models of conservation. Examines ongoing research initiatives, impacts of climate change, regional transformations, and the relationship between people and this mountainous environment.	3 Credits
	GPHY 347 - Regional Geography (Mult Reg) (R-9) Offered intermittently. Selected regions will be listed as appropriate in each Class Schedule.	3 Credits
	GPHY 348 - Field Studies in Geography (R-12) Offered autumn and spring. Through extended backcountry travel, experiential examination of regional landforms, climate, hydrology, soils, and patterns of vegetation and wildlife. Local landscapes, natural-resource endowment, and societies with particular emphasis on human-environmental interaction. Geographical skills and techniques, including map reading and navigational skills. Offered by the Wild Rockies Field Institute as part of a semester-long, 12-credit field experience with corequisite courses in allied fields.	3 Credits
	GPHY 378 - Preceptorship in Geography (R-6) Offered autumn and spring. Consent of instructor. Assisting a faculty member by tutoring, conducting review sessions, helping students with research projects, and carrying out other class-related responsibilities. Open to juniors and seniors who apply to instructor for consent.	1 To 3 Credits
	GPHY 385 - Field Techniques Offered autumn and intermittently in spring. Prereq., GPHY 112N or Consent of Instructor. Field techniques used by geographers and planners in making field observations and in collecting data.	3 Credits
	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits

	GPHY 423 - Migration & Population Change Offered intermittently. Focus on internal migration and population change in the U.S., in particular in the Mountain West. Review of migration theories and empirical research; development of practical skills for conducting empirical research related to migration and population change.	3 Credits
	GPHY 432 - Human Role Environ Change Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.	3 Credits
	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
	GPHY 434 - Food and Famine Offered intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.	3 Credits
	GPHY 438 - Mountain Field Study (R-6) Upper-division or graduate standing and consent of instructor. Examination of aspects of the study of mountain geography through a two-week field course based in a mountainous country and/or region. Possible areas of focus include, but are not limited to, the Northern Rocky Mountains, the Alps, the Himalaya, and the Andes.	3 Credits
	GPHY 442 - Regionalism & Rocky Mtn West Offered intermittently. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political, and cultural entity.	3 Credits
	GPHY 443 - Cultural & Global Competence Offered intermittently. Prereq., upper-division or graduate standing. Designed to increase awareness of student's own culture and increase cross-cultural sensitivity. Understanding the perspectives of other cultures and resolving possible conflicts. Examination of the role of perception, belief systems, social structures, and culture practices.	3 Credits
	GPHY 444 - High Asia Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.	3 Credits
	GPHY 445 - Regional Geography Offered intermittently. In-depth treatment of a geographic region, a particular regional problem, or the methodology of regional geography. Topics vary.	3 Credits

	GPHY 465 - Planning Princ & Processes Offered autumn even-numbered years. Prereq., upper-division or graduate standing. Surveys planning principles, practices and issues in urban and rural environments. Attention is devoted to Montana, state planning programs in the United States., and federal programs and policies that influence land-use planning. Emphasizes skills and techniques used in plan development and implementation.	3 Credits
	GPHY 466 - Environmental Planning Offered autumn odd-numbered years. Introduction to practice of environmental planning which includes elements of physical planning, planning design at the landscape scale, and conservation planning. Includes field visits and project-based work.	3 Credits
	GPHY 468 - Community & Regional Analysis Offered autumn. Coreq., GPHY 469. Socio-demographic analysis of communities and regions: population, employment, and spatial interaction. Hands-on course designed for future planners, GIS analysts, and others interested in socio-demographic change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	GPHY 469 - Planning & Analysis Laboratory Offered autumn. Coreq., GPHY 468. Laboratory to accompany GPHY 468.	1 Credits
	GPHY 481 - Advanced Cartographic Design Offered autumn. Prereq., GPHY 284 or FORS 250 or Consent of Instructor. The course concentrates on the presentation of spatial data and the construction of cartographic products that have clear communication and excellent aesthetic design. The class meets the University's service learning course objectives through a semester long project where students consult with a client, design and construct a map, and deliver a final product.	3 Credits
	GPHY 482 - Spatial Analysis & GIS Offered intermittently. Prereq., GPHY 284 or Consent of Instructor. Coreq., GPHY 489. Quantitative analysis of spatial data, including techniques for pattern analysis, classification, and interpolation within a GIS environment.	3 Credits
	GPHY 485 - Internet GIS Offered intermittently. Prereq., GPHY 284 or FORS 250 or Consent of Instructor. Principles and techniques for distributing GIS and mapping applications through the Internet. Students need to register for a required linked lab section.	3 Credits
	GPHY 486 - Transport, Planning & GIS Offered intermittently during wintersession (2 credits) or spring semester (3 credits.) Coreq., GPHY 489. A project-oriented course focusing on patterns and trends in urban passenger transportation, principles of transport planning, and modeling in GIS-T. To succeed in this course students should have comfort with basic algebra and statistics.	3 Credits

	GPHY 487 - Remote Sensing/Raster GIS Offered autumn. Prereq. or coreq., GPHY 284 or FORS 250 or Consent of Instructor. Coreq., GPHY 489. Basic principles of remote sensing and analyzing images within a raster GIS. Review current data sources.	3 Credits
	GPHY 488 - Thematic Cartography & GIS Offered spring. Prereq., GPHY 284 or GPHY 381 or FORS 250 or Consent of Instructor. Application of GIS for managing natural and cultural resources. Covers choropleth maps, dot maps, proportional figure maps, isarithmic maps, and others. Includes computer mapping and GIS exercises. Students need to register for a required linked lab section.	3 Credits
	GPHY 489 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Prereq., or coreq., GPHY 482, 486 or 487. Lab to accompany cartography and GIS courses.	1 Credits
	GPHY 497 - Workshop in Teaching Geography Offered intermittently. Concepts and techniques in geography, with emphasis on their use in teaching geography in Montana schools. Students are required to prepare and present a teaching unit project. Designed for pre-service or in-service teachers.	2 To 3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Psychology

Rule: May complete 9 credits

Note: PSYX 191, 192, 290, 291, 292, 390, 391, 392, and 491 may apply to this requirement depending on the course content.

	Course	**Credits**
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	PSYX 105 - Careers in Psychology Offered intermittently. Exploration of the various careers available in the general area of mental health research and practice.	1 Credits
	PSYX 120 - Research Methods I Offered every term. Prereq., PSYX 100S. Experimental and other quantitative methods employed in the scientific study of behavior.	3 Credits
	PSYX 161S - Fund of Organizational Psych Offered intermittently. Foundation in the psychological processes that influence behavior of people in organizational settings.	3 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits

	PSYX 230 - Developmental Psychology Offered autumn, spring, summer. Prereq., PSYX 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect. Appropriate for Social Work, Nursing, Addiction Studies, Education, and Psychology.	3 Credits
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits
	PSYX 238 - Adolescent Psychology Offered every term. PreReq., PSYX 100S or PSYX 230S. This course is designed to provide an introduction to the physical, social, emotional, and cognitive developmental changes that occur during adolescence, as well as their relationships and cultural influences. Appropriate for students in Addiction Studies, Psychology, Social Work, Education, and other disciplines where a study of the adolescent is desired.	3 Credits
	PSYX 240 - Fund of Abnormal Psychology Offered every term. Prereq., PSYX 100. This course provides a broad introduction to abnormal psychology, which includes defining abnormality, examining the history of abnormal psychology, identifying how abnormal psychology relates to other disciplines in psychology, exploring major research methods used in abnormal psychology, discussing various mental illnesses and their potential causes and possible treatments, and applying major abnormal psychological findings to practical problems.	3 Credits
	PSYX 250N - Fund of Biological Psychology Offered every term. Prereq., PSYX 100S. Introduction to the study of how psychological processes are supported by biological processes. Mechanisms across levels of analysis, from cells to individuals, are addressed.	3 Credits
	PSYX 270 - Fund Psychology of Learning Offered autumn. Prereq., PSYX 100S. Basic theory and research on the nature of animal learning and behavior.	3 Credits
	PSYX 280 - Fund of Memory and Cognition Offered intermittently. Prereq., PSYX 100S. The acquisition and uses of knowledge. An examination of research and theories of human learning, memory, and thinking.	3 Credits
	PSYX 320 - Research Methods III Offered every term. Prereq., PSYX 222. An appreciation of the experimental approach to the scientific study of behavior through student-conducted experiments.	3 Credits
	PSYX 339 - Curr Tpcs/Development Psyc Offered intermittently. Prereq., PSYC 240S or 245. Topical reviews of theories, research and applications in developmental psychology.	3 Credits
	PSYX 340 - Abnormal Psychology Offered every term. Prereq., PSYX 100S. Description and classification of abnormal behavior.	3 Credits

	PSYX 345 - Child & Adolescent Psych Dis Offered intermittently. Prereq., PSYX 100S and 230. Study of causes, characteristics, assessment and treatment of emotional, social and intellectual disorders. The age span studied will range from infancy through adolescence.	3 Credits
	PSYX 348 - Psychology of Family Violence Offered spring. Prereq., PSYX 100S. Same as WGS 385. Exploration of theoretical explanations for the presence of violence in American families; research and interventions in such areas as child physical and sexual abuse, battering of women, marital rape, spousal homicide, etc.	3 Credits
	PSYX 352 - Comparative Psychology Offered autumn. Prereq., PSYX 250N. Advanced evaluation and analysis of animal behavior through the synthesis of theory, research, and methods found in comparative psychology, behavioral biology, ethology, and sociobiology.	3 Credits
	PSYX 356 - Human Neuropsychology Offered spring. Prereq., PSYX 250N. Study of the organization of the nervous system, functional neuroanatomy, neuropathology, neurological disorders, behavioral neurology, and clinical neuropsychology.	3 Credits
	PSYX 360 - Social Psychology Offered every term. Individual behavior as a function of interpersonal interaction.	3 Credits
	PSYX 362 - Multicultural Psychology Offered autumn even-numbered years. Current theories and research on culture, race, and ethnicity, and how the sociocultural context influences psychological processes.	3 Credits
	PSYX 376 - Prin Cognit Behav Mod Offered intermittently. Prereq., PSYX 270S. Study of basic principles, assumptions, methodology and applications of behavior modification. Discussion of current literature relevant to behavioral assessment and treatment of major psychological disorders.	3 Credits
	PSYX 377 - Personalized Student Instr Offered every term. Prereq., consent of instr. Experience with the personalized student instruction method of teaching, gained through participating as a proctor in the introductory psychology course.	3 Credits
	PSYX 378 - Intro to Clinical Psyc Offered intermittently. Prereq., PSYX 340. Clinical psychology as a science and a profession. Theoretical models and techniques of assessment and intervention. Case illustrations.	3 Credits
	PSYX 385 - Psychology of Personality Offered intermittently Prereq., PSYX 100S. Introduction to theories and research in personality. Intensive survey of theoretical concepts and a detailed examination of experimental methods and experiments in the field of personality.	3 Credits

	PSYX 400 - History & System in Psychology Offered every term. Prereq., 15 credits in psychology. Origin and development of basic concepts and methods in scientific psychology.	3 Credits
	PSYX 435 - Clinic Topic Rural Bioethics Offered autumn. The class focuses on ethical issues that emerge and complicate decision making when providing health care and human services in rural settings.	3 Credits
	PSYX 436 - Ethical Foundation Qual Impov Offered intermittently. The class focuses on ethical issues that emerge and complicate decision making when developing and implementing quality assessment and improvement activities.	3 Credits
	PSYX 437 - Intro Emp Research Bioethics Offered spring. The class focuses on ethical issues that emerge when developing research protocols and conducting multi-method empirical research in rural settings.	3 Credits
	PSYX 438 - Bioethics Health Policy Offered summer. The class focuses on ethical issues that emerge and complicate decision making when developing, implementing, and assessing the efficacy of health and human service policies in rural and underserved settings.	3 Credits
	PSYX 442 - Counseling Theories in Context Offered autumn. Prereq., PSYX 100S. Same as COUN 485 and SW 485. This course introduces students to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies and diversity issues.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Sociology

Rule: May complete 9 credits

Note: SOCI 191, 291, 391, 491, and 492 may apply to this requirement depending on the course content.

	Course	Credits
	SOCI 101S - Introduction to Sociology Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.	3 Credits
	SOCI 130S - Soc of Alternative Religions Offered spring. Unconventional religious groups in American society. Topics include recruitment, conversion, commitment, defection, leadership, belief systems, organizational structure and change.	3 Credits

	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	SOCI 211S - Introduction to Criminology Offered autumn. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.	3 Credits
	SOCI 212S - Social Issues Southeast Asia Offered every other year. Introduction to the cultures, societies, and contemporary social problems of Southeast Asia.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 221 - Criminal Justice System Offered spring. A systematic survey of crime and the administration of justice in the United States, including the organizational structures, processes, and dynamics of law enforcement, criminal adjudication, and corrections.	3 Credits
	SOCI 270 - Intro Development Sociology Offered autumn. Introduction to sociological perspectives on international development, globalization, and sustainability. Rural and environmental issues emphasized.	3 Credits
	SOCI 275S - Gender and Society Offered spring. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S.; gender ideologies affect the social definition and position of gendered individuals in work, family, sexual relationships, gendered divisions of labor, and social movements.	3 Credits
	SOCI 306 - Sociology of Work Offered intermittently. An introduction to contemporary sociological debates on work including overwork, working poor, housework, globalization, mechanization, routinization, surveillance, and unions. Special focus on gender and class impacts on working life.	3 Credits
	SOCI 308 - Soc of Education Offered intermittently. Prereq., SOCI 101S. The structure and operation of the educational system in the United States, with special attention to the organization and effectiveness of schools.	3 Credits
	SOCI 312 - Criminal Adjudication Offered spring odd-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of adjudicatory processes applied to the criminally accused. Includes pretrial, trial, and sentencing practices and procedures. Special attention to the sociological dimensions of criminal adjudication: its cultural underpinnings, structural characteristics and interactional dynamics.	3 Credits

	SOCI 314 - Extraordinary Group Behavior Offered intermittently. Prereq., SOCI 101S. The study of emergent social behavior including rumors, crowds, crazes, riots, panics, terrorism, revolutions and social movements.	3 Credits
	SOCI 318 - Sociological Research Methods Offered every term. Prereq., SOCI 101S, Sociology majors only, or consent of instr. Methods of research in the social sciences including naturalistic observation, interviewing, measurement, experiments, surveys, content analysis, and basic data analysis. Required of all majors.	3 Credits
	SOCI 325 - Social Stratification Offered intermittently. Prereq., SOCI 101S or SOCI 220S or SOCI 275S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.	3 Credits
	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
	SOCI 335 - Juvenile Justice System Offered autumn. Prereq., SOCI 101S and 211S or 330. An analysis of the juvenile justice system in the United States, including the historical development of policies and practices. The role of various social agencies in defining, preventing, and responding to delinquency.	3 Credits
	SOCI 342 - Urban/Metropolital Soc Offered intermittently. Prereq., SOCI 101S. Classical social theories of urban growth. Contemporary urbanization in local, regional, national and global contexts. Internal urban/metropolitan social organization in terms of race, ethnicity, social class and gender.	3 Credits
	SOCI 345 - Sociology of Organizations Offered intermittently. Prereq., SOCI 101S. Historical and analytical study of organizations as social systems, with an emphasis on applying theoretical models to analyzing organizational behavior and change.	3 Credits
	SOCI 346 - Rural Sociology Offered intermittently. Prereq., SOCI 101S recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.	3 Credits

	SOCI 350 - The Community Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.	3 Credits
	SOCI 355 - Population and Society Offered spring. Prereq., SOCI 101S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment. Emphasizes gender issues in international context.	3 Credits
	SOCI 362 - Sociology of Law Enforcement Offered autumn even-numbered years. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of policing in society, with emphasis on the cultural context in which it occurs, its structural characteristics, and social psychological processes.	3 Credits
	SOCI 382 - Soc Psych and Social Structure Offered autumn. Prereq., SOCI 101S. The study of the behavior of individuals in social contexts ranging from small groups to societies. Topics include attitude change, conformity, power, status, self-concept formation, and decision-making.	3 Credits
	SOCI 386 - Preceptorship in Sociology Offered autumn and spring. Prereq., SOCI 101S and consent of instr. Assisting a faculty member by tutoring, conducting review sessions, helping students with research projects, and carrying out other class-related responsibilities. Open to juniors and seniors with instructor's consent. Proposals must be approved by department chair.	2 To 3 Credits
	SOCI 423 - Sociology of Corrections Offered spring. Prereq., SOCI 101S, 221 and either 211S or 330. An examination of the purposes, structures, and processes of jails, prisons, and community corrections, including probation and parole. Emphasis on historical development and current trends and issues in corrections.	3 Credits
	SOCI 435 - Law and Society Offered spring even-numbered years. Prereq., SOCI 101S. The study of the law and society, including the origin, institutionalization, and impact of law and legal systems.	3 Credits
	SOCI 438 - Seminar in Crime & Deviance Offered every term. Consent of instructor. Advanced studies in criminology theory, research, and practice. This course will meet the upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 441 - Capstone: Inequal and Soc Just Offered spring. SOCI 101S and two inequality and social justice courses and consent of instr. Research and writing on Inequity and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets advanced writing expectation.	3 Credits

	SOCI 442 - ISJ Service Learning Prereq, consent of instr. Supervised fieldwork and research in settings relevant to Inequality and Social Justice, building participatory research and critical thinking skills; relationships with people in groups marginalized by systems of inequality; citizenship awareness.	3 To 4 Credits
	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
	SOCI 444 - Issues in Inequality Offered intermittently. Consent of instr. Analysis of selected topics in inequality and social justice. Possible topics include Native Americans, disabilities, age, sexual orientation, and gender.	3 Credits
	SOCI 455 - Classical Sociological Theory Offered autumn and spring. Prereq., SOCI 101S, or consent of instr. Exploration of the classical foundations of sociological theories, emphasizing Marx, Durkheim, and Weber. Required of all sociology majors.	3 Credits
	SOCI 460 - Capstone: Rural and Env Change Offered spring. Prereq., SOCI 101S and consent of instr. Advanced study of issues in rural, environmental, and development sociology with an emphasis on theoretical perspectives and applications. Meets upper-division writing expectation for sociology majors only.	3 Credits
	SOCI 470 - Environmental Sociology Offered autumn. Introduction to environmental sociology and the social dimensions of environmental change. Case studies of major environmental problems as applications of environmental sociological perspectives.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
	SOCI 485 - Political Sociology Offered spring odd-numbered years. Prereq., junior or senior standing. Analysis of power; states; institutional interrelationships; production and transmisison of ideologies; political participation and membership; social movements.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Education Methods

Rule: Complete the following course.

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Social Studies.

	Course	**Credits**

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

History Advanced Writing Courses

Rule: Must choose one of the following courses:

	Course	Credits
	HSTA 415 - The Black Radical Tradition Offered intermittently. Same as HSTA 415. Prereq., HSTR 200 and only open to majors and minors in history or consent of instructor. From slave revolts through to the Move rebellion in Philadelphia, this course examines how the African-American community has engaged in radical efforts to change the status quo in the name of seeking justice.	3 Credits
	HSTA 417 - Prayer & Civil Rights (AM) Same as HSTA 417. HSTR 200 and only open to majors and minors in history or consent of instructor. This course explores the meaning of public prayer in the Civil Rights Movement. Built around the question, "Does religion help or hinder the pursuit of social change?" this class combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. By focusing on a particular religious practice - in this case prayer - in a specific, but limited period of time, this course challenges students to consider how meaning is formed through historical action and study the social significance of religious practice. This formed through historical action and study the social significance of religious practice. This course complicates prevailing ideas about the normalcy of African-American religious practitioners' prayer, invites students to examine their assumptions about the nature of prayer, and traces how religion spilled out of sanctuaries into the streets during the civil rights era.	3 Credits
	HSTA 422 - U.S. After WWII: Research Sem (AM) Prereq. HSTR 200. Enrollment for history majors and minors , graduate students in history, or by consent of the instructor. This course offers students an opportunity to do original research and produce an article-length research paper on a topic in post-war American history. It meets the department’s requirement of an upper-level research seminar as well as the upper-division writing expectation in the major.	3 Credits
	HSTA 461 - Research in Montana History (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. This course is a research and writing seminar in Montana history. Students will learn advanced research methodology in history and will be exposed to a variety of databases and source collections in Montana history that are available locally and online. Students will research and write a primary-source based paper on a topic in Montana history. This course fulfills the upper-division writing requirement for the history department and the university.	3 Credits
	HSTA 471 - Writing Women's Lives (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Consent of instructor required. Upper-division writing-intensive seminar in women’s history. Students will write an original research paper based on primary source materials.	3 Credits

	HSTR 400 - Historical Research Seminar Prereq., HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Topics vary according to the instructor. The goal of this course is for students to propose and execute a substantial research project. Upper division writing course for the history major.	3 Credits
	HSTR 418 - Britain 1500 - 1800 (EU) Prereq., HSTR 200. Recommended HSTR 348 or 349. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Students will discuss specific issues in the historiography of the early modern period in British history (c1500-1800) and produce research papers grounded in primary sources.	3 Credits
	HSTR 437 - US-Latin America Relations (WRLD) Prereq., HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Research and writing seminar on U.S.-Latin American relations from the late 18th century through the 20th century.	3 Credits
		3 Total Credits Required

Bachelor of Arts - History

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 40

Required Cumulative GPA: 2.0

Note: A minimum of 40 credits in History are required, 21 of which must be upper division credits. A maximum of 60 credits in History are allowed. Penalties will apply for more than 60 credits.

Lower Division Core Courses

Rule: Must complete the following subcategories

Minimum Required Grade: C-

9 Total Credits Required

Methods

Rule: Must complete the following course

	Course	**Credits**

	HSTR 200 - Intro: Historical Methods Offered autumn and spring. Enrollment limited to history majors or by consent of the instructor. This course introduces students to the practice of history and prepares them for upper-division courses in the field. Students will learn to critically read secondary sources, research in primary sources, analyze documents, and write clear and convincing historical essays. This course is required for recently declared history majors and minors. Students should take it before taking upper-division history courses.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Introductory History

Rule: Must complete 2 of the following courses

Note: AP Policy: Those students scoring a "5" on either the American History or European History AP exam are excused from requirement. These students earn credit toward graduation but do not earn credit toward the history degree.

	Course	**Credits**
	HSTA 101H - American History I (AM) Offered autumn. A comprehensive introductory history of Colonial, Revolutionary and 19th century America, to 1877. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTA 102H - American History II (AM) Offered spring. A comprehensive introductory history of the U.S. since 1877. Lecture-discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTA 103H - Honors American History I (AM) Offered autumn. Enrollment by consent of instructor. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1877. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTA 104H - Honors American History II (AM) Offered spring. Enrollment by consent of instructor. A comprehensive introductory history of the U. S. since 1877. Lecture-honors discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTR 101H - Western Civilization I (EU) Offered autumn. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTR 102H - Western Civilization II (EU) Offered spring. A comprehensive, introductory history of western civilization from 1648 to the present. Lecture-discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits

	HSTR 103H - Honors Western Civilization I (EU) Offered autumn. Limited enrollment by consent of instr. only. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTR 104H - Honors Western Civilization II (EU) Offered spring. Limited enrollment by consent of instructor only. A comprehensive introductory history of western civilization from 1648 to the present. Lecture-honors discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

American History Electives

Rule: Choose at least 9 credits from the following courses

	Course	Credits
	AAST 141H - Black: Africa to Hip-Hop Offered autumn. Same as HIST 141H. This course introduces students to the primary questions, themes, and approaches to African-American Studies. In addition to examining key historical periods such as Reconstruction, the Harlem Renaissance, and the Civil Rights era, students will encounter Hip-Hop, African-American film, African-American religion, and contemporary identity politics. This course concludes by discussing the reasons for and new directions in African-American studies, including diaspora studies, Pan-Africanism, and post-colonial studies. Overall students will gain new insight into the social, cultural, political, and intellectual, experiences of a diverse people and into the history and contemporary experience of the United States.	3 Credits
	AAST 208H - Discovering Africa Offered intermittently. Same as HIST 208H. Interdisciplinary study of the history of pre-colonial Africa, focusing on social, economic, political and cultural institutions and traditions including the wealth, diversity and complexity of ancient and classical African civilizations and cultures.	3 Credits
	HSTA 191 - Special Topics (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	HSTA 255 - Montana History (AM) Offered autumn. An introductory and interpretive history from Lewis and Clark to 2000.	3 Credits
	HSTA 262 - Abolitionism (AM) Same as AAS 262. Interdisciplinary, historical perspective on early 19th century movement to abolish slavery and racial discrimination in the United States.	3 Credits

	HSTA 291 - Special Topics (R-12) (AM) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTA 311 - Early America (AM) Emphasis changes from year to year. Can touch upon the political economy of Puritanism, through gender and family to the preconditions for the American Revolution.	3 Credits
	HSTA 315 - Early American Republic (AM) Democracy, nationalism and sectionalism, the War of 1812, the second party system, social order and disorder, the capitalist revolution.	3 Credits
	HSTA 316 - American Civil War Era (AM) Civil War and Reconstruction; the triumph of the industrialist and capitalist ethic.	3 Credits
	HSTA 320 - Birth of Modern US (AM) The history of the U.S. from 1877 to 1920 is largely the story of Americans responding to profound social, cultural and economic change. In an effort to bring order to their changing world, Americans created new institutions, retooled their ideologies, and improved the nation's infrastructure. The order they created is, in modified form, still with us today. Students will explore the myriad changes that transformed the United States during this period and study the social, political, and cultural struggles that shaped the emergence of Modern America.	3 Credits
	HSTA 321 - America in Crisis (AM) This era in U.S. history was marked by a series of crises: the contested transition to modernity during the 1920s, the Great Depression, and World War II and its aftermath. This course will explore how Americans responded to these crises, why they responded to them the way they did, and how their responses altered the society in which they lived.	3 Credits
	HSTA 322 - American History: WWII to Pres (AM) The Cold War and its consequences, the civil rights revolution, affluence and anxiety, counter-culture, political radicalism, feminism, the Nixon years, Watergate and after.	3 Credits
	HSTA 323 - U.S. in the 1950s (AM) Examines the political, social, cultural, intellectual developments of America in the 1950s. Particular emphasis is placed on cultural history.	3 Credits
	HSTA 324 - U.S. in the 1960s (AM) Examines the political, social, cultural, intellectual developments of America in the 1960s. Topics include the Great Society, political radicalism, the counter culture, black radicalism, and Vietnam.	3 Credits
	HSTA 333 - Key Events in American Militar (R-6) (AM) The French and Indian Wars to Vietnam and beyond; chronological and topical accounts.	3 Credits
	HSTA 335 - Movie America (AM) This course examines major topics and themes in United States history from the early twentieth century to the present using movies as primary sources.	3 Credits

	HSTA 342H - Afr Amer Hist to 1865 (AM) Offered intermittently. Same as AAS 342H. Survey of the African American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism.	3 Credits
	HSTA 343H - Afr Amer Hist Since 1865 (AM) Same as AAS 343H. Study of the African American experience since the Civil War. Change and continuity in the African American experience, the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges.	3 Credits
	HSTA 347 - Voodoo, Muslim, Church (AM) The African American religious experience encompasses Islam, Christianity, Santeria, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course question, "How did religion shape the experience of the African-American community?" Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history. Same as AAS 347.	3 Credits
	HSTA 354X - Ind MT Since Reserv Era (AM) Offered autumn odd-numbered years. Same as ANTH 324X and NAS 324X. Examination of the history of Montana Indians since the establishment of the reservations, contemporary conditions, and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.	3 Credits
	HSTA 361 - The American South (AM) Social history of the American South with particular attention to race, class, and gender.	3 Credits
	HSTA 370H - Wmn Amer Colonial to Civil War Offered autumn. Interpretive overview of major themes and events in U.S. womens history to 1865. Same as WGS 370H.	3 Credits
	HSTA 371H - Wmn Amer Civil War to Present Offered spring. Interpretive overview of major themes and events in U.S. women's history from 1865 to the present. Same as WGS 371.	3 Credits
	HSTA 372 - The American Revolution (AM) Delving into the history of the early modern Atlantic world, this course examines the transnational ramifications of the American Revolution. Specifically, it examines the Revolution's economic and ideological origins, European involvement in the Revolutionary War, as well as the Revolution's impact on African American slavery and the slave trade. We will also consider its implications for Haitian and Latin American independence. And finally, we will discuss the creation of the U.S. Constitution, America's struggle for political sovereignty, and the Revolution's impact on Native Americans, women and families, and conceptions of American identity during the Early National period.	3 Credits

	HSTA 380 - AmericanConstitutional History (AM) An examination of major issues in the American constitutional past. Topics include the creation of the U.S. Constitution and the problem of ? original intent,? courts and judicial review, slavery and anti-slavery, the bill o frights, industrial capitalism and the welfare state, and majority rule and minority rights in American democracy.	3 Credits
	HSTA 382H - History of American Law (AM) Issues in the social history of law from the colonial period to the present.	3 Credits
	HSTA 385 - Families & Children in America (AM) Historical overview of families and children in the United States from the colonial era to the present. Topics include changing patterns of family life, the evolution of attitudes toward children and youth, the relationship between the American family and the nation-state, and debates over "family values" from the nation's founding to the present.	3 Credits
	HSTA 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTA 415 - The Black Radical Tradition Offered intermittently. Same as HSTA 415. Prereq., HSTR 200 and only open to majors and minors in history or consent of instructor. From slave revolts through to the Move rebellion in Philadelphia, this course examines how the African-American community has engaged in radical efforts to change the status quo in the name of seeking justice.	3 Credits
	HSTA 417 - Prayer & Civil Rights (AM) Same as HSTA 417. HSTR 200 and only open to majors and minors in history or consent of instructor. This course explores the meaning of public prayer in the Civil Rights Movement. Built around the question, "Does religion help or hinder the pursuit of social change?" this class combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. By focusing on a particular religious practice - in this case prayer - in a specific, but limited period of time, this course challenges students to consider how meaning is formed through historical action and study the social significance of religious practice. This formed through historical action and study the social significance of religious practice. This course complicates prevailing ideas about the normalcy of African-American religious practitioners' prayer, invites students to examine their assumptions about the nature of prayer, and traces how religion spilled out of sanctuaries into the streets during the civil rights era.	3 Credits
	HSTA 422 - Research: U.S. After WWII (AM) Prereq. HSTR 200. Enrollment for history majors and minors , graduate students in history, or by consent of the instructor. This course offers students an opportunity to do original research and produce an article-length research paper on a topic in post-war American history. It meets the department’s requirement of an upper-level research seminar as well as the upper-division writing expectation in the major.	3 Credits

	HSTA 461 - Research in Montana History (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. This course is a research and writing seminar in Montana history. Students will learn advanced research methodology in history and will be exposed to a variety of databases and source collections in Montana history that are available locally and online. Students will research and write a primary-source based paper on a topic in Montana history. This course fulfills the upper-division writing requirement for the history department and the university.	3 Credits
	HSTA 471 - Writing Women's Lives (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Consent of instructor required. Upper-division writing-intensive seminar in women's history. Students will write an original research paper based on primary source materials.	3 Credits
	HSTA 491 - Special topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTA 494 - Seminar (R-6) Consent of instructor.	1 To 6 Credits
	HSTR 364 - Environmental History (AM) Prereq., lower-division course in Perspective 5 or consent of instr. A history of the human-nature interaction in the United States.	3 Credits
	HSTR 367 - 19th Cent Amer West (AM) Euro-American movement and conflict in the nineteenth century trans-Mississippi west.	3 Credits
	HSTR 369 - 20th Cent Amer West (AM) The contemporary trans-Mississippi West.	3 Credits
	NASX 464 - Hist Amer Indian Affrs to 1776 Offered Autumn. Same as HIST 464. A study of American Indian relations with Europeans and the United States from first contact to 1776.	3 Credits
	NASX 465 - Hist Amer Indian Affrs 10 Cent Offered Spring. Same as HIST 465. A study of tribal encounters and adjustments to the American nations in the nineteenth century.	3 Credits
	NASX 466 - Hist of Indian Affrs from 1890 Offered Autumn. Same as HIST 466. A study of tribal encounters and adjustments to the American nation from 1890.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

World History Electives

Rule: Choose at least 9 credits from the following courses

	Course	**Credits**

	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	HSTR 191 - Special Topics (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	HSTR 230H - Colonial Latin America (WRLD) Offered autumn. Latin America from conquest by Spain and Portugal to wars for independence. Focus on social relations, imperial and local politics, hegemony, resistance, and change.	3 Credits
	HSTR 231H - Modern Latin America (WRLD) Offered spring. Latin America from wars of independence to the present. Focus on social relations, development models, politics, and popular movements.	3 Credits
	HSTR 240 - East Asian Civilizations (WRLD) An interdisciplinary, pluralist, and exploratory introduction to civilizations of East Asia. Primary focus on China, Japan, and Korea, the relations among them and their patterns of interaction with the outside world in pre-modern and modern periods.	3 Credits
	HSTR 241H - Central Asian Cult & Civ (WRLD) Same as ANTY 241H. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits
	HSTR 262H - Islamic Civil: Classical Age (WRLD) A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire.	3 Credits
	HSTR 264 - Islamic Civ: Modrn Era (WRLD) History of the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952.	3 Credits
	HSTR 272E - Terrorism:Viol Mod Wrld (WRLD) The rise and spread of terrorism in the modern world, from the French Revolution to the present.	3 Credits
	HSTR 291 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 334 - Latin America: Reform and Revo (WRLD) Different ideologies and projects in Latin America aimed at gradual or radical transformation of political systems and/or socio-economic relations. From the Haitian Revolution to the Bolivarian vision of Hugo Chavez.	3 Credits

	HSTR 335 - Lat Am Workers & Labor (WRLD) Study of the experiences and agency of diverse working people in Latin America. Influence of race, ethnicity, gender, religion, and generation on working class identity and movements. Labor organizations and politics in historic context.	3 Credits
	HSTR 345H - Modern China (WRLD) Offered autumn. China since 180, emphasizing internal weaknesses of the Manchu dynasty, confrontation with the west, and the emergence of Nationalist and Communist regimes.	3 Credits
	HSTR 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 392 - Independent Study (R-12)	1 To 12 Credits
	HSTR 435 - Lat Am Human Rgts & Memory (WRLD) The legacy of state violence and ongoing struggles for truth and justice in select Latin American case studies. Different uses of memory and narration in bearing witness to social and political conflict and human rights violations.	3 Credits
	HSTR 449 - Revolution & Reform in China (WRLD) Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
	HSTR 491 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTR 492 - Independent Study (R-12) Prereq., consent of instr.	1 To 12 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

European History Electives

Rule: Choose at least 9 credits from the following courses

	Course	Credits
	HSTR 302 - Ancient Greece (EU) Offered intermittently. Same as MCLG 301H. Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians. Cannot receive credit for both HSTR 302 and MCLG 301H.	3 Credits

	HSTR 312 - Age of Absolut 1648-1789 (EU) The political, economic, intellectual, and social development of Europe 1648-1789.	3 Credits
	HSTR 320 - Europ Social & Intellect Hist (EU) The influence of the Renaissance, Baroque and Classical Ages, and the Enlightenment on early modern history.	3 Credits
	HSTR 323 - Europ Social & Intellect Hist: (EU) Romanticism, Realism, and the Avant-Garde against the historical background of the Industrial Revolution and urbanization.	3 Credits
	HSTR 348 - Britain 1485-1688 (EU) Social, political, religious, and intellectual history of the British peoples during the tumultuous period of reformation, exploration, constitutional crisis, and civil war.	3 Credits
	HSTR 349 - Britain from Rev - Reform 1688 (EU) The social, political, cultural, and intellectual consequences of British expansion, financial and industrial revolutions, and revolutionary movements.	3 Credits
	HSTR 352 - France Revol 1789-1848 (EU) Political, economic, and social upheaval and development.	3 Credits
	HSTR 353 - Modern France (EU) Political, economic and social development.	3 Credits
	HSTR 354 - Italy: 1300-1800 (EU) The emergence of the Italian states with an emphasis on cultural achievements in the late Medieval, Renaissance, Baroque, and Neoclassical periods.	3 Credits
	HSTR 355 - Italy: 1800-Present (EU) The emergence of a united Italy, the triumph of fascism and contemporary Italian society.	3 Credits
	HSTR 357 - Russia to 1881 (EU) Emphasis on the autocratic political tradition, Westernization, and territorial expansion.	3 Credits
	HSTR 358 - Russia Since 1881 (EU) Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system.	3 Credits
	HSTR 361 - Germ:Augsburg-Bismarck (EU) Political, economic and social development of the states of the Holy Roman Empire from 1555-1866.	3 Credits
	HSTR 363 - Eastern Europe (EU) Main currents in the history of Eastern Europe from earliest times to the present. Focus on the lands of Poland, Bohemia, Hungary, and the Balkan region.	3 Credits
	HSTR 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 392 - Independent Study (R-12)	1 To 12 Credits

	HSTR 418 - Britain 1500 - 1800 (EU) Prereq., HSTR 200. Recommended HSTR 348 or 349. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Students will discuss specific issues in the historiography of the early modern period in British history (c1500-1800) and produce research papers grounded in primary sources.	3 Credits
	HSTR 491 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTR 492 - Independent Study (R-12) Prereq., consent of instr.	1 To 12 Credits
Minimum Required Grade: C-		9 Total Credits Required

History Advanced Writing Courses

Rule: Must choose one of the following courses:

	Course	Credits
	HSTA 415 - The Black Radical Tradition Offered intermittently. Same as HSTA 415. Prereq., HSTR 200 and only open to majors and minors in history or consent of instructor. From slave revolts through to the Move rebellion in Philadelphia, this course examines how the African-American community has engaged in radical efforts to change the status quo in the name of seeking justice.	3 Credits
	HSTA 417 - Prayer & Civil Rights (AM) Same as HSTA 417. HSTR 200 and only open to majors and minors in history or consent of instructor. This course explores the meaning of public prayer in the Civil Rights Movement. Built around the question, "Does religion help or hinder the pursuit of social change?" this class combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. By focusing on a particular religious practice - in this case prayer - in a specific, but limited period of time, this course challenges students to consider how meaning is formed through historical action and study the social significance of religious practice. This formed through historical action and study the social significance of religious practice. This course complicates prevailing ideas about the normalcy of African-American religious practitioners' prayer, invites students to examine their assumptions about the nature of prayer, and traces how religion spilled out of sanctuaries into the streets during the civil rights era.	3 Credits
	HSTA 422 - U.S. After WWII: Research Sem (AM) Prereq. HSTR 200. Enrollment for history majors and minors , graduate students in history, or by consent of the instructor. This course offers students an opportunity to do original research and produce an article-length research paper on a topic in post-war American history. It meets the department’s requirement of an upper-level research seminar as well as the upper-division writing expectation in the major.	3 Credits

	HSTA 461 - Research in Montana History (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. This course is a research and writing seminar in Montana history. Students will learn advanced research methodology in history and will be exposed to a variety of databases and source collections in Montana history that are available locally and online. Students will research and write a primary-source based paper on a topic in Montana history. This course fulfills the upper-division writing requirement for the history department and the university.	3 Credits
	HSTA 471 - Writing Women's Lives (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Consent of instructor required. Upper-division writing-intensive seminar in women's history. Students will write an original research paper based on primary source materials.	3 Credits
	HSTR 400 - Historical Research Seminar Prereq., HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Topics vary according to the instructor. The goal of this course is for students to propose and execute a substantial research project. Upper division writing course for the history major.	3 Credits
	HSTR 418 - Britain 1500 - 1800 (EU) Prereq., HSTR 200. Recommended HSTR 348 or 349. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Students will discuss specific issues in the historiography of the early modern period in British history (c1500-1800) and produce research papers grounded in primary sources.	3 Credits
	HSTR 437 - US-Latin America Relations (WRLD) Prereq., HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Research and writing seminar on U.S.-Latin American relations from the late 18th century through the 20th century.	3 Credits
		3 Total Credits Required

History Minor

Minor - History (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 20

Required Cumulative GPA: 2.0

Note: A minimum of 20 credits in History are required of which 6 credits must be in American (AM) History, 6 must be in European (EU) History, and 6 in World (WRLD) History (Asian, Islamic, African, Latin American or international). History minors must complete at least 9 upper-division credits.

Introductory History Courses

Rule: Must complete 2 of the following courses

Note: These courses count toward the American, World, and European electives.
AP Policy: Those students scoring a "5" on either the American History or European History AP exam are excused from this requirement. These students earn credit toward graduation but do not earn credit toward the history degree.

	Course	Credits
	HSTA 101H - American History I (AM) Offered autumn. A comprehensive introductory history of Colonial, Revolutionary and 19th century America, to 1877. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTA 102H - American History II (AM) Offered spring. A comprehensive introductory history of the U.S. since 1877. Lecture-discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTA 103H - Honors American History I (AM) Offered autumn. Enrollment by consent of instructor. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1877. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTA 104H - Honors American History II (AM) Offered spring. Enrollment by consent of instructor. A comprehensive introductory history of the U. S. since 1877. Lecture-honors discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTR 101H - Western Civilization I (EU) Offered autumn. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTR 102H - Western Civilization II (EU) Offered spring. A comprehensive, introductory history of western civilization from 1648 to the present. Lecture-discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits
	HSTR 103H - Honors Western Civilization I (EU) Offered autumn. Limited enrollment by consent of instr. only. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTR 104H - Honors Western Civilization II (EU) Offered spring. Limited enrollment by consent of instructor only. A comprehensive introductory history of western civilization from 1648 to the present. Lecture-honors discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

American History Electives

Rule: Must choose 6 credits from the following

	Course	Credits

	AAST 141H - Black: Africa to Hip-Hop Offered autumn. Same as HIST 141H. This course introduces students to the primary questions, themes, and approaches to African-American Studies. In addition to examining key historical periods such as Reconstruction, the Harlem Renaissance, and the Civil Rights era, students will encounter Hip-Hop, African-American film, African-American religion, and contemporary identity politics. This course concludes by discussing the reasons for and new directions in African-American studies, including diaspora studies, Pan-Africanism, and post-colonial studies. Overall students will gain new insight into the social, cultural, political, and intellectual, experiences of a diverse people and into the history and contemporary experience of the United States.	3 Credits
	AAST 208H - Discovering Africa Offered intermittently. Same as HIST 208H. Interdisciplinary study of the history of pre-colonial Africa, focusing on social, economic, political and cultural institutions and traditions including the wealth, diversity and complexity of ancient and classical African civilizations and cultures.	3 Credits
	HSTA 101H - American History I (AM) Offered autumn. A comprehensive introductory history of Colonial, Revolutionary and 19th century America, to 1877. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTA 102H - American History II (AM) Offered spring. A comprehensive introductory history of the U.S. since 1877. Lecture-discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTA 103H - Honors American History I (AM) Offered autumn. Enrollment by consent of instructor. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1877. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTA 104H - Honors American History II (AM) Offered spring. Enrollment by consent of instructor. A comprehensive introductory history of the U. S. since 1877. Lecture-honors discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTA 191 - Special Topics (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	HSTA 255 - Montana History (AM) Offered autumn. An introductory and interpretive history from Lewis and Clark to 2000.	3 Credits
	HSTA 262 - Abolitionism (AM) Same as AAS 262. Interdisciplinary, historical perspective on early 19th century movement to abolish slavery and racial discrimination in the United States.	3 Credits
	HSTA 291 - Special Topics (R-12) (AM) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits

	HSTA 311 - Early America (AM) Emphasis changes from year to year. Can touch upon the political economy of Puritanism, through gender and family to the preconditions for the American Revolution.	3 Credits
	HSTA 315 - Early American Republic (AM) Democracy, nationalism and sectionalism, the War of 1812, the second party system, social order and disorder, the capitalist revolution.	3 Credits
	HSTA 316 - American Civil War Era (AM) Civil War and Reconstruction; the triumph of the industrialist and capitalist ethic.	3 Credits
	HSTA 320 - Birth of Modern US (AM) The history of the U.S. from 1877 to 1920 is largely the story of Americans responding to profound social, cultural and economic change. In an effort to bring order to their changing world, Americans created new institutions, retooled their ideologies, and improved the nation's infrastructure. The order they created is, in modified form, still with us today. Students will explore the myriad changes that transformed the United States during this period and study the social, political, and cultural struggles that shaped the emergence of Modern America.	3 Credits
	HSTA 321 - America in Crisis (AM) This era in U.S. history was marked by a series of crises: the contested transition to modernity during the 1920s, the Great Depression, and World War II and its aftermath. This course will explore how Americans responded to these crises, why they responded to them the way they did, and how their responses altered the society in which they lived.	3 Credits
	HSTA 322 - American History: WWII to Pres (AM) The Cold War and its consequences, the civil rights revolution, affluence and anxiety, counter-culture, political radicalism, feminism, the Nixon years, Watergate and after.	3 Credits
	HSTA 323 - U.S. in the 1950s (AM) Examines the political, social, cultural, intellectual developments of America in the 1950s. Particular emphasis is placed on cultural history.	3 Credits
	HSTA 324 - U.S. in the 1960s (AM) Examines the political, social, cultural, intellectual developments of America in the 1960s. Topics include the Great Society, political radicalism, the counter culture, black radicalism, and Vietnam.	3 Credits
	HSTA 333 - Key Events in American Militar (R-6) (AM) The French and Indian Wars to Vietnam and beyond; chronological and topical accounts.	3 Credits
	HSTA 335 - Movie America (AM) This course examines major topics and themes in United States history from the early twentieth century to the present using movies as primary sources.	3 Credits

	HSTA 342H - Afr Amer Hist to 1865 (AM) Offered intermittently. Same as AAS 342H. Survey of the African American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism.	3 Credits
	HSTA 343H - Afr Amer Hist Since 1865 (AM) Same as AAS 343H. Study of the African American experience since the Civil War. Change and continuity in the African American experience, the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges.	3 Credits
	HSTA 347 - Voodoo, Muslim, Church (AM) The African American religious experience encompasses Islam, Christianity, Santeria, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course question, "How did religion shape the experience of the African-American community?" Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history. Same as AAS 347.	3 Credits
	HSTA 354X - Ind MT Since Reserv Era (AM) Offered autumn odd-numbered years. Same as ANTH 324X and NAS 324X. Examination of the history of Montana Indians since the establishment of the reservations, contemporary conditions, and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.	3 Credits
	HSTA 358 - Images of the Amer West (AM) Offered even-numbered years. The roles that artists, artistic works and illustrations, and symbolic images have played in the history of the American West.	3 Credits
	HSTA 361 - The American South (AM) Social history of the American South with particular attention to race, class, and gender.	3 Credits
	HSTA 370H - Wmn Amer Colonial to Civil War Offered autumn. Interpretive overview of major themes and events in U.S. womens history to 1865. Same as WGS 370H.	3 Credits
	HSTA 371H - Wmn Amer Civil War to Present Offered spring. Interpretive overview of major themes and events in U.S. women's history from 1865 to the present. Same as WGS 371.	3 Credits

	HSTA 372 - The American Revolution (AM) Delving into the history of the early modern Atlantic world, this course examines the transnational ramifications of the American Revolution. Specifically, it examines the Revolution's economic and ideological origins, European involvement in the Revolutionary War, as well as the Revolution's impact on African American slavery and the slave trade. We will also consider its implications for Haitian and Latin American independence. And finally, we will discuss the creation of the U.S. Constitution, America's struggle for political sovereignty, and the Revolution's impact on Native Americans, women and families, and conceptions of American identity during the Early National period.	3 Credits
	HSTA 380 - AmericanConstitutional History (AM) An examination of major issues in the American constitutional past. Topics include the creation of the U.S. Constitution and the problem of ? original intent,? courts and judicial review, slavery and anti-slavery, the bill o frights, industrial capitalism and the welfare state, and majority rule and minority rights in American democracy.	3 Credits
	HSTA 382H - History of American Law (AM) Issues in the social history of law from the colonial period to the present.	3 Credits
	HSTA 385 - Families & Children in America (AM) Historical overview of families and children in the United States from the colonial era to the present. Topics include changing patterns of family life, the evolution of attitudes toward children and youth, the relationship between the American family and the nation-state, and debates over "family values" from the nation's founding to the present.	3 Credits
	HSTA 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTA 491 - Special topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTA 494 - Seminar (R-6) Consent of instructor.	1 To 6 Credits
	HSTR 364 - Environmental History (AM) Prereq., lower-division course in Perspective 5 or consent of instr. A history of the human-nature interaction in the United States.	3 Credits
	HSTR 367 - 19th Cent Amer West (AM) Euro-American movement and conflict in the nineteenth century trans-Mississippi west.	3 Credits
	HSTR 369 - 20th Cent Amer West (AM) The contemporary trans-Mississippi West.	3 Credits
	NASX 464 - Hist Amer Indian Affrs to 1776 Offered Autumn. Same as HIST 464. A study of American Indian relations with Europeans and the United States from first contact to 1776.	3 Credits

	NASX 465 - Hist Amer Indian Affrs 10 Cent Offered Spring. Same as HIST 465. A study of tribal encounters and adjustments to the American nations in the nineteenth century.	3 Credits
	NASX 466 - Hist of Indian Affrs from 1890 Offered Autumn. Same as HIST 466. A study of tribal encounters and adjustments to the American nation from 1890.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

World History Electives

Rule: Must choose 6 credits from the following

	Course	Credits
	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	HSTR 191 - Special Topics (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	HSTR 230H - Colonial Latin America (WRLD) Offered autumn. Latin America from conquest by Spain and Portugal to wars for independence. Focus on social relations, imperial and local politics, hegemony, resistance, and change.	3 Credits
	HSTR 231H - Modern Latin America (WRLD) Offered spring. Latin America from wars of independence to the present. Focus on social relations, development models, politics, and popular movements.	3 Credits
	HSTR 240 - East Asian Civilizations (WRLD) An interdisciplinary, pluralist, and exploratory introduction to civilizations of East Asia. Primary focus on China, Japan, and Korea, the relations among them and their patterns of interaction with the outside world in pre-modern and modern periods.	3 Credits
	HSTR 241H - Central Asian Cult & Civ (WRLD) Same as ANTY 241H. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits
	HSTR 262H - Islamic Civil: Classical Age (WRLD) A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire.	3 Credits
	HSTR 264 - Islamic Civ: Modrn Era (WRLD) History of the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952.	3 Credits

	HSTR 272E - Terrorism:Viol Mod Wrld (WRLD) The rise and spread of terrorism in the modern world, from the French Revolution to the present.	3 Credits
	HSTR 291 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 334 - Latin America: Reform and Revo (WRLD) Different ideologies and projects in Latin America aimed at gradual or radical transformation of political systems and/or socio-economic relations. From the Haitian Revolution to the Bolivarian vision of Hugo Chavez.	3 Credits
	HSTR 335 - Lat Am Workers & Labor (WRLD) Study of the experiences and agency of diverse working people in Latin America. Influence of race, ethnicity, gender, religion, and generation on working class identity and movements. Labor organizations and politics in historic context.	3 Credits
	HSTR 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 392 - Independent Study (R-12)	1 To 12 Credits
	HSTR 435 - Lat Am Human Rgts & Memory (WRLD) The legacy of state violence and ongoing struggles for truth and justice in select Latin American case studies. Different uses of memory and narration in bearing witness to social and political conflict and human rights violations.	3 Credits
	HSTR 459 - Artistic Trad Cent & SW Asia (WRLD) Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits
	HSTR 491 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTR 492 - Independent Study (R-12) Prereq., consent of instr.	1 To 12 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

European History Electives

Rule: Must choose 6 credits from the following

	Course	**Credits**

	HSTR 101H - Western Civilization I (EU) Offered autumn. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTR 102H - Western Civilization II (EU) Offered spring. A comprehensive, introductory history of western civilization from 1648 to the present. Lecture-discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits
	HSTR 103H - Honors Western Civilization I (EU) Offered autumn. Limited enrollment by consent of instr. only. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTR 104H - Honors Western Civilization II (EU) Offered spring. Limited enrollment by consent of instructor only. A comprehensive introductory history of western civilization from 1648 to the present. Lecture-honors discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits
	HSTR 301X - Ancient Greek Social History (EU) Offered intermittently. Various aspects of personal, social, and political life of classical times in Greece. Primary readings in various ancient authors supplemented by some audio-visual or other informational presentations.	3 Credits
	HSTR 302 - Ancient Greece (EU) Offered intermittently. Same as MCLG 301H. Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians. Cannot receive credit for both HSTR 302 and MCLG 301H.	3 Credits
	HSTR 312 - Age of Absolut 1648-1789 (EU) The political, economic, intellectual, and social development of Europe 1648-1789.	3 Credits
	HSTR 320 - Europ Social & Intellect Hist (EU) The influence of the Renaissance, Baroque and Classical Ages, and the Enlightenment on early modern history.	3 Credits
	HSTR 323 - Europ Social & Intellect Hist: (EU) Romanticism, Realism, and the Avant-Garde against the historical background of the Industrial Revolution and urbanization.	3 Credits
	HSTR 348 - Britain 1485-1688 (EU) Social, political, religious, and intellectual history of the British peoples during the tumultuous period of reformation, exploration, constitutional crisis, and civil war.	3 Credits
	HSTR 349 - Britain from Rev - Reform 1688 (EU) The social, political, cultural, and intellectual consequences of British expansion, financial and industrial revolutions, and revolutionary movements.	3 Credits
	HSTR 352 - France Revol 1789-1848 (EU) Political, economic, and social upheaval and development.	3 Credits

	HSTR 353 - Modern France (EU) Political, economic and social development.	3 Credits
	HSTR 354 - Italy: 1300-1800 (EU) The emergence of the Italian states with an emphasis on cultural achievements in the late Medieval, Renaissance, Baroque, and Neoclassical periods.	3 Credits
	HSTR 355 - Italy: 1800-Present (EU) The emergence of a united Italy, the triumph of fascism and contemporary Italian society.	3 Credits
	HSTR 357 - Russia to 1881 (EU) Emphasis on the autocratic political tradition, Westernization, and territorial expansion.	3 Credits
	HSTR 358 - Russia Since 1881 (EU) Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system.	3 Credits
	HSTR 361 - Germ:Augsburg-Bismarck (EU) Political, economic and social development of the states of the Holy Roman Empire from 1555-1866.	3 Credits
	HSTR 363 - Eastern Europe (EU) Main currents in the history of Eastern Europe from earliest times to the present. Focus on the lands of Poland, Bohemia, Hungary, and the Balkan region.	3 Credits
	HSTR 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 392 - Independent Study (R-12)	1 To 12 Credits
	HSTR 491 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTR 492 - Independent Study (R-12) Prereq., consent of instr.	1 To 12 Credits
Minimum Required Grade: C-		6 Total Credits Required

History Education

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Students may earn a teaching major in history by completing the requirements for the BA in history, to include the following: HSTA 101 or 102; HSTR 101 or 102; HSTR 200; HSTA 255; 9 credits in world history; 6 upper-division credits in American history; 6 upper-division credits in European history; 6 additional credits upper-

division history electives; one HSTA/HSTR 400-level approved writing course; and EDU 497 (C&I 428). All requirements for the history major apply. Students with a teaching major in history must also complete a teaching major or minor in a second field. For the history teaching major, students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. Students may also earn a teaching minor in history. See the Department of Curriculum & Instruction for more information.

Bachelor of Arts - History; History Education Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 45

Required Cumulative GPA: 2.0

Note: A maximum of 60 credits in History are allowed. Penalties will apply for more than 60 credits. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching. Students who choose to complete a teaching major in history must also complete a teaching major or minor in a second field.

Lower Division Core Courses

Rule: Must complete the following subcategories

Minimum Required Grade: C-

12 Total Credits Required

American History Introductory Course

Rule: Must complete 1 of the following courses

Note: AP Policy: Those students scoring a "5" on the American History AP exam can be excused from the survey course requirement. Another American history course must then be taken in place of the survey course. Please consult with the Humanities Advisor with questions.

	Course	Credits
	HSTA 101H - American History I (AM) Offered autumn. A comprehensive introductory history of Colonial, Revolutionary and 19th century America, to 1877. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTA 102H - American History II (AM) Offered spring. A comprehensive introductory history of the U.S. since 1877. Lecture-discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTA 103H - Honors American History I (AM) Offered autumn. Enrollment by consent of instructor. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1877. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTA 104H - Honors American History II (AM) Offered spring. Enrollment by consent of instructor. A comprehensive introductory history of the U. S. since 1877. Lecture-honors discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits

Minimum Required Grade: C-	4 Total Credits Required

European History Introductory Course

Rule: Must complete 1 of the following courses

Note: AP Policy: Those students scoring a "5" on the European History AP exam can be excused from the survey course requirement. Another European history course must then be taken in place of the survey course. Please consult with the Humanities Advisor with questions.

	Course	Credits
	HSTA 103H - Honors American History I (AM) Offered autumn. Enrollment by consent of instructor. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1877. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTA 104H - Honors American History II (AM) Offered spring. Enrollment by consent of instructor. A comprehensive introductory history of the U. S. since 1877. Lecture-honors discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTR 101H - Western Civilization I (EU) Offered autumn. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTR 102H - Western Civilization II (EU) Offered spring. A comprehensive, introductory history of western civilization from 1648 to the present. Lecture-discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Montana History

Rule: Complete the following course.

	Course	Credits
	HSTA 255 - Montana History (AM) Offered autumn. An introductory and interpretive history from Lewis and Clark to 2000.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Historical Methods Course

Rule: Complete the following course.

	Course	Credits
	HSTR 200 - Intro: Historical Methods Offered autumn and spring. Enrollment limited to history majors or by consent of the instructor. This course introduces students to the practice of history and prepares them for upper-division courses in the field. Students will learn to critically read secondary sources, research in primary sources, analyze documents, and write clear and convincing historical essays. This course is required for recently declared history majors and minors. Students should take it before taking upper-division history courses.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

American History Upper Division Electives

Rule: Choose at least 6 credits from the following courses

Note: null

	Course	Credits
	HSTA 311 - Early America (AM) Emphasis changes from year to year. Can touch upon the political economy of Puritanism, through gender and family to the preconditions for the American Revolution.	3 Credits
	HSTA 315 - Early American Republic (AM) Democracy, nationalism and sectionalism, the War of 1812, the second party system, social order and disorder, the capitalist revolution.	3 Credits
	HSTA 316 - American Civil War Era (AM) Civil War and Reconstruction; the triumph of the industrialist and capitalist ethic.	3 Credits
	HSTA 320 - Birth of Modern US (AM) The history of the U.S. from 1877 to 1920 is largely the story of Americans responding to profound social, cultural and economic change. In an effort to bring order to their changing world, Americans created new institutions, retooled their ideologies, and improved the nation's infrastructure. The order they created is, in modified form, still with us today. Students will explore the myriad changes that transformed the United States during this period and study the social, political, and cultural struggles that shaped the emergence of Modern America.	3 Credits
	HSTA 321 - America in Crisis (AM) This era in U.S. history was marked by a series of crises: the contested transition to modernity during the 1920s, the Great Depression, and World War II and its aftermath. This course will explore how Americans responded to these crises, why they responded to them the way they did, and how their responses altered the society in which they lived.	3 Credits
	HSTA 322 - American History: WWII to Pres (AM) The Cold War and its consequences, the civil rights revolution, affluence and anxiety, counter-culture, political radicalism, feminism, the Nixon years, Watergate and after.	3 Credits

	HSTA 323 - U.S. in the 1950s (AM) Examines the political, social, cultural, intellectual developments of America in the 1950s. Particular emphasis is placed on cultural history.	3 Credits
	HSTA 324 - U.S. in the 1960s (AM) Examines the political, social, cultural, intellectual developments of America in the 1960s. Topics include the Great Society, political radicalism, the counter culture, black radicalism, and Vietnam.	3 Credits
	HSTA 333 - Key Events in American Militar (R-6) (AM) The French and Indian Wars to Vietnam and beyond; chronological and topical accounts.	3 Credits
	HSTA 335 - Movie America (AM) This course examines major topics and themes in United States history from the early twentieth century to the present using movies as primary sources.	3 Credits
	HSTA 342H - Afr Amer Hist to 1865 (AM) Offered intermittently. Same as AAS 342H. Survey of the African American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism.	3 Credits
	HSTA 343H - Afr Amer Hist Since 1865 (AM) Same as AAS 343H. Study of the African American experience since the Civil War. Change and continuity in the African American experience, the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges.	3 Credits
	HSTA 347 - Voodoo, Muslim, Church (AM) The African American religious experience encompasses Islam, Christianity, Santeria, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course question, "How did religion shape the experience of the African-American community?" Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history. Same as AAS 347.	3 Credits
	HSTA 354X - Ind MT Since Reserv Era (AM) Offered autumn odd-numbered years. Same as ANTH 324X and NAS 324X. Examination of the history of Montana Indians since the establishment of the reservations, contemporary conditions, and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.	3 Credits
	HSTA 361 - The American South (AM) Social history of the American South with particular attention to race, class, and gender.	3 Credits
	HSTA 370H - Wmn Amer Colonial to Civil War Offered autumn. Interpretive overview of major themes and events in U.S. womens history to 1865. Same as WGS 370H.	3 Credits

	HSTA 371H - Wmn Amer Civil War to Present Offered spring. Interpretive overview of major themes and events in U.S. women's history from 1865 to the present. Same as WGS 371.	3 Credits
	HSTA 372 - The American Revolution (AM) Delving into the history of the early modern Atlantic world, this course examines the transnational ramifications of the American Revolution. Specifically, it examines the Revolution's economic and ideological origins, European involvement in the Revolutionary War, as well as the Revolution's impact on African American slavery and the slave trade. We will also consider its implications for Haitian and Latin American independence. And finally, we will discuss the creation of the U.S. Constitution, America's struggle for political sovereignty, and the Revolution's impact on Native Americans, women and families, and conceptions of American identity during the Early National period.	3 Credits
	HSTA 380 - AmericanConstitutional History (AM) An examination of major issues in the American constitutional past. Topics include the creation of the U.S. Constitution and the problem of ? original intent,? courts and judicial review, slavery and anti-slavery, the bill o frights, industrial capitalism and the welfare state, and majority rule and minority rights in American democracy.	3 Credits
	HSTA 382H - History of American Law (AM) Issues in the social history of law from the colonial period to the present.	3 Credits
	HSTA 385 - Families & Children in America (AM) Historical overview of families and children in the United States from the colonial era to the present. Topics include changing patterns of family life, the evolution of attitudes toward children and youth, the relationship between the American family and the nation-state, and debates over "family values" from the nation's founding to the present.	3 Credits
	HSTA 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTA 491 - Special topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTA 494 - Seminar (R-6) Consent of instructor.	1 To 6 Credits
	HSTR 364 - Environmental History (AM) Prereq., lower-division course in Perspective 5 or consent of instr. A history of the human-nature interaction in the United States.	3 Credits
	HSTR 367 - 19th Cent Amer West (AM) Euro-American movement and conflict in the nineteenth century trans-Mississippi west.	3 Credits
	HSTR 369 - 20th Cent Amer West (AM) The contemporary trans-Mississippi West.	3 Credits

	NASX 464 - Hist Amer Indian Affrs to 1776 Offered Autumn. Same as HIST 464. A study of American Indian relations with Europeans and the United States from first contact to 1776.	3 Credits
	NASX 465 - Hist Amer Indian Affrs 10 Cent Offered Spring. Same as HIST 465. A study of tribal encounters and adjustments to the American nations in the nineteenth century.	3 Credits
	NASX 466 - Hist of Indian Affrs from 1890 Offered Autumn. Same as HIST 466. A study of tribal encounters and adjustments to the American nation from 1890.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

World History Electives

Rule: Choose at least 9 credits from the following courses

	Course	Credits
	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	HSTR 191 - Special Topics (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	HSTR 230H - Colonial Latin America (WRLD) Offered autumn. Latin America from conquest by Spain and Portugal to wars for independence. Focus on social relations, imperial and local politics, hegemony, resistance, and change.	3 Credits
	HSTR 231H - Modern Latin America (WRLD) Offered spring. Latin America from wars of independence to the present. Focus on social relations, development models, politics, and popular movements.	3 Credits
	HSTR 240 - East Asian Civilizations (WRLD) An interdisciplinary, pluralist, and exploratory introduction to civilizations of East Asia. Primary focus on China, Japan, and Korea, the relations among them and their patterns of interaction with the outside world in pre-modern and modern periods.	3 Credits
	HSTR 241H - Central Asian Cult & Civ (WRLD) Same as ANTY 241H. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits
	HSTR 262H - Islamic Civil: Classical Age (WRLD) A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire.	3 Credits

	HSTR 264 - Islamic Civ: Modrn Era (WRLD) History of the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952.	3 Credits
	HSTR 272E - Terrorism:Viol Mod Wrld (WRLD) The rise and spread of terrorism in the modern world, from the French Revolution to the present.	3 Credits
	HSTR 291 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 334 - Latin America: Reform and Revo (WRLD) Different ideologies and projects in Latin America aimed at gradual or radical transformation of political systems and/or socio-economic relations. From the Haitian Revolution to the Bolivarian vision of Hugo Chavez.	3 Credits
	HSTR 335 - Lat Am Workers & Labor (WRLD) Study of the experiences and agency of diverse working people in Latin America. Influence of race, ethnicity, gender, religion, and generation on working class identity and movements. Labor organizations and politics in historic context.	3 Credits
	HSTR 345H - Modern China (WRLD) Offered autumn. China since 180, emphasizing internal weaknesses of the Manchu dynasty, confrontation with the west, and the emergence of Nationalist and Communist regimes.	3 Credits
	HSTR 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 392 - Independent Study (R-12)	1 To 12 Credits
	HSTR 435 - Lat Am Human Rgts & Memory (WRLD) The legacy of state violence and ongoing struggles for truth and justice in select Latin American case studies. Different uses of memory and narration in bearing witness to social and political conflict and human rights violations.	3 Credits
	HSTR 459 - Artistic Trad Cent & SW Asia (WRLD) Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits
	HSTR 491 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTR 492 - Independent Study (R-12) Prereq., consent of instr.	1 To 12 Credits
	PSCI 420 - Exp Offering: Comp Politics (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.	1 To 9 Credits

	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

European Upper Division History Electives

Rule: Choose at least 6 credits from the following courses

Note: null

	Course	Credits
	HSTR 302 - Ancient Greece (EU) Offered intermittently. Same as MCLG 301H. Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians. Cannot receive credit for both HSTR 302 and MCLG 301H.	3 Credits
	HSTR 312 - Age of Absolut 1648-1789 (EU) The political, economic, intellectual, and social development of Europe 1648-1789.	3 Credits
	HSTR 320 - Europ Social & Intellect Hist (EU) The influence of the Renaissance, Baroque and Classical Ages, and the Enlightenment on early modern history.	3 Credits
	HSTR 323 - Europ Social & Intellect Hist: (EU) Romanticism, Realism, and the Avant-Garde against the historical background of the Industrial Revolution and urbanization.	3 Credits
	HSTR 348 - Britain 1485-1688 (EU) Social, political, religious, and intellectual history of the British peoples during the tumultuous period of reformation, exploration, constitutional crisis, and civil war.	3 Credits
	HSTR 349 - Britain from Rev - Reform 1688 (EU) The social, political, cultural, and intellectual consequences of British expansion, financial and industrial revolutions, and revolutionary movements.	3 Credits
	HSTR 352 - France Revol 1789-1848 (EU) Political, economic, and social upheaval and development.	3 Credits
	HSTR 353 - Modern France (EU) Political, economic and social development.	3 Credits
	HSTR 354 - Italy: 1300-1800 (EU) The emergence of the Italian states with an emphasis on cultural achievements in the late Medieval, Renaissance, Baroque, and Neoclassical periods.	3 Credits
	HSTR 355 - Italy: 1800-Present (EU) The emergence of a united Italy, the triumph of fascism and contemporary Italian society.	3 Credits

	HSTR 357 - Russia to 1881 (EU) Emphasis on the autocratic political tradition, Westernization, and territorial expansion.	3 Credits
	HSTR 358 - Russia Since 1881 (EU) Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system.	3 Credits
	HSTR 361 - Germ:Augsburg-Bismarck (EU) Political, economic and social development of the states of the Holy Roman Empire from 1555-1866.	3 Credits
	HSTR 363 - Eastern Europe (EU) Main currents in the history of Eastern Europe from earliest times to the present. Focus on the lands of Poland, Bohemia, Hungary, and the Balkan region.	3 Credits
	HSTR 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 491 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division History Electives

Rule: Complete two additional upper division history courses

Note: Courses can be selected from HSTA or HSTR 300-level and above.

Minimum Required Grade: C-

6 Total Credits Required

Teaching Methods Requirement

Rule: Complete the following course.

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Social Studies.

	Course	**Credits**

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

History Advanced Writing Courses

Rule: Must choose one of the following courses:

	Course	Credits
	HSTA 415 - The Black Radical Tradition Offered intermittently. Same as HSTA 415. Prereq., HSTR 200 and only open to majors and minors in history or consent of instructor. From slave revolts through to the Move rebellion in Philadelphia, this course examines how the African-American community has engaged in radical efforts to change the status quo in the name of seeking justice.	3 Credits
	HSTA 417 - Prayer & Civil Rights (AM) Same as HSTA 417. HSTR 200 and only open to majors and minors in history or consent of instructor. This course explores the meaning of public prayer in the Civil Rights Movement. Built around the question, "Does religion help or hinder the pursuit of social change?" this class combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. By focusing on a particular religious practice - in this case prayer - in a specific, but limited period of time, this course challenges students to consider how meaning is formed through historical action and study the social significance of religious practice. This formed through historical action and study the social significance of religious practice. This course complicates prevailing ideas about the normalcy of African-American religious practitioners' prayer, invites students to examine their assumptions about the nature of prayer, and traces how religion spilled out of sanctuaries into the streets during the civil rights era.	3 Credits
	HSTA 422 - U.S. After WWII: Research Sem (AM) Prereq. HSTR 200. Enrollment for history majors and minors , graduate students in history, or by consent of the instructor. This course offers students an opportunity to do original research and produce an article-length research paper on a topic in post-war American history. It meets the department’s requirement of an upper-level research seminar as well as the upper-division writing expectation in the major.	3 Credits
	HSTA 461 - Research in Montana History (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. This course is a research and writing seminar in Montana history. Students will learn advanced research methodology in history and will be exposed to a variety of databases and source collections in Montana history that are available locally and online. Students will research and write a primary-source based paper on a topic in Montana history. This course fulfills the upper-division writing requirement for the history department and the university.	3 Credits
	HSTA 471 - Writing Women's Lives (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Consent of instructor required. Upper-division writing-intensive seminar in women’s history. Students will write an original research paper based on primary source materials.	3 Credits

	HSTR 400 - Historical Research Seminar Prereq., HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Topics vary according to the instructor. The goal of this course is for students to propose and execute a substantial research project. Upper division writing course for the history major.	3 Credits
	HSTR 418 - Britain 1500 - 1800 (EU) Prereq., HSTR 200. Recommended HSTR 348 or 349. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Students will discuss specific issues in the historiography of the early modern period in British history (c1500-1800) and produce research papers grounded in primary sources.	3 Credits
	HSTR 437 - US-Latin America Relations (WRLD) Prereq., HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. Research and writing seminar on U.S.-Latin American relations from the late 18th century through the 20th century.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching History Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - History (Minor); Track: Teaching History

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 31

Required Cumulative GPA: 2.0

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching. Individuals completing a teaching minor must also complete a teaching major in another content area.

Lower Division American History Courses

Rule: Must complete all of the following courses

Note: null

	Course	**Credits**

	HSTA 101H - American History I (AM) Offered autumn. A comprehensive introductory history of Colonial, Revolutionary and 19th century America, to 1877. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTA 102H - American History II (AM) Offered spring. A comprehensive introductory history of the U.S. since 1877. Lecture-discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTA 103H - Honors American History I (AM) Offered autumn. Enrollment by consent of instructor. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1877. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTA 104H - Honors American History II (AM) Offered spring. Enrollment by consent of instructor. A comprehensive introductory history of the U. S. since 1877. Lecture-honors discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTA 255 - Montana History (AM) Offered autumn. An introductory and interpretive history from Lewis and Clark to 2000.	3 Credits
Minimum Required Grade: C-		11 Total Credits Required

Lower Division European History Course

Rule: Complete one of the following courses.

	Course	Credits
	HSTR 101H - Western Civilization I (EU) Offered autumn. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTR 102H - Western Civilization II (EU) Offered spring. A comprehensive, introductory history of western civilization from 1648 to the present. Lecture-discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits
	HSTR 103H - Honors Western Civilization I (EU) Offered autumn. Limited enrollment by consent of instr. only. A comprehensive, introductory history of western civilization from classical antiquity to 1648. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTR 104H - Honors Western Civilization II (EU) Offered spring. Limited enrollment by consent of instructor only. A comprehensive introductory history of western civilization from 1648 to the present. Lecture-honors discussion. Credit not allowed for both HSTR 102H and 104H.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Historical Methods

Rule: Complete the following course.

	Course	Credits
	HSTR 200 - Intro: Historical Methods Offered autumn and spring. Enrollment limited to history majors or by consent of the instructor. This course introduces students to the practice of history and prepares them for upper-division courses in the field. Students will learn to critically read secondary sources, research in primary sources, analyze documents, and write clear and convincing historical essays. This course is required for recently declared history majors and minors. Students should take it before taking upper-division history courses.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

American Upper Division History Electives

Rule: Must choose 3 credits from the following

	Course	Credits
	HSTA 311 - Early America (AM) Emphasis changes from year to year. Can touch upon the political economy of Puritanism, through gender and family to the preconditions for the American Revolution.	3 Credits
	HSTA 315 - Early American Republic (AM) Democracy, nationalism and sectionalism, the War of 1812, the second party system, social order and disorder, the capitalist revolution.	3 Credits
	HSTA 316 - American Civil War Era (AM) Civil War and Reconstruction; the triumph of the industrialist and capitalist ethic.	3 Credits
	HSTA 320 - Birth of Modern US (AM) The history of the U.S. from 1877 to 1920 is largely the story of Americans responding to profound social, cultural and economic change. In an effort to bring order to their changing world, Americans created new institutions, retooled their ideologies, and improved the nation's infrastructure. The order they created is, in modified form, still with us today. Students will explore the myriad changes that transformed the United States during this period and study the social, political, and cultural struggles that shaped the emergence of Modern America.	3 Credits
	HSTA 321 - America in Crisis (AM) This era in U.S. history was marked by a series of crises: the contested transition to modernity during the 1920s, the Great Depression, and World War II and its aftermath. This course will explore how Americans responded to these crises, why they responded to them the way they did, and how their responses altered the society in which they lived.	3 Credits

	HSTA 322 - American History: WWII to Pres (AM) The Cold War and its consequences, the civil rights revolution, affluence and anxiety, counter-culture, political radicalism, feminism, the Nixon years, Watergate and after.	3 Credits
	HSTA 323 - U.S. in the 1950s (AM) Examines the political, social, cultural, intellectual developments of America in the 1950s. Particular emphasis is placed on cultural history.	3 Credits
	HSTA 324 - U.S. in the 1960s (AM) Examines the political, social, cultural, intellectual developments of America in the 1960s. Topics include the Great Society, political radicalism, the counter culture, black radicalism, and Vietnam.	3 Credits
	HSTA 333 - Key Events in American Militar (R-6) (AM) The French and Indian Wars to Vietnam and beyond; chronological and topical accounts.	3 Credits
	HSTA 335 - Movie America (AM) This course examines major topics and themes in United States history from the early twentieth century to the present using movies as primary sources.	3 Credits
	HSTA 342H - Afr Amer Hist to 1865 (AM) Offered intermittently. Same as AAS 342H. Survey of the African American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism.	3 Credits
	HSTA 343H - Afr Amer Hist Since 1865 (AM) Same as AAS 343H. Study of the African American experience since the Civil War. Change and continuity in the African American experience, the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges.	3 Credits
	HSTA 347 - Voodoo, Muslim, Church (AM) The African American religious experience encompasses Islam, Christianity, Santeria, voodoo, and many others. In this course, students will examine the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course question, "How did religion shape the experience of the African-American community?" Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history. Same as AAS 347.	3 Credits
	HSTA 354X - Ind MT Since Reserv Era (AM) Offered autumn odd-numbered years. Same as ANTH 324X and NAS 324X. Examination of the history of Montana Indians since the establishment of the reservations, contemporary conditions, and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.	3 Credits
	HSTA 361 - The American South (AM) Social history of the American South with particular attention to race, class, and gender.	3 Credits

	HSTA 370H - Wmn Amer Colonial to Civil War Offered autumn. Interpretive overview of major themes and events in U.S. womens history to 1865. Same as WGS 370H.	3 Credits
	HSTA 371H - Wmn Amer Civil War to Present Offered spring. Interpretive overview of major themes and events in U.S. women's history from 1865 to the present. Same as WGS 371.	3 Credits
	HSTA 372 - The American Revolution (AM) Delving into the history of the early modern Atlantic world, this course examines the transnational ramifications of the American Revolution. Specifically, it examines the Revolution's economic and ideological origins, European involvement in the Revolutionary War, as well as the Revolution's impact on African American slavery and the slave trade. We will also consider its implications for Haitian and Latin American independence. And finally, we will discuss the creation of the U.S. Constitution, America's struggle for political sovereignty, and the Revolution's impact on Native Americans, women and families, and conceptions of American identity during the Early National period.	3 Credits
	HSTA 380 - AmericanConstitutional History (AM) An examination of major issues in the American constitutional past. Topics include the creation of the U.S. Constitution and the problem of ? original intent,? courts and judicial review, slavery and anti-slavery, the bill o frights, industrial capitalism and the welfare state, and majority rule and minority rights in American democracy.	3 Credits
	HSTA 382H - History of American Law (AM) Issues in the social history of law from the colonial period to the present.	3 Credits
	HSTA 385 - Families & Children in America (AM) Historical overview of families and children in the United States from the colonial era to the present. Topics include changing patterns of family life, the evolution of attitudes toward children and youth, the relationship between the American family and the nation-state, and debates over "family values" from the nation's founding to the present.	3 Credits
	HSTA 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTA 461 - Research in Montana History (AM) Prereq. HSTR 200. Enrollment for history majors and minors, graduate students in history, or by consent of the instructor. This course is a research and writing seminar in Montana history. Students will learn advanced research methodology in history and will be exposed to a variety of databases and source collections in Montana history that are available locally and online. Students will research and write a primary-source based paper on a topic in Montana history. This course fulfills the upper-division writing requirement for the history department and the university.	3 Credits
	HSTA 491 - Special topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits

	HSTA 494 - Seminar (R-6) Consent of instructor.	1 To 6 Credits
	HSTR 364 - Environmental History (AM) Prereq., lower-division course in Perspective 5 or consent of instr. A history of the human-nature interaction in the United States.	3 Credits
	HSTR 367 - 19th Cent Amer West (AM) Euro-American movement and conflict in the nineteenth century trans-Mississippi west.	3 Credits
	HSTR 369 - 20th Cent Amer West (AM) The contemporary trans-Mississippi West.	3 Credits
	NASX 464 - Hist Amer Indian Affrs to 1776 Offered Autumn. Same as HIST 464. A study of American Indian relations with Europeans and the United States from first contact to 1776.	3 Credits
	NASX 465 - Hist Amer Indian Affrs 10 Cent Offered Spring. Same as HIST 465. A study of tribal encounters and adjustments to the American nations in the nineteenth century.	3 Credits
	NASX 466 - Hist of Indian Affrs from 1890 Offered Autumn. Same as HIST 466. A study of tribal encounters and adjustments to the American nation from 1890.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

World History Electives

Rule: Must choose 6 credits from the following

	Course	**Credits**
	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	HSTR 191 - Special Topics (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	HSTR 230H - Colonial Latin America (WRLD) Offered autumn. Latin America from conquest by Spain and Portugal to wars for independence. Focus on social relations, imperial and local politics, hegemony, resistance, and change.	3 Credits
	HSTR 231H - Modern Latin America (WRLD) Offered spring. Latin America from wars of independence to the present. Focus on social relations, development models, politics, and popular movements.	3 Credits

	HSTR 240 - East Asian Civilizations (WRLD) An interdisciplinary, pluralist, and exploratory introduction to civilizations of East Asia. Primary focus on China, Japan, and Korea, the relations among them and their patterns of interaction with the outside world in pre-modern and modern periods.	3 Credits
	HSTR 241H - Central Asian Cult & Civ (WRLD) Same as ANTY 241H. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.	3 Credits
	HSTR 262H - Islamic Civil: Classical Age (WRLD) A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire.	3 Credits
	HSTR 264 - Islamic Civ: Modrn Era (WRLD) History of the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952.	3 Credits
	HSTR 272E - Terrorism:Viol Mod Wrld (WRLD) The rise and spread of terrorism in the modern world, from the French Revolution to the present.	3 Credits
	HSTR 291 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 334 - Latin America: Reform and Revo (WRLD) Different ideologies and projects in Latin America aimed at gradual or radical transformation of political systems and/or socio-economic relations. From the Haitian Revolution to the Bolivarian vision of Hugo Chavez.	3 Credits
	HSTR 335 - Lat Am Workers & Labor (WRLD) Study of the experiences and agency of diverse working people in Latin America. Influence of race, ethnicity, gender, religion, and generation on working class identity and movements. Labor organizations and politics in historic context.	3 Credits
	HSTR 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 392 - Independent Study (R-12)	1 To 12 Credits
	HSTR 435 - Lat Am Human Rgts & Memory (WRLD) The legacy of state violence and ongoing struggles for truth and justice in select Latin American case studies. Different uses of memory and narration in bearing witness to social and political conflict and human rights violations.	3 Credits
	HSTR 459 - Artistic Trad Cent & SW Asia (WRLD) Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.	3 Credits

	HSTR 491 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTR 492 - Independent Study (R-12) Prereq., consent of instr.	1 To 12 Credits
	PSCI 422 - Revolution & Reform in China Offered autumn. A history of the rise and fall of the Maoist regime and the complicated impact of the epochal post Mao reform movement.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

European Upper Division History Electives

Rule: Must choose 3 credits from the following

	Course	Credits
	HSTR 302 - Ancient Greece (EU) Offered intermittently. Same as MCLG 301H. Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians. Cannot receive credit for both HSTR 302 and MCLG 301H.	3 Credits
	HSTR 312 - Age of Absolut 1648-1789 (EU) The political, economic, intellectual, and social development of Europe 1648-1789.	3 Credits
	HSTR 320 - Europ Social & Intellect Hist (EU) The influence of the Renaissance, Baroque and Classical Ages, and the Enlightenment on early modern history.	3 Credits
	HSTR 323 - Europ Social & Intellect Hist: (EU) Romanticism, Realism, and the Avant-Garde against the historical background of the Industrial Revolution and urbanization.	3 Credits
	HSTR 348 - Britain 1485-1688 (EU) Social, political, religious, and intellectual history of the British peoples during the tumultuous period of reformation, exploration, constitutional crisis, and civil war.	3 Credits
	HSTR 349 - Britain from Rev - Reform 1688 (EU) The social, political, cultural, and intellectual consequences of British expansion, financial and industrial revolutions, and revolutionary movements.	3 Credits
	HSTR 352 - France Revol 1789-1848 (EU) Political, economic, and social upheaval and development.	3 Credits
	HSTR 353 - Modern France (EU) Political, economic and social development.	3 Credits
	HSTR 354 - Italy: 1300-1800 (EU) The emergence of the Italian states with an emphasis on cultural achievements in the late Medieval, Renaissance, Baroque, and Neoclassical periods.	3 Credits

	HSTR 355 - Italy: 1800-Present (EU) The emergence of a united Italy, the triumph of fascism and contemporary Italian society.	3 Credits
	HSTR 357 - Russia to 1881 (EU) Emphasis on the autocratic political tradition, Westernization, and territorial expansion.	3 Credits
	HSTR 358 - Russia Since 1881 (EU) Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system.	3 Credits
	HSTR 361 - Germ:Augsburg-Bismarck (EU) Political, economic and social development of the states of the Holy Roman Empire from 1555-1866.	3 Credits
	HSTR 363 - Eastern Europe (EU) Main currents in the history of Eastern Europe from earliest times to the present. Focus on the lands of Poland, Bohemia, Hungary, and the Balkan region.	3 Credits
	HSTR 391 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	HSTR 392 - Independent Study (R-12)	1 To 12 Credits
	HSTR 491 - Special Topics (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.	1 To 12 Credits
	HSTR 492 - Independent Study (R-12) Prereq., consent of instr.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Methods Requirement

Rule: Complete the following course.

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Social Studies.

	Course	**Credits**

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geosciences Department

James R. Staub, Chair

Human impact on Earth systems and reliance on Earth's resources will increase as human population and economic production grows. These impacts are creating "global grand challenges": complex, globally important problems that require an interdisciplinary approach. The most pressing grand challenges over the next decade will be resource scarcity/depletion (especially water and petroleum), adaption to and mitigation of climate change and natural hazards, and environmental stewardship of highly stressed physical and biological Earth systems. As University of Montana Geoscientists, we address these challenges in our research and teaching. We develop the knowledge to find and extract mineral and water resources, solve problems caused by using those resources and develop models of the past, present and future Earth. Faculty, staff, graduate students, and undergraduate students are helping Montana and the World develop a sustainable future.

Our Vision:

We will build and teach a fundamental understanding of Earth processes to benefit humankind and sustain Earth systems.

Our Goals:

1. Conduct geoscience research, including obtaining extramural funding to perform essential and transformative research.

2. Disseminate research findings by publishing in peer-reviewed journals and presenting at national and international scientific conferences.

3. Teach students how to learn from known sources of information and create new knowledge from their own research.

4. Engage all graduate students and selected undergraduates in research and publication.

5. Produce graduates competent in their disciplines who can perform well in field, laboratory and computational settings, and who are prepared to serve as high-quality professionals in geoscience and related fields.

6. Provide opportunities for students to work and learn in other countries through international research and learning opportunities.

7. Educate the general student population about the nature of science and basic scientific principles through the study of Earth and its natural systems.

8. Engage the public with important geoscience issues through outreach and community education.

UM Geosciences in the National Context

With B.S., M.S. and Ph.D. degrees, UM Geosciences is one of 120 Ph.D. granting Geoscience departments in the United States. U.S. News & World Report ranks the UM Geosciences program with Universities like Florida State, Michigan Tech, University of Georgia, University of Pennsylvania, and University of South Carolina. We are ranked above schools like University of Idaho, University of Missouri, UNLV, and Notre Dame.

Employment

Geoscientists completing our program are employed by private industry, federal, state, and local governmental agencies, environmental consulting firms, non-profit organizations, and by schools needing Earth Science teachers. Jobs in geosciences are available at the B.S., M.S. and Ph.D. levels. The M.S. degree is considered the main working professional degree. The Ph.D. degree is required for positions at universities and with organizations specializing in research. However, there are ample opportunities for geoscience employment with the B.S. degree. Our graduates have a wide range of educational and employment opportunities. Over the last decade, 95% of our graduate program alumni are employed in Geosciences: 13% work for government, 23% for industry, 31% for consultancies and 2% for non-governmental organizations, 10% are teaching, and 17% went on for a Ph.D. UM Geosciences graduates have exceptional placement rates.

»Undergraduate Degree Requirements

We offer three Bachelor of Science degrees: Geosciences B.S., International Field Geosciences Joint B.S. with University of Cork (Ireland), and International Field Geosciences Dual B.S. with Potsdam University (Germany). We also offer an option in Earth Science Education.

The Upper-division Writing Expectation must be met for all degree options by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog or by completing GEO 499 (GEOS 499).

Department Faculty

Professor

Joel T. Harper, Ph.D., University of Wyoming, 1998
Marc S. Hendrix, Ph.D., Stanford University, 1992

Nancy W. Hinman, Ph.D., University of California (San Diego), 1987
James W. Sears, Ph.D., Queen's University, 1979
George Stanley, Ph.D., University of Kansas, 1977
James R. Staub, Ph.D., University of South Carolina, 1985 (Dept. Chair)

Associate Professor

Julia A. Baldwin, Ph.D., Massachusetts Institute of Technology, 2003
Rebecca O. Bendick, Ph.D., University of Colorado, Boulder, 2000
Marco P. Maneta, Ph.D., University of Extremadura (Spain), 2006
Andrew C. Wilcox, Ph.D., Colorado State University, 2005

Assistant Professor

Payton Gardner, PhD., University of Utah, 2009
Hilary R. Martens, Ph.D., California Institute of Technology, 2016

Lecturer

Kathleen M. Harper, Ph.D., University of Wyoming, 1997

Research Faculty

Carrine E. Blank, Ph.D., University of California, Berkeley; Integrative Biology, 2002
Michael Hofmann, Ph.D., The University of Montana, 2005
Toby Meierbachtol, Ph.D., The University of Montana, 2014

Affiliates

Robert Lankston, Faculty Affiliate
Patrick Meere
Tetsuji Onou
Jill Scott
Alisa Wade, Researcher

Emeritus

Donald W. Hyndman
Ian M. Lange, Ph.D., University of Washington, 1968
Johnnie N. Moore, Ph.D., University of California (Los Angeles), 1976
Raymond C. Murray, Ph.D., University of Wisconsin, 1955
Steven D. Sheriff, University of Wyoming, 1981
Graham R. Thompson, Ph.D., Case Western Reserve University, l97l
Donald Winston, Ph.D., University of Texas, 1963
William W. Woessner, Ph.D., University of Wisconsin (Madison), 1978

Geoscience

Back to Top

- GEO 101N - Intro to Physical Geology
  Credits: 3. Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth. Course Attributes: Natural Science Course (N)
- GEO 102N - Intro to Physical Geology Lab
  Credits: 1. Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- GEO 105N - Oceanography

  Credits: 3. Offered spring. The ocean covers 70 % of the globe, and yet vast regions remain unexplored. Interactions between the atmosphere and the sea moderate and control our climate. Nearly 40 % of the world's population lives within 100 kilometers of the coast. The oceans are geographically, environmentally, culturally, and economically critical to society. This course introduces oceanography, including the origin of water and ocean basins; marine resources; atmospheric circulation; air-sea interaction; ocean-climate feedback; currents, tides, and coastal processes; marine ecology; and use and misuse of the oceans. Course Attributes: Natural Science Course (N)

- GEO 106N - History of Life

  Credits: 3. Offered spring. The evolution of plants, invertebrates and vertebrate animals, highlighting major events in the evolution of life on Earth. Includes laboratory experience with fossils. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- GEO 107N - Natural Disasters

  Credits: 3. Offered intermittently. This course introduces the scientific context and latest research on natural hazards and disasters, including storms, flood, drought, mass wasting (landslides and avalanches), earthquakes and tsunamis, volcanic eruptions, and wildfires. Course Attributes: Natural Science Course (N)

- GEO 108N - Climate Change

  Credits: 3. Offered autumn. The geoscience perspective on the earth's climate system. Climate processes and feedbacks, climate history from early earth to the ice ages, present and future changes due to natural processes and human activities. Course Attributes: Natural Science Course (N)

- GEO 151 - Introduction to Fossil Fuels

  Credits: 3. Offered autumn. A broad introduction to the basic principles and concepts related to the exploration for, the composition of, and the utilization of fossil fuels (coal, coal bed methane, natural gas, and oil). Environmental issues related to fossil fuel development and utilization are also addressed.

- GEO 191 - Special Topics

  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- GEO 191N - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Internships/Practicums

- GEO 211 - Earth's History and Evolution

  Credits: 4. Offered autumn and spring. Prereq., GEO 101N and GEO 102N. Traces the history of the Earth since its inception 4.6 billion years ago. Presents scientific theories for the origin of the Earth and the nature of important earth shaping events of the past, including the development of the oceans, atmosphere, and climate.

- GEO 225 - Earth Materials

  Credits: 4. Offered autumn. Prereq., GEO 101N, GEO 102N, and CHMY 121N or 141N. Study of minerals and rocks utilizing an Earth Systems approach; mineral identification and paragenesis; survey of the distribution of minerals from the interior to the surfaces of planets and the processes that led to their formation.

- GEO 291 - Special Topics

  Credits: 1 TO 6. (R–6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- GEO 304E - Science and Society

  Credits: 3. Offered autumn. Role of scientific knowledge in human societies from the pre–Classical to the present. Discussion of tools for integrating science into ethical, political, and social decisions, including analyses of modern case studies from physical sciences. Course Attributes: Ethical & Human Values Course

- GEO 305 - Igneous & Metamorph Petrology

Credits: 4. Offered spring. Prereq., GEO 225, CHMY 143N. Igneous rock associations, igneous processes and origins; metamorphic minerals and phase relationships, metamorphic zones, facies, and conditions; metamorphic environments, metallic minerals and mineral deposits.

- GEO 309 - Sedimentation/Stratigraphy

  Credits: 4. Offered spring. Prereq. GEO 211, 225. Origins of sediments and sedimentary rocks; climate, weathering, and weathering products; transport, deposition, and depositional environments of sediments; concepts and methods of stratigraphy including correlation of sedimentary rocks and an introduction to basin analysis.

- GEO 311 - Paleobiology

  Credits: 3. Offered spring. Prereq. GEO 101N or equiv. level Biology. Survey of the major groups of organisms in the geologic record and hands-on study of fossils; application of geologic and biologic data and principles to solve problems in geoscience and bioscience.

- GEO 315 - Structural Geology

  Credits: 4. Offered autumn. Prereq., GEO 211, 225. Structures of deformed rocks; mechanical principles; graphical interpretation of structural problems, tectonic principles.

- GEO 317 - Planetary Science

  Credits: 3. Offered autumn even-numbered years. Prereq., PHSX 205N/206N or PHSX 215N/216N and M 162, 171. Same as ASTR 351. Physical and geological characteristics of planets, satellites, asteroids, comets, and meteoroids with an emphasis on comparative planetology.

- GEO 318 - Surface Processes

  Credits: 4. Offered spring. Prereq., GEO 101/102, GEO 211, M 162 or M 171, and PHSX 205/206 or PHSX 215/216. This course will introduce students to the study of the earth using the laws and principles of physics. The course will describe the mechanisms underlying the processes that shape the earth and drive its evolution, including climate, tectonics, hydrology, glaciers, and geomorphology. The course will combine lectures, field data collection, data analysis, and lab activities.

- GEO 320 - Global Water

  Credits: 4. Offered autumn. Prereq. one semester of college chemistry, WRIT 101 or equiv., and completion of one writing course. Water is necessary for life. Without it, life as we know it cannot exist. This course discusses the chemistry of water as it moves through the hydrological cycle. We discuss how water chemistry evolves through atmospheric water, rain water, ground water, surface water, and sea water. Students will have an understanding of the chemical attributes of water in major water reservoirs. Class discussions, formal and informal writing assignments, a short laboratory experiment, and a field trip highlight examples of water chemistry. Students will use excel to solve problems and will learn citation conventions relevant for scientific writing.
  Course Attributes: Writing Course-Advanced

- GEO 327 - Geochemistry

  Credits: 4. Offered alternate years. Prereq. one year of college chemistry, one semester of calculus, and one semester of physical geology, or consent of instructor. One semester of mineralogy recommended. The chemical properties of elements control their geological distribution and underlie the basic physical properties of rocks. An understanding of geochemistry will help students understand water chemistry, sediment geochemistry, and igneous petrology. The course covers chemical principles applied to geologic materials and processes, including the origin and chemical composition of earth, atmosphere, and hydrosphere. Principles of stable and radiogenic isotope geochemistry are discussed. Students will use excel to solve problems. Class discussions, problems sets, and exams are used to assess student performance.

- GEO 391 - Special Topics

  Credits: 1 TO 9. (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.

- GEO 392 - Independent Study

  Credits: 1 TO 6. (R–6) Offered every term. Specific topics of particular interest to individual students.

- GEO 398 - Internship

  Credits: 1 TO 6. Offered every term. Prereq., 12 credits in geosciences. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. No more than 3 credits of GEO 398 may be applied to the geosciences minor. A maximum

of 6 credits of Internship may count toward graduation. Course Attributes: Internships/Practicums

- GEO 420 - Hydrogeology

  Credits: 4. Offered spring. Prereq., GEO 101N-102N; PHSX 205N/206N or PHSX 215N/216N ; M 162 or 171 strongly recommended or consent of instr. Occurrence, movement, quality, and methods of quantification of groundwater. Geological framework and physics of groundwater flow. Supply, contamination, and management problems.

- GEO 421 - Hydrology

  Credits: 3. Offered autumn. Prereq. one semester college calculus and physics or consent of instructor. Introduction to the physical mechanisms that drive the water cycle at different scales. The course covers heat, momentum and mass transfer and storage mechanisms in turbulent systems and their role in the global and local climates. At the local scale, the equations that govern surface and subsurface water flows are studied. Along with the overarching goals, students will improve their quantitative skills, will gain experience accessing and reading the professional literature and will improve their capabilities to acquire knowledge independently.

- GEO 433 - Global Tectonics

  Credits: 3. Offered autumn. Prereq., GEO 315, M 162, and 2.25 or better overall GPA in geosciences courses. Geodynamics and tectonics of the Earth and other planets. Course material includes methods of observing tectonic processes and tectonic phenomena, both at the surface and in the deep earth, over a wide range of time scales.

- GEO 443 - Prin of Sedimentary Petrology

  Credits: 4. Offered autumn. Prereq., GEO 225 or graduate standing. Field, hand specimen and thin section petrology of siliciclastic and carbonate rocks, emphasis on tectonic and diagenetic interpretation of siliciclastic rock and environments of deposition and diagenesis of carbonate rocks.

- GEO 460 - Process Geomorphology

  Credits: 4. Offered autumn. Prereq., one semester college calculus and physics. Quantitative examination of landforms, runoff generation, weathering, mechanics of soil erosion by water and wind, mass wasting, glacial and periglacial processes and hillslope evolution.

- GEO 482 - Global Change

  Credits: 3. Offered Spring. Same as CCS 482. Prereq., upper division/higher standing in Geosciences or consent of instructor. Lectures, readings, discussions and practicum on the complexity of global climate. Emphasizes the physical, geochemical and geologic processes affecting climate change over geologic and recent time scales.

- GEO 488 - Snow, Ice and Climate

  Credits: 3. Offered spring. Prereq., M 121. Study of basic physical processes occurring in snow and ice, and how these processes govern the interaction between frozen water and the climate system. The first half of the course focuses in snow, with special attention to snow formation in the atmosphere, snow metamorphism, water flow through snow, and basic avalanche mechanics. The second half of the course focuses on ice and includes glacier and ice sheet flow dynamics, glacier hydrology, and ice age theory. Graduate students will be required to complete additional problem sets requiring higher level math; perform additional reading assignments; perform at a higher level on assignments and exams where students are asked to outline and describe various physical processes; submit a well researched and reference research proposal that is able to synthesize previous research and provide a sophisticated research plan.

- GEO 491 - Special Topics

  Credits: 1 TO 8. (R-8) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

- GEO 492 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Specific topics of particular interest to individual students.

- GEO 494 - Senior Geology Seminar

  Credits: 1 TO 10. (R–10) Offered intermittently. Prereq., upper–division standing in geosciences or consent of instr. Independent study of various topics under the direction of a faculty member.

- GEO 498 - Internship

Credits: 1 TO 6. Offered every term. Prereq., 12 credits in geosciences. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. No more than 3 credits of GEOS 398 may be applied to the geosciences minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- GEO 499 - Senior Thesis /Capstone

  Credits: 3 TO 10. (R–10) Offered every term. Prereq., 18 credits in geosciences. Independent research project in any geosciences topic supervised by faculty member, and leading to completion of baccalaureate degree. Course Attributes: Writing Course-Advanced

- GEO 508 - Fundamentals of Acad Research

  Credits: 2. Offered autumn. Prereq., graduate standing. An introduction to research methods and tools in the academic setting intended for first semester graduate students in geosciences. Topics include proposal writing, presenting research results in oral and written formats, using computer tools for research in the geosciences, and ongoing research of department faculty. Level: Graduate

- GEO 528 - Sedimentary Basin Analysis

  Credits: 4. Offered intermittently. Influence of allocyclic processes (tectonism, climate, eustacy, etc.,) in shaping the evolution of sedimentary basins. Emphasis on integration and synthesis of tools of sedimentary basins analysis, including the study of depositional systems, provenance, paleocurrents, subsidence, sequence stratigraphy, and well logs. Level: Graduate

- GEO 548 - Topics in Cryosphere

  Credits: 3. (R–6 M.S., R–12 Ph.D.) Prereq., graduate standing or consent of instructor. Readings, discussions, lectures, and field experiments on various topics related to snow, ice, and climate processes. Recent topics: meltwater infiltration in snow, glacier hydrology, climate cycles, ice, and sea level rise. Level: Graduate

- GEO 560 - Fluvial Geomorphology

  Credits: 3. Offered spring. Prereq., graduate standing or consent of instructor. Application of fluid mechanics to sediment transport and development of river morphology. Form and process in river meanders, the pool–riffle sequence, aggradation, grade, and baselevel. Level: Graduate

- GEO 572 - Adv Hydrogeology

  Credits: 3. Offered autumn. Prereq., GEO 420 or consent of instr. Advanced concepts used in groundwater investigations, including flow systems analysis, hydrogeologic monitoring and sampling, resource evaluation, exploration, development and monitoring, and contaminant transport. Special problem areas in groundwater exploration and management. Level: Graduate

- GEO 573 - Appl Grndwater Modeling

  Credits: 3. Offered spring. Prereq., GEO 420 or consent of instr. Development of numerical modeling techniques, finite difference and finite element modeling of groundwater flow systems. Application of standard 2D and 3D models to field problems. Level: Graduate

- GEO 579 - Chemistry of Hot Springs

  Credits: 3. Offered alternate years. Prereq., one year of college of chemistry or consent of instr. Hydrothermal systems support the most ancient microorganisms and may have been the locus for the first appearance of life on Earth. Terrestrial hot springs are the surface expression of deep circulation of fluids that concentrate elements, opening a window into processes leading to ore formation. This course discusses the chemistry and geology of hydrothermal systems including solute/gas geothermometry, acid/base reactions, oxidation/reduction reactions, mineral equilibrium, and microbial ecology as applied to terrestrial and submarine hydrothermal systems. The course includes an introduction to the use of geochemical models and a field trip to a hot spring system. Students are evaluated on class discussions and presentations, problems sets, and a term paper. Level: Graduate

- GEO 580 - Topics Mineral & Petrol

  Credits: 1 TO 12. (R–6 for M.S., R–12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: tectonics and petrology; alkaline igneous rocks. Level: Graduate

- GEO 582 - Tps Structure & Geophysics

  Credits: 1 TO 12. (R–6 for M.S., R–12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: structural analysis, Precambrian crustal evolution, field trips on Rocky Mountain structure. Level: Graduate

- GEO 583 - Tps Strat, Sed & Paleo
  Credits: 1 TO 12. (R–6 for M.S., R–12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: evolution of life; Proterozoic stratigraphy; reefs through time. Level: Graduate
- GEO 585 - Tps Hydro Low-Temp Geochem
  Credits: 1 TO 12. (R–6 for M.S., R–12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: field methods, well design, contaminant transport, geochemical modeling. Level: Graduate
- GEO 590 - Supervised Internship
  Credits: 1 TO 12. Offered intermittently. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate Course Attributes: Internships/Practicums
- GEO 595 - Special Topics
  Credits: 1 TO 8. (R–8) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics. Level: Graduate
- GEO 597 - Advanced Problems
  Credits: 1 TO 10. (R–10) Offered intermittently. Prereq., consent of instr. Investigations of geological problems exclusive of thesis or dissertation research. Level: Graduate
- GEO 599 - Thesis Research
  Credits: 1 TO 12. (R–6) Offered every term. Prereq., thesis proposal approval. Directed research to serve as thesis for the master degree. Credit assigned upon submittal of final copy of approved and bound thesis. Level: Graduate
- GEO 699 - Dissertation Research
  Credits: 1 TO 12. (R–12) Offered every term. Prereq., dissertation proposal approval. Directed research to serve as dissertation for the Ph.D. degree. Credit assigned upon submittal of final copy of approved and bound dissertation. Level: Graduate

Geosciences B.S.

Bachelor of Science - Geosciences

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 62

Required Cumulative GPA: 2.0

Note: This option is designed for students who seek post-graduate employment as a professional geoscientist or preparation for graduate study in geosciences.

Lower Division Core

Rule: Must complete all of the following courses

Note: .

	Course	Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits

	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
	GEO 211 - Earth's History and Evolution Offered autumn and spring. Prereq., GEO 101N and GEO 102N. Traces the history of the Earth since its inception 4.6 billion years ago. Presents scientific theories for the origin of the Earth and the nature of important earth shaping events of the past, including the development of the oceans, atmosphere, and climate.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Degree Electives

Rule: Must complete 24 credits from the following list of courses

	Course	Credits
	GEO 225 - Earth Materials Offered autumn. Prereq., GEO 101N, GEO 102N, and CHMY 121N or 141N. Study of minerals and rocks utilizing an Earth Systems approach; mineral identification and paragenesis; survey of the distribution of minerals from the interior to the surfaces of planets and the processes that led to their formation.	4 Credits
	GEO 305 - Igneous & Metamorph Petrology Offered spring. Prereq., GEO 225, CHMY 143N. Igneous rock associations, igneous processes and origins; metamorphic minerals and phase relationships, metamorphic zones, facies, and conditions; metamorphic environments, metallic minerals and mineral deposits.	4 Credits
	GEO 309 - Sedimentation/Stratigraphy Offered spring. Prereq. GEO 211, 225. Origins of sediments and sedimentary rocks; climate, weathering, and weathering products; transport, deposition, and depositional environments of sediments; concepts and methods of stratigraphy including correlation of sedimentary rocks and an introduction to basin analysis.	4 Credits
	GEO 311 - Paleobiology Offered spring. Prereq. GEO 101N or equiv. level Biology. Survey of the major groups of organisms in the geologic record and hands-on study of fossils; application of geologic and biologic data and principles to solve problems in geoscience and bioscience.	3 Credits
	GEO 315 - Structural Geology Offered autumn. Prereq., GEO 211, 225. Structures of deformed rocks; mechanical principles; graphical interpretation of structural problems, tectonic principles.	4 Credits

	GEO 318 - Surface Processes Offered spring. Prereq., GEO 101/102, GEO 211, M 162 or M 171, and PHSX 205/206 or PHSX 215/216. This course will introduce students to the study of the earth using the laws and principles of physics. The course will describe the mechanisms underlying the processes that shape the earth and drive its evolution, including climate, tectonics, hydrology, glaciers, and geomorphology. The course will combine lectures, field data collection, data analysis, and lab activities.	4 Credits
	GEO 320 - Global Water Offered autumn. Prereq. one semester of college chemistry, WRIT 101 or equiv., and completion of one writing course. Water is necessary for life. Without it, life as we know it cannot exist. This course discusses the chemistry of water as it moves through the hydrological cycle. We discuss how water chemistry evolves through atmospheric water, rain water, ground water, surface water, and sea water. Students will have an understanding of the chemical attributes of water in major water reservoirs. Class discussions, formal and informal writing assignments, a short laboratory experiment, and a field trip highlight examples of water chemistry. Students will use excel to solve problems and will learn citation conventions relevant for scientific writing.	4 Credits
	GEO 327 - Geochemistry Offered alternate years. Prereq. one year of college chemistry, one semester of calculus, and one semester of physical geology, or consent of instructor. One semester of mineralogy recommended. The chemical properties of elements control their geological distribution and underlie the basic physical properties of rocks. An understanding of geochemistry will help students understand water chemistry, sediment geochemistry, and igneous petrology. The course covers chemical principles applied to geologic materials and processes, including the origin and chemical composition of earth, atmosphere, and hydrosphere. Principles of stable and radiogenic isotope geochemistry are discussed. Students will use excel to solve problems. Class discussions, problems sets, and exams are used to assess student performance.	4 Credits
	GEO 420 - Hydrogeology Offered spring. Prereq., GEO 101N-102N; PHSX 205N/206N or PHSX 215N/216N ; M 162 or 171 strongly recommended or consent of instr. Occurrence, movement, quality, and methods of quantification of groundwater. Geological framework and physics of groundwater flow. Supply, contamination, and management problems.	4 Credits
	GEO 421 - Hydrology Offered autumn. Prereq. one semester college calculus and physics or consent of instructor. Introduction to the physical mechanisms that drive the water cycle at different scales. The course covers heat, momentum and mass transfer and storage mechanisms in turbulent systems and their role in the global and local climates. At the local scale, the equations that govern surface and subsurface water flows are studied. Along with the overarching goals, students will improve their quantitative skills, will gain experience accessing and reading the professional literature and will improve their capabilities to acquire knowledge independently.	3 Credits

	GEO 433 - Global Tectonics Offered autumn. Prereq., GEO 315, M 162, and 2.25 or better overall GPA in geosciences courses. Geodynamics and tectonics of the Earth and other planets. Course material includes methods of observing tectonic processes and tectonic phenomena, both at the surface and in the deep earth, over a wide range of time scales.	3 Credits
	GEO 443 - Prin of Sedimentary Petrology Offered autumn. Prereq., GEO 225 or graduate standing. Field, hand specimen and thin section petrology of siliciclastic and carbonate rocks, emphasis on tectonic and diagenetic interpretation of siliciclastic rock and environments of deposition and diagenesis of carbonate rocks.	4 Credits
	GEO 460 - Process Geomorphology Offered autumn. Prereq., one semester college calculus and physics. Quantitative examination of landforms, runoff generation, weathering, mechanics of soil erosion by water and wind, mass wasting, glacial and periglacial processes and hillslope evolution.	4 Credits
	GEO 482 - Global Change Offered Spring. Same as CCS 482. Prereq., upper division/higher standing in Geosciences or consent of instructor. Lectures, readings, discussions and practicum on the complexity of global climate. Emphasizes the physical, geochemical and geologic processes affecting climate change over geologic and recent time scales.	3 Credits
	GEO 488 - Snow, Ice and Climate Offered spring. Prereq., M 121. Study of basic physical processes occurring in snow and ice, and how these processes govern the interaction between frozen water and the climate system. The first half of the course focuses in snow, with special attention to snow formation in the atmosphere, snow metamorphism, water flow through snow, and basic avalanche mechanics. The second half of the course focuses on ice and includes glacier and ice sheet flow dynamics, glacier hydrology, and ice age theory. Graduate students will be required to complete additional problem sets requiring higher level math; perform additional reading assignments; perform at a higher level on assignments and exams where students are asked to outline and describe various physical processes; submit a well researched and reference research proposal that is able to synthesize previous research and provide a sophisticated research plan.	3 Credits
	GEO 491 - Special Topics (R-8) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.	1 To 8 Credits
Minimum Required Grade: C-		24 Total Credits Required

Cognate Sciences

Rule: In addition to completing course work in Geosciences, a minimum of 30 credits in cognate science classes must be completed.

Note: More advanced courses in Chemistry, Computer Science, Math, and Physics may be used to meet the 30 credit minimum total in cognate sciences. Biology 100N or above is also appropriate. Course substitutions for the 30 credit minimum in cognate sciences must be approved by a departmental advisor.

Physics

Rule: Must complete 1 of the following sequences

10 Total Credits Required

Physics

Rule: May complete the following sequence

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete the following sequence

	Course	Credits

	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Chemistry

Rule: Must complete the following courses

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Math

Rule: Must complete 1 of the following subcategories

7-8 Total Credits Required

Math Option 1

Rule: May complete the following 2 courses

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 263 - Applied Differential Equations Offered spring. Prereq., one of M 162, 171 or 181 and knowledge of basic trigonometry. Solution of ordinary differential equations and systems with emphasis on applications, numerical methods and computer software.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Math Option 2

Rule: May complete the following 2 courses

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Computer Science

Rule: Must complete 1 course in Computer Science (Programming or Modeling)

Note: These courses are recommended to complete the Computer Science requirement. Credit may be received for only 1 of these 4 courses for the 30 credit minimum cognate science requirement.

	Course	Credits

	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing

Rule: Must complete 1 upper division writing course

Note: These courses are recommended to complete the upper division writing requirement in Geosciences but students may also select from the university-approved list of upper division writing courses to fulfill this requirement.

	Course	**Credits**
	GEO 320 - Global Water Offered autumn. Prereq. one semester of college chemistry, WRIT 101 or equiv., and completion of one writing course. Water is necessary for life. Without it, life as we know it cannot exist. This course discusses the chemistry of water as it moves through the hydrological cycle. We discuss how water chemistry evolves through atmospheric water, rain water, ground water, surface water, and sea water. Students will have an understanding of the chemical attributes of water in major water reservoirs. Class discussions, formal and informal writing assignments, a short laboratory experiment, and a field trip highlight examples of water chemistry. Students will use excel to solve problems and will learn citation conventions relevant for scientific writing.	4 Credits
	GEO 499 - senior thesis / capstone (R–10) Offered every term. Prereq., 18 credits in geosciences. Independent research project in any geosciences topic supervised by faculty member, and leading to completion of baccalaureate degree.	3 To 10 Credits

Minimum Required Grade: C-	3 Total Credits Required

Languages

Rule: Must complete 1 of the following courses

Note: Students graduating in Geosciences may substitute one of these courses in place of the Modern and Classical Language requirement.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Earth Science Education

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Bachelor of Science - Geosciences; Earth Science Education Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 60

Required Cumulative GPA: 2.0

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching. This major does not qualify as a single field endorsement. Individuals must complete a second teaching major or minor in another content area.

Lower Division Core

Rule: Must complete all of the following courses
Note: .
Minimum Required Grade: C-
17 Total Credits Required

Geosciences Core

Rule: Must complete all of the following courses.

	Course	Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits
	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
	GEO 211 - Earth's History and Evolution Offered autumn and spring. Prereq., GEO 101N and GEO 102N. Traces the history of the Earth since its inception 4.6 billion years ago. Presents scientific theories for the origin of the Earth and the nature of important earth shaping events of the past, including the development of the oceans, atmosphere, and climate.	4 Credits
	GEO 225 - Earth Materials Offered autumn. Prereq., GEO 101N, GEO 102N, and CHMY 121N or 141N. Study of minerals and rocks utilizing an Earth Systems approach; mineral identification and paragenesis; survey of the distribution of minerals from the interior to the surfaces of planets and the processes that led to their formation.	4 Credits
Minimum Required Grade: C-		12 Total Credits Required

Environmental Geoscience Course

Rule: Must complete one of the following.

	Course	Credits

	GEO 105N - Oceanography Offered spring. The ocean covers 70 % of the globe, and yet vast regions remain unexplored. Interactions between the atmosphere and the sea moderate and control our climate. Nearly 40 % of the world's population lives within 100 kilometers of the coast. The oceans are geographically, environmentally, culturally, and economically critical to society. This course introduces oceanography, including the origin of water and ocean basins; marine resources; atmospheric circulation; air-sea interaction; ocean-climate feedback; currents, tides, and coastal processes; marine ecology; and use and misuse of the oceans.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Geosciences

Minimum Required Grade: C-
17 Total Credits Required

Required Upper Division Geoscience

Rule: Complete all of the following.

	Course	Credits
	GEO 304E - Science and Society Offered autumn. Role of scientific knowledge in human societies from the pre–Classical to the present. Discussion of tools for integrating science into ethical, political, and social decisions, including analyses of modern case studies from physical sciences.	3 Credits
	GEO 311 - Paleobiology Offered spring. Prereq. GEO 101N or equiv. level Biology. Survey of the major groups of organisms in the geologic record and hands-on study of fossils; application of geologic and biologic data and principles to solve problems in geoscience and bioscience.	3 Credits
	GEO 315 - Structural Geology Offered autumn. Prereq., GEO 211, 225. Structures of deformed rocks; mechanical principles; graphical interpretation of structural problems, tectonic principles.	4 Credits
	GEO 318 - Surface Processes Offered spring. Prereq., GEO 101/102, GEO 211, M 162 or M 171, and PHSX 205/206 or PHSX 215/216. This course will introduce students to the study of the earth using the laws and principles of physics. The course will describe the mechanisms underlying the processes that shape the earth and drive its evolution, including climate, tectonics, hydrology, glaciers, and geomorphology. The course will combine lectures, field data collection, data analysis, and lab activities.	4 Credits
Minimum Required Grade: C-		14 Total Credits Required

Elective Upper Division Geoscience

Rule: Complete one additional GEO course at the 300- or 400-level

Note: GEO 320 Global Water is recommended to complete the upper division writing requirement in Geosciences but students may also select from the university-approved list of upper division writing courses to fulfill this requirement.

Physics

Rule: Must complete 1 of the following sequences

10 Total Credits Required

Physics

Rule: May complete the following sequence

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete the following sequence

	Course	Credits

	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Chemistry

Rule: Must complete the following courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123 - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or CHMY 141N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 485 - Laboratory Safety Offered autumn. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.	1 Credits
Minimum Required Grade: C-		7 Total Credits Required

Math

Rule: Must complete one math and one statistics course

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Astronomy

Rule: Must complete the following course

	Course	Credits
	ASTR 131N - Elementary Astronomy I Offered autumn. Prereq., high school algebra and geometry. An introduction to observational, historical, and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Methods Course

Rule: Must complete the following course.

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Science.

	Course	Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Languages

Rule: Must complete 1 of the following courses

Note: Students graduating in Geosciences may substitute one of these courses in place of the Modern and Classical Language requirement.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

International Field Geosciences Dual

Bachelor of Science - International Field Geos Dual

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 65

Required Cumulative GPA: 2.0

Note: This degree is designed specifically for students who seek to combine a rigorous education in the Geosciences with a yearlong international Geosciences experience and an emphasis on field-based learning. It requires attending classes and living overseas. For students who satisfy all degree requirements, a B.S. degree in International Field Geosciences will be awarded by The University of Montana and a second B.S. degree in International Field Geosciences will be awarded by the Potsdam University. The degree requirements specified below pertain both to UM-based and Potsdam-based students seeking their UM diploma. Potsdam-based students are eligible to satisfy any of the following specific requirements through credits that are transferred from Potsdam and approved as equivalent by the UM Geosciences undergraduate advisors.

Lower Division Core

Rule: Must complete all of the following courses

Note: .

	Course	Credits

	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits
	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
	GEO 211 - Earth's History and Evolution Offered autumn and spring. Prereq., GEO 101N and GEO 102N. Traces the history of the Earth since its inception 4.6 billion years ago. Presents scientific theories for the origin of the Earth and the nature of important earth shaping events of the past, including the development of the oceans, atmosphere, and climate.	4 Credits
	GEO 225 - Earth Materials Offered autumn. Prereq., GEO 101N, GEO 102N, and CHMY 121N or 141N. Study of minerals and rocks utilizing an Earth Systems approach; mineral identification and paragenesis; survey of the distribution of minerals from the interior to the surfaces of planets and the processes that led to their formation.	4 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper Division Core

Rule: Must complete all of the following courses

	Course	**Credits**
	GEO 315 - Structural Geology Offered autumn. Prereq., GEO 211, 225. Structures of deformed rocks; mechanical principles; graphical interpretation of structural problems, tectonic principles.	4 Credits
	GEO 318 - Surface Processes Offered spring. Prereq., GEO 101/102, GEO 211, M 162 or M 171, and PHSX 205/206 or PHSX 215/216. This course will introduce students to the study of the earth using the laws and principles of physics. The course will describe the mechanisms underlying the processes that shape the earth and drive its evolution, including climate, tectonics, hydrology, glaciers, and geomorphology. The course will combine lectures, field data collection, data analysis, and lab activities.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Degree Electives

Rule: Must complete 17 credits from the following courses:

	Course	**Credits**

	GEO 305 - Igneous & Metamorph Petrology Offered spring. Prereq., GEO 225, CHMY 143N. Igneous rock associations, igneous processes and origins; metamorphic minerals and phase relationships, metamorphic zones, facies, and conditions; metamorphic environments, metallic minerals and mineral deposits.	4 Credits
	GEO 309 - Sedimentation/Stratigraphy Offered spring. Prereq. GEO 211, 225. Origins of sediments and sedimentary rocks; climate, weathering, and weathering products; transport, deposition, and depositional environments of sediments; concepts and methods of stratigraphy including correlation of sedimentary rocks and an introduction to basin analysis.	4 Credits
	GEO 311 - Paleobiology Offered spring. Prereq. GEO 101N or equiv. level Biology. Survey of the major groups of organisms in the geologic record and hands-on study of fossils; application of geologic and biologic data and principles to solve problems in geoscience and bioscience.	3 Credits
	GEO 320 - Global Water Offered autumn. Prereq. one semester of college chemistry, WRIT 101 or equiv., and completion of one writing course. Water is necessary for life. Without it, life as we know it cannot exist. This course discusses the chemistry of water as it moves through the hydrological cycle. We discuss how water chemistry evolves through atmospheric water, rain water, ground water, surface water, and sea water. Students will have an understanding of the chemical attributes of water in major water reservoirs. Class discussions, formal and informal writing assignments, a short laboratory experiment, and a field trip highlight examples of water chemistry. Students will use excel to solve problems and will learn citation conventions relevant for scientific writing.	4 Credits
	GEO 327 - Geochemistry Offered alternate years. Prereq. one year of college chemistry, one semester of calculus, and one semester of physical geology, or consent of instructor. One semester of mineralogy recommended. The chemical properties of elements control their geological distribution and underlie the basic physical properties of rocks. An understanding of geochemistry will help students understand water chemistry, sediment geochemistry, and igneous petrology. The course covers chemical principles applied to geologic materials and processes, including the origin and chemical composition of earth, atmosphere, and hydrosphere. Principles of stable and radiogenic isotope geochemistry are discussed. Students will use excel to solve problems. Class discussions, problems sets, and exams are used to assess student performance.	4 Credits
	GEO 420 - Hydrogeology Offered spring. Prereq., GEO 101N-102N; PHSX 205N/206N or PHSX 215N/216N ; M 162 or 171 strongly recommended or consent of instr. Occurrence, movement, quality, and methods of quantification of groundwater. Geological framework and physics of groundwater flow. Supply, contamination, and management problems.	4 Credits

	GEO 433 - Global Tectonics Offered autumn. Prereq., GEO 315, M 162, and 2.25 or better overall GPA in geosciences courses. Geodynamics and tectonics of the Earth and other planets. Course material includes methods of observing tectonic processes and tectonic phenomena, both at the surface and in the deep earth, over a wide range of time scales.	3 Credits
	GEO 460 - Process Geomorphology Offered autumn. Prereq., one semester college calculus and physics. Quantitative examination of landforms, runoff generation, weathering, mechanics of soil erosion by water and wind, mass wasting, glacial and periglacial processes and hillslope evolution.	4 Credits
	GEO 491 - Special Topics (R-8) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.	1 To 8 Credits
Minimum Required Grade: C-		17 Total Credits Required

Physics

Rule: Must complete 1 of the following sequences

10 Total Credits Required

Physics

Rule: May complete the following sequence

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits

	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete the following sequence

	Course	Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Chemistry

Rule: Must complete 1 of the following subcategories

8-10 Total Credits Required

Chemistry Option 1

Rule: May complete all of the following courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
Minimum Required Grade: C-		8 Total Credits Required

Chemistry Option 2

Rule: May complete all of the following courses

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Math

Rule: Must complete 1 of the following subcategories

7-8 Total Credits Required

Math Option 1

Rule: May complete the following 2 courses

	Course	Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 263 - Applied Differential Equations Offered spring. Prereq., one of M 162, 171 or 181 and knowledge of basic trigonometry. Solution of ordinary differential equations and systems with emphasis on applications, numerical methods and computer software.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Math Option 2

Rule: May complete the following 2 courses

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Computer Science

Rule: Must complete 1 of the following courses

	Course	Credits
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits

	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing

Rule: Must complete the following course

Note: This course is recommended to complete the upper division writing requirement in Geosciences but students may also select from the university-approved list of upper division writing courses to fulfill this requirement.

	Course	**Credits**
	GEO 320 - Global Water Offered autumn. Prereq. one semester of college chemistry, WRIT 101 or equiv., and completion of one writing course. Water is necessary for life. Without it, life as we know it cannot exist. This course discusses the chemistry of water as it moves through the hydrological cycle. We discuss how water chemistry evolves through atmospheric water, rain water, ground water, surface water, and sea water. Students will have an understanding of the chemical attributes of water in major water reservoirs. Class discussions, formal and informal writing assignments, a short laboratory experiment, and a field trip highlight examples of water chemistry. Students will use excel to solve problems and will learn citation conventions relevant for scientific writing.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Languages

Rule: UM outgoing students must complete the following language sequence (the "test out provision" applies as administered by the Department of Modern and Classical Languages and Literatures).

	Course	**Credits**
	GRMN 101 - Elementary German I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	GRMN 102 - Elementary German II Offered spring. Prereq., GRMN 101. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading, and writing.	4 Credits

Minimum Required Grade: C-	8 Total Credits Required

Overseas Coursework

Rule: Must complete the following courses and field work at Potsdam University

Note: In addition to Geosciences coursework completed at UM students must complete the following:
1. Selection of one field course run by Potsdam University listed below
1a. BP 15 (Field Course - France)
1b. BW01 (Field Course - Norway)
1c. BW02 (field Course - Alps)
2. Any 4 of the following courses offered by Potsdam University
2a. Regional Geology
2b. Paleoclimate @ Quaternary Geology
2c. Analysis of Geologic Maps
2d. Analytic Geochemistry
2e. Natural Hazards
2f. Tectonophysics & Rheology
2g. Seismology
2h. Seismics
2i. Geoelectrics
2j. Sedimentary Systems & Stratigrahic Geomorphology
2k. Tectonics and Geodynamics
3. 2 additional cognate science courses to be taken at Potsdam University

Minimum Required Grade: C-

27-30 Total Credits Required

International Field Geosciences Joint

Bachelor of Science - International Field Geos Joint

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 67

Required Cumulative GPA: 2.0

Note: This degree is designed specifically for students who seek to combine a rigorous education in the Geosciences with a yearlong international Geosciences experience and an emphasis on field-based learning. It requires attending classes and living overseas. Most of the course work completed during the year abroad will take place at University College Cork (UCC) in Ireland. For students who satisfy all degree requirements, a joint B.S. degree in International Field Geosciences will be awarded by The University of Montana and the University College Cork.

Lower Division Core

Rule: Must complete all of the following courses

Note: .

	Course	**Credits**
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits

	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
	GEO 211 - Earth's History and Evolution Offered autumn and spring. Prereq., GEO 101N and GEO 102N. Traces the history of the Earth since its inception 4.6 billion years ago. Presents scientific theories for the origin of the Earth and the nature of important earth shaping events of the past, including the development of the oceans, atmosphere, and climate.	4 Credits
	GEO 225 - Earth Materials Offered autumn. Prereq., GEO 101N, GEO 102N, and CHMY 121N or 141N. Study of minerals and rocks utilizing an Earth Systems approach; mineral identification and paragenesis; survey of the distribution of minerals from the interior to the surfaces of planets and the processes that led to their formation.	4 Credits
Minimum Required Grade: C-		12 Total Credits Required

Upper Division Core

Rule: Must complete all of the following subcategories
Minimum Required Grade: C-
12 Total Credits Required

Subcategory 1

Rule: Must complete all of the following courses

	Course	Credits
	GEO 315 - Structural Geology Offered autumn. Prereq., GEO 211, 225. Structures of deformed rocks; mechanical principles; graphical interpretation of structural problems, tectonic principles.	4 Credits
	GEO 318 - Surface Processes Offered spring. Prereq., GEO 101/102, GEO 211, M 162 or M 171, and PHSX 205/206 or PHSX 215/216. This course will introduce students to the study of the earth using the laws and principles of physics. The course will describe the mechanisms underlying the processes that shape the earth and drive its evolution, including climate, tectonics, hydrology, glaciers, and geomorphology. The course will combine lectures, field data collection, data analysis, and lab activities.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Subcategory 2

Rule: Must complete 1 of the following courses

	Course	Credits
	GEO 309 - Sedimentation/Stratigraphy Offered spring. Prereq. GEO 211, 225. Origins of sediments and sedimentary rocks; climate, weathering, and weathering products; transport, deposition, and depositional environments of sediments; concepts and methods of stratigraphy including correlation of sedimentary rocks and an introduction to basin analysis.	4 Credits
	GEO 443 - Prin of Sedimentary Petrology Offered autumn. Prereq., GEO 225 or graduate standing. Field, hand specimen and thin section petrology of siliciclastic and carbonate rocks, emphasis on tectonic and diagenetic interpretation of siliciclastic rock and environments of deposition and diagenesis of carbonate rocks.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Degree Electives

Rule: Must complete 15 credits from the following courses:

	Course	Credits
	GEO 305 - Igneous & Metamorph Petrology Offered spring. Prereq., GEO 225, CHMY 143N. Igneous rock associations, igneous processes and origins; metamorphic minerals and phase relationships, metamorphic zones, facies, and conditions; metamorphic environments, metallic minerals and mineral deposits.	4 Credits
	GEO 309 - Sedimentation/Stratigraphy Offered spring. Prereq. GEO 211, 225. Origins of sediments and sedimentary rocks; climate, weathering, and weathering products; transport, deposition, and depositional environments of sediments; concepts and methods of stratigraphy including correlation of sedimentary rocks and an introduction to basin analysis.	4 Credits
	GEO 311 - Paleobiology Offered spring. Prereq. GEO 101N or equiv. level Biology. Survey of the major groups of organisms in the geologic record and hands-on study of fossils; application of geologic and biologic data and principles to solve problems in geoscience and bioscience.	3 Credits

	GEO 320 - Global Water Offered autumn. Prereq. one semester of college chemistry, WRIT 101 or equiv., and completion of one writing course. Water is necessary for life. Without it, life as we know it cannot exist. This course discusses the chemistry of water as it moves through the hydrological cycle. We discuss how water chemistry evolves through atmospheric water, rain water, ground water, surface water, and sea water. Students will have an understanding of the chemical attributes of water in major water reservoirs. Class discussions, formal and informal writing assignments, a short laboratory experiment, and a field trip highlight examples of water chemistry. Students will use excel to solve problems and will learn citation conventions relevant for scientific writing.	4 Credits
	GEO 327 - Geochemistry Offered alternate years. Prereq. one year of college chemistry, one semester of calculus, and one semester of physical geology, or consent of instructor. One semester of mineralogy recommended. The chemical properties of elements control their geological distribution and underlie the basic physical properties of rocks. An understanding of geochemistry will help students understand water chemistry, sediment geochemistry, and igneous petrology. The course covers chemical principles applied to geologic materials and processes, including the origin and chemical composition of earth, atmosphere, and hydrosphere. Principles of stable and radiogenic isotope geochemistry are discussed. Students will use excel to solve problems. Class discussions, problems sets, and exams are used to assess student performance.	4 Credits
	GEO 420 - Hydrogeology Offered spring. Prereq., GEO 101N-102N; PHSX 205N/206N or PHSX 215N/216N ; M 162 or 171 strongly recommended or consent of instr. Occurrence, movement, quality, and methods of quantification of groundwater. Geological framework and physics of groundwater flow. Supply, contamination, and management problems.	4 Credits
	GEO 433 - Global Tectonics Offered autumn. Prereq., GEO 315, M 162, and 2.25 or better overall GPA in geosciences courses. Geodynamics and tectonics of the Earth and other planets. Course material includes methods of observing tectonic processes and tectonic phenomena, both at the surface and in the deep earth, over a wide range of time scales.	3 Credits
	GEO 443 - Prin of Sedimentary Petrology Offered autumn. Prereq., GEO 225 or graduate standing. Field, hand specimen and thin section petrology of siliciclastic and carbonate rocks, emphasis on tectonic and diagenetic interpretation of siliciclastic rock and environments of deposition and diagenesis of carbonate rocks.	4 Credits
	GEO 460 - Process Geomorphology Offered autumn. Prereq., one semester college calculus and physics. Quantitative examination of landforms, runoff generation, weathering, mechanics of soil erosion by water and wind, mass wasting, glacial and periglacial processes and hillslope evolution.	4 Credits
	GEO 491 - Special Topics (R-8) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.	1 To 8 Credits

Minimum Required Grade: C-	15 Total Credits Required

Physics

Rule: Must complete 1 of the following sequences

10 Total Credits Required

Physics

Rule: May complete the following sequence

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete the following sequence

	Course	Credits

	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Chemistry

Rule: Must complete 1 of the following subcategories

8-10 Total Credits Required

Chemistry Option 1

Rule: May complete all of the following courses

	Course	**Credits**
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits

Minimum Required Grade: C-	8 Total Credits Required

Chemistry Option 2

Rule: May complete all of the following courses

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Math

Rule: Must complete 1 of the following subcategories

7-8 Total Credits Required

Math Option 1

Rule: May complete the following 2 courses

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 263 - Applied Differential Equations Offered spring. Prereq., one of M 162, 171 or 181 and knowledge of basic trigonometry. Solution of ordinary differential equations and systems with emphasis on applications, numerical methods and computer software.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Math Option 2

Rule: May complete the following 2 courses

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Computer Science

Rule: Must complete 1 of the following courses

	Course	Credits
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing

Rule: Must complete the following course

Note: This course is recommended to complete the upper division writing requirement in Geosciences but students may also select from the university-approved list of upper division writing courses to fulfill this requirement.

	Course	Credits
	GEO 320 - Global Water Offered autumn. Prereq. one semester of college chemistry, WRIT 101 or equiv., and completion of one writing course. Water is necessary for life. Without it, life as we know it cannot exist. This course discusses the chemistry of water as it moves through the hydrological cycle. We discuss how water chemistry evolves through atmospheric water, rain water, ground water, surface water, and sea water. Students will have an understanding of the chemical attributes of water in major water reservoirs. Class discussions, formal and informal writing assignments, a short laboratory experiment, and a field trip highlight examples of water chemistry. Students will use excel to solve problems and will learn citation conventions relevant for scientific writing.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Languages

Rule: Must complete 1 of the following subcategories (the "test out provision" applies as administered by the Department of Modern and Classical Languages and Literatures).

6-10 Total Credits Required

German

Rule: May complete the following language sequence

	Course	Credits
	GRMN 101 - Elementary German I Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
	GRMN 102 - Elementary German II Offered spring. Prereq., GRMN 101. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading, and writing.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Irish

Rule: May complete the following language sequence

	Course	Credits

	ENIR 101 - Elementary Irish I Offered autumn or spring. Same as IRSH 101. This course represents an introduction to modern Irish in both its spoken and written forms: basic principles of grammar and sentence structure are covered. Emphasis is placed on the application of these principles in every-day situations. The General Education Modern & Classical Languages requirement can be fulfilled by successful completion of 101, 102 and 103. For proficiency equal to the 202-level, students must take the five semester sequence (101, 102, 103, 201, & 202) of Irish language study.	3 Credits
	ENIR 102 - Elementary Irish II Offered autumn or spring. Same as IRSH 102. The primary objective of this course is to build on the foundations laid in Elementary Irish I. Students will expand their vocabulary with a special focus on verbs; they will also engage new themes that demand a corresponding increase in their store of nouns, adjectives, idioms and expressions. The General Education Modern & Classical Languages requirement can be fulfilled by successful completion of 101, 102 and 103. For proficiency equal to the 202-level, students must take the five semester sequence (101, 102, 103, 201, & 202) of Irish language study.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Overseas Coursework

Rule: Must complete the following courses and field work at University College of Cork and Potsdam University

Note: In addition to Geosciences coursework completed at UM students must complete the following:
1. 1 formal field course module run by University College Cork, selected from
1a. GL 2016 (Easter Field Course - Dingle Peninsula)
1b. GL 3019 (Easter Field Course - Western Scotland)
1c, ER 3002 (Easter Field Course - North Clare)
1d. GL 4008 (Easter Field Course - Central Greece)
1e. another equivalent-level field course run by UCC and approved apriori by their UCC and UM advisors
2. While in residence at Cork, students must complete any 9 of the following courses in consultation with their UCC and UM advisors
2a. Sed Processes and Petrology
2b. Igneous and MM Petrology
2c. Invertebrate Paleontology & Evolution
2d. Plate Tectonics & Global Geophysics
2e. Igneous Petrogenesis & Geochemistry
2f. Metamorphism & Geochronology
2g. Advanced Structural Geology
2h. Sedimentary Environments
2i. Stratigraphy & Geologic Maps
2j. Environmental Geology
2k. Terr Ecosystems Through Time
2l. Micropaleontology & Palynology
2m. Petroleum Geology & Basin Analysis
2n. Applied Geophysics & Computer Applications
2o. Advanced Igneous Petrology
2p. Hydrogeology
3. 1 formal upper-level Geosciences course at Potsdam University. Recommended are courses that focus on computer-based visualization or geoscience data using GIS or other visualization platforms

Minimum Required Grade: C-

33-36 Total Credits Required

Geosciences Minor

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18
Required Cumulative GPA: 2.0

Lower Division Core Courses

Rule: Must complete all of the following
Note: This sequence of courses is recommended but alternative sequences may be approved by an advisor.

	Course	Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits
	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
	GEO 211 - Earth's History and Evolution Offered autumn and spring. Prereq., GEO 101N and GEO 102N. Traces the history of the Earth since its inception 4.6 billion years ago. Presents scientific theories for the origin of the Earth and the nature of important earth shaping events of the past, including the development of the oceans, atmosphere, and climate.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Degree Electives

Rule: Must complete an additional 10 credits in Geosciences courses numbered 200 and above
Minimum Required Grade: C-
10 Total Credits Required

Biological Sciences

Charles H. Janson, Associate Dean for the Biological Sciences

The Division of Biological Sciences has undergraduate and graduate programs representing the full range of the biological sciences. The Division offers Bachelor's degrees in Biology (with a broad array of formal options described in more detail below), Medical Laboratory Science, Microbiology including microbial ecology, Wildlife Biology (a cooperative program administered by the College of Forestry and Conservation), and Biochemistry (an interdepartmental degree administered by the Chemistry Department). The Division also advises students in pre-health sciences and offers a series of summer field courses at the University's Flathead Lake Biological Station (http://flbs.umt.edu) a year-round academic center for the ecological sciences, located 85 miles north of Missoula near Kalispell and Glacier National Park. The Division is one of the leading research units in the University. Research programs in the Division provide abundant opportunities for students to enhance their

educational experience by participating in mentored research. Several sources of funding are available to support undergraduate student research, and the Division participates in the University of Montana Conference on Undergraduate Research each spring.

Graduate degrees offered by the Division of Biological Sciences include Master of Science and Doctor of Philosophy degrees in Cellular, Molecular and Microbial Biology (CMMB), Organismal Biology and Ecology (OBE), and Systems Ecology (SE). The Division also participates in the graduate (M.S. and Ph.D.) program in Wildlife Biology, administered by the College of Forestry and Conservation and in the Ph.D. program in Biochemistry and Biophysics, administered by the Chemistry Department. Information on graduate study and program requirements is available from the Graduate School or the Division of Biological Sciences.

The Division offers a Bachelor of Science degree in **Biology** that provides a solid foundation in core areas of the biological sciences and in supporting physical sciences and mathematics. Several concentrations are provided within the B.S. biology degree:

Cellular and molecular biology: For students interested in the cellular and molecular aspects of biology, and for students interested in health-related professions.

Ecology and organismal biology: For students interested in the biology of organisms (plants and animals), populations or communities, and for students interested in veterinary school.

Field ecology: For students interested in field-based ecology. Students with this option spend one or two summers taking field courses at the Flathead Lake Biological Station.

Genetics and evolution: For students interested in all aspects of genetics, as well as evolutionary biology, and for students interested in health-related professions.

Human biological sciences: Provides a strong background in the biological sciences for students interested in pursuing further study in a health sciences professional program.

The Division also offers a Bachelor of Arts degree in Biology with the following concentrations:

Natural history: For students who would like to combine basic natural history and biological sciences with another field such as art, journalism, or creative writing.

Biological Education and General Sciences Broadfield: Two separate options designed for students interested in a career teaching biology or all sciences at the secondary (middle or high school) level.

The Division also offers a Bachelor of Science degree in **Microbiology**. Microbiology is the study of microorganisms, including bacteria, yeasts, molds, viruses, protozoa and other microscopic parasites. The Bachelor's degree in Microbiology is offered as a general degree or with an option in microbial ecology. The general option emphasizes microbial structure, function, and interactions and relationships with humans. The microbial ecology option emphasizes microbial structure, function, and interactions and relationships with the environment and other organisms.

The Division also offers a Bachelor of Science degree in **Medical Laboratory Science** (Michael Minnick, Professor of Microbiology, Advisor). Medical Laboratory Science or clinical laboratory science is a combined study of chemistry, physiology and microbiology (http://www.umt.edu/medtech/). A medical laboratory scientist performs chemical, microscopic, and microbiological procedures used in the diagnosis, study and treatment of human disease. Medical laboratory scientist are in high demand in hospital, clinical labs, research institutions and government health departments. Certification is required for clinical practice.

To become certified, a student, after satisfying the minimum course requirements, serves a clinical practicum of at least 12 consecutive months in a school of medical laboratory science accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). After completing a clinical practicum and passing the American Society for Clinical Pathology (ASCP) Board of Certification examination, the student is certified as a Medical Laboratory Scientist [MLS(ASCP)].

The University of Montana has two coursework tracks for the Medical Laboratory Science B.S. degree. The 3+1 track includes the practicum at one of our affiliated programs as part of the degree, while the practicum is not included in the 4+1 track.

Degree requirements for all three majors and courses are described below (see the College of Forestry and Conservation for information about Wildlife Biology and the Biochemistry Program in the College of Humanities and Sciences for information about Biochemistry).

The Division of Biological Sciences is committed to providing coursework and experiences for non-science majors. The world faces many problems and opportunities that include significant biological components. Courses for non-science majors have the goal of fostering understanding of the process of science and enhancing biological knowledge as it relates to environmental, medical, social, and other issues. A number of introductory courses are open both to majors and non-majors. In addition, the Division offers courses designed specifically for non-majors: Microbiology for Health Sciences, Introductory Ecology, Survey of Montana Wildlife and Habitats, and others.

Department Faculty

Professor

Creagh Breuner, Professor

Jedediah Brodie, Assistant Professor; John Craighead Endowed Chair of Conservation
Ragan Callaway, Professor
Matthew Church, Associate Professor
Chris Comer, Dean / Professor
James Elser, Bierman Professor, Director of the Flathead Lake Biological Station
Douglas Emlen, Professor
Willard Granath Jr., Professor
Erick Greene, Professor
F. Richard Hauer, UM Director-Institute on Ecosystems
Jesse Hay, Professor, DBS
William Holben, Professor
Charles Janson, Associate Dean / Professor
J. Stephen Lodmell, Professor
Gordon Luikart, Professor of Conservation Ecology and Genetics
John Maron, Professor
Michael Minnick, Professor
Jack Nunberg, Professor and Director of MBC
Frank Rosenzweig, Professor
Anna Sala, Professor
D. Scott Samuels, Professor
Stephen Sprang, Professor, DBS & Director, CBSD
H. Maurice Valett, Professor of Systems Ecology

Associate Professor

Sarah Certel, Assistant Professor, DBS
Lila Fishman, Associate Professor
Jeffrey Good, Assistant Professor
Mark Grimes, Associate Professor, DBS
Winsor Lowe, Associate Professor
John McCutcheon, Associate Professor
Scott Miller, Associate Professor
Brent Ryckman, Associate Professor
Bret Tobalske, Associate Professor, Director Field Research Station
Scott Wetzel, Associate Professor
Art Woods, Associate Professor

Assistant Professor

Zachary Cheviron, Assistant Professor
Brandon S. Cooper, Assistant Professor
Ekaterina Voronina, Assistant Professor

Lecturer

Heather Labbe, Lecturer
Laurie A. Minns, Lecturer, Division of Biological Sciences
Kevin Murray, Lecturer

Research Faculty

Jim Battisti
Shawn Devlin, Assistant Research Professor
Dan Drecktrah, Assistant Research Professor
Bonnie Ellis, Assistant Research Professor
Jay Evans, Research Professor, Director of CTM
Matthew Herron, Research Assistant Professor
John S. Kimball, Professor - Systems Ecology
Eugene Kroll, Research Associate Professor
Penelope Kukuk, Retired Research Professor
Jean-Marc Lanchy, Research Assistant Professor
Erin Landguth, Assistant Research Professor
Tung-Chung Mou, Assistant Research Professor
Daniel Mummey
Dean Pearson, Research Ecologist - USFS
Alyson Smith, Assistant Research Professor

Barbara Wright, Retired Research Professor

Affiliates

Ashley Ballantyne, Assistant Professor of Bioclimatology
Len Broberg, Professor, EVST Program Director
Barry Brown, Head of Access and Collection Services; Science Librarian
James Burchfield, Professor of Forest Social Sciences
Cory Cleveland, Professor, Terrestrial Ecosystem Ecology; Chair, Department of Ecosystems & Conservation Sciences
Robert Crabtree, Research Associate Professor
Solomon Dobrowski, Associate Professor of Forest Landscape Ecology
Lisa Eby, Associate Professor of Aquatic Vertebrate Ecology; Undergraduate Program Director, Ecosystem Science & Restoration
Kelsey Jencso, Assistant Professor, Watershed Hydrologist
Ulrich Kamp, Professor
Anna Klene, Professor
Henriette Lowisch, Associate Professor
Thomas E Martin, DBS Associated Faculty
Alexander L. Metcalf, Research Assistant Professor
Elizabeth Covelli Metcalf, Associate Professor of Recreation Management & Human Dimensions of Natural Resources; Undergraduate Program Director, PTRM
Jakki Mohr, Professor
Clint Muhlfeld, Research Assistant Professor
Helen Naughton, Associate Professor
Cara Nelson, Associate Professor of Restoration Ecology
Alison Perkins, Adjunct Professor
Douglas Raiford, Research Professor
Jeff Renz, Clinical Professor (Retired)
Steve Running, Regents Professor of Ecology; Director, Numerical Terradynamics Simulation Group
David Shepherd, Professor
Diana Six, Professor of Forest Entomology/Pathology
Linda Vance, Senior Ecologist/Spatial Analysis Lab Director
Vicki Watson, Professor
Travis Wheeler, Assistant Professor, Assistant Chair of Computer Science

Emeritus

Fred Allendorf, Regents Professor Emeritus
Kenneth Dial, Professor Emeritus
Kerry Foresman, Professor Emeritus
James Gannon, Professor Emeritus
Walter Hill, Professor Emeritus
Richard Hutto, Professor Emeritus

Biology-General

Back to Top

- **BIOB 101N - Discover Biology**
  Credits: 3. Offered every term. Contemporary exploration of the organization and complexity of living organisms and the systems in which they live. The central question of biology--relationship between form and function, acquisition and use of energy, and continuity between generations will be addressed through lectures and laboratory investigations. Credit not allowed toward a major in biology. Credit not allowed for both BIOB 101N and BIOB 160N. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)
- **BIOB 130N - Evolution and Society**
  Credits: 3. Offered intermittently. A focus on relationships between evolutionary biology and important social issues, including the evolution of drug-resistant diseases, the construction and use of genetically-modified organism, human evolutionary biology, and experimental laboratory evolution. Course Attributes: Natural Science Course (N)
- **BIOB 160N - Principles of Living Systems**
  Credits: 3. Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction,

genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N. Course Attributes: Natural Science Course (N)

- BIOB 161N - Prncpls of Living Systems Lab

  Credits: 1. Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing. Course Attributes: Natural Science Lab Course (N)
  Natural Science Course (N)

- BIOB 170N - Princpls Biological Diversity

  Credits: 3. Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals. Course Attributes: Natural Science Course (N)

- BIOB 171N - Princpls Biological Dvrsty Lab

  Credits: 2. Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- BIOB 191 - Special Topics

  Credits: 1 TO 6. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BIOB 191N - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Internships/Practicums

- BIOB 198 - Internship

  Credits: 1 TO 6. Prereq., consent of Division. Extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- BIOB 226N - Gen Science: Earth & Life Sci

  Credits: 5. Offered spring. Prereq., PHSX 225N and M 132 or M 135 or equiv. Integrated lectures, laboratory exercises, and field trips on topics in earth and biological science for prospective elementary school teachers and the non-scientist. A two-hour laboratory session is required each week and one or two Saturday field trips. Course Attributes: Natural Science Lab Course (N)
  Natural Science Course (N)

- BIOB 260 - Cellular and Molecular Biology

  Credits: 4. Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.

- BIOB 272 - Genetics and Evolution

  Credits: 4. Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.

- BIOB 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BIOB 298 - Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of Division. Extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A

maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- BIOB 301 - Developmental Biology

  Credits: 3. Offered autumn. Prereq., BIOB 260; BIOB 272 recommended. An analysis of the origin and development of form and patterns in organisms, stressing the processes of growth and differentiation in plants and animals. Graded traditional letter grade only.

- BIOB 375 - General Genetics

  Credits: 3. Offered spring. Prereq., BIOB 260 and 272. This course will focus on the molecular genetics of eukaryotes, with special emphasis on transmission genetics and gene structure and regulation.

- BIOB 390 - Undergrad Research

  Credits: 1 TO 10. (R-10) Offered every term. Prereq., consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit. Course Attributes: Research & Creative Schlrshp

- BIOB 391 - Special Topics

  Credits: 1 TO 10. (R-10) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BIOB 392 - Independent Study

  Credits: 1 TO 10. (R-10) Offered every term. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BIOB 398 - Internship

  Credits: 1 TO 6. Offered every term. Prereq., consent of the Division. Extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- BIOB 410 - Immunology

  Credits: 3. Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.

- BIOB 411 - Immunology Laboratory

  Credits: 2. Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.

- BIOB 425 - Adv Cell & Molecular Biology

  Credits: 3. Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.

- BIOB 440 - Biological Electron Microscopy

  Credits: 2. Offered spring. Prereq., senior standing or consent of instr. Theory of electron microscopy, recent developments in transmission and scanning electron microscopy. Limited experience with the instruments.

- BIOB 468 - Endocrinology

  Credits: 3. Offered alternate years. Prereq., BIOB 260 and 272. Integration of fundamental concepts of endocrinology (such as hormone release, hormone transport and receptor activation) into complex systems (such as reproduction).

- BIOB 480 - Conservation Genetics

  Credits: 3. Offered intermittently. Prereq., BIOB 272. Genetic basis for solving biological problems in conservation including the genetics of small populations, the application of molecular genetic techniques to conservation biology and case studies of the application of genetics to conservation problems.

- BIOB 483 - Phylogenics and Evolution

  Credits: 3. Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies

from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.

- BIOB 486 - Genomics

  Credits: 3. Offered autumn. Prereq., BIOB 272. Principles and mechanisms of genome biology of animals and microbes, including genome function, evolution, and basic molecular and computational methodology used in genome biology.

- BIOB 488 - Programming for Biology

  Credits: 3. Offered spring. Prereq., BIOB 486 or A- or higher in BIOB 272. An introduction to computer programming using genomic and evolutionary examples. No prior programming experience expected or required.

- BIOB 490 - Adv Undergrad Research

  Credits: 1 TO 10. (R-10) Offered every term. Prereq., junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit. Course Attributes: Research & Creative Schlrshp

- BIOB 491 - Special Topics

  Credits: 1 TO 10. (R-10) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BIOB 492 - Independent Study

  Credits: 1 TO 10. Offered every term. Prereq., consent of instr. Independent work under the University omnibus option. See index. Course Attributes: Omnibus Course

- BIOB 494 - Seminar in Biology

  Credits: 1. (R-3) Offered intermittently. Prereq., consent of instr. A review and discussion of current research. Topics vary.

- BIOB 498 - Internship

  Credits: 1 TO 6. Offered every term. Prereq., consent of the Division. Extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- BIOB 499 - Undergraduate Thesis

  Credits: 3 TO 6. (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.

- BIOB 505 - OBE Core Course - Genetics and Evolution

  Credits: 3. Offered alternate years. Prereq., graduate standing. Exploration of the fundamental concepts and approaches in evolutionary biology and evolutionary genetics. Lectures and discussions, with an emphasis on primary literature, classic and contemporary. Level: Graduate

- BIOB 506 - OBE Core Course - Ecology

  Credits: 3. Offered alternate years. Prereq., graduate standing. Broad overview of population and community ecology. Lectures and discussions, introducing theoretic foundations and exploring classic and more recent empirical tests of theory. Level: Graduate

- BIOB 507 - OBE Core Course - Organismal Function

  Credits: 3. Offered alternate years. Prereq., graduate standing. Exploration of the physical and chemical mechanisms that underlie the relationship between form and function in organisms. Lectures and discussions are pursued using a comparative, ecological and evolutionary framework. Level: Graduate

- BIOB 513 - Community Ecology

  Credits: 3. Offered alternate years. Prereq., BIOE 370 or equiv., consent of instr. Current concepts of species interactions, succession, food webs, temporal and spatial patterns and quantitative characterization of community structure. Level: Graduate

- BIOB 518 - Plant-Consumer Interactions

Credits: 3. Offered alternate years. Prereq. BIOE 370 or equiv. Ecology and evolution of plant-consumer interactions. Review of classic and contemporary literature on plant-consumer interactions. Level: Graduate

- BIOB 522 - Rdgs Morph, Phys, and Zool

  Credits: 1. (R-8) Prereq., graduate standing and consent of instr. Review and discussion of current literature in the fields of morphology, physiology, and ecology. Level: Graduate

- BIOB 524 - Physiological Plant Ecology

  Credits: 3. Offered alternate years. Prereq., BIOE 370 and BIOO 433. The physiological basis of plant adaptation and response to the environment. Level: Graduate

- BIOB 526 - Trends in Plant Ecology

  Credits: 2. (R-16) Prereq., graduate standing. Current concepts, theory, and experiments in plant ecology. Level: Graduate

- BIOB 541 - Electron Microscopy Lab

  Credits: 1 TO 6. (R-6) Prereq. or coreq., BIOB 440 or equiv. Practical laboratory experience in the preparation of various samples and hands-on operation of the transmission and/or scanning electron microscopes. Level: Graduate

- BIOB 547 - Exptl Mol/Cell/Chem Biol

  Credits: 1. (R-8) Offered every term. Prereq., graduate standing or consent of instr. Focus on experimental design, methods, and presentation of experimental results for graduate students in laboratories with a molecular, cellular or chemical biological focus. Level: Graduate

- BIOB 551 - Environmental Field Study

  Credits: 1 TO 3. (R-3) Prereq. or coreq.,ENSC 540 or ENST 560. Same as ENSC 551. Designing, executing, and interpreting environmental studies. Project oriented. Level: Graduate

- BIOB 561 - Population Genetics Seminar

  Credits: 1 TO 2. (R-12) Prereq., consent of instr. or graduate standing. Current topics in population genetics, evolutionary biology, molecular evolution and related topics. Level: Graduate

- BIOB 565 - Membrane Dynamics Res Sem

  Credits: 1. (R-8) Offered every term. Prereq., graduate standing or consent of instr. Focus on experimental design, methods, and presentation of experimental results for students conducting research in membrane cell biology, including membrane trafficking and intracellular signaling. Level: Graduate

- BIOB 594 - Seminar in Biology

  Credits: 1. (R-6) Prereq., graduate standing or consent of instr. A review and discussion of current research in biology. Topics vary. Level: Graduate

- BIOB 595 - Special Topics

  Credits: 1 TO 4. (R-22) Prereq., graduate standing and consent of instr. Experimental offering of new courses by resident or visiting faculty. Level: Graduate

- BIOB 596 - Independent Study

  Credits: 1 TO 8. (R-8) Prereq., consent of instr. Credit for independent research project unrelated to thesis or dissertation. Level: Graduate Course Attributes: Independent Study

- BIOB 597 - Research

  Credits: 1 TO 8. (R-12) Prereq., consent of instr. Library work involved with preparation of a thesis or dissertation proposal. Level: Graduate

- BIOB 598 - Internship

  Credits: 1 TO 8. (R-8) Prereq., consent of the Division, graduate standing. Extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Level: Graduate Course Attributes: Internships/Practicums

- BIOB 599 - Thesis

  Credits: 1 TO 10. (R-10) Prereq., masters student in biology. Field and laboratory research on, and writing of, a student's master's thesis. Level: Graduate

- BIOB 699 - Dissertation

  Credits: 1 TO 10. (R-20) Prereq., doctoral student in biology. Credit for field and laboratory research on, and writing of, a student's doctoral dissertation. Level: Graduate

Biology - Ecological

Back to Top

- BIOE 172N - Introductory Ecology

  Credits: 3. Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems. Course Attributes: Natural Science Course (N)

- BIOE 342 - Field Ecology

  Credits: 5. Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.

- BIOE 370 - General Ecology

  Credits: 3. Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).

- BIOE 371 - Gen Ecology Lab (equiv to 271)

  Credits: 2. Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.

- BIOE 394 - Seminar/Workshop

  Credits: 2. Offered autumn. Preparatory readings and attendance at seminars on a wide variety of ecological and wildlife management topics followed by critiques.

- BIOE 403 - Vert Design & Evolution

  Credits: 5. Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.

- BIOE 406 - Behavior & Evolution

  Credits: 3. Offered autumn. Prereq., BIOB 272. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies.

- BIOE 409 - Behavior & Evolution Discussion

  Credits: 1. Offered autumn. Co-req., BIOE 406. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies. This discussion course complements the lectures of BIOE 406 by examining both landmark and recent literature. It also includes a written component.

- BIOE 416 - Alpine Ecology

  Credits: 3. Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Distribution, abundance and life cycles of plants and animals and their unique ecophysiological adaptations to life in the rigorous environments of the high mountains above the timberline, with emphasis on the Crown of the Continent area.

- BIOE 428 - Freshwater Ecology

  Credits: 5. Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.

- BIOE 439 - Stream Ecology

Credits: 3. Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371, CHMY 121N. The biota and biogeochemical processes of running waters with unifying principles and contemporary research approaches.

- BIOE 440 - Conservation Ecology

  Credits: 3. Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Concepts and approaches for sustaining biodiversity and other natural goods and services provided by terrestrial and aquatic systems.

- BIOE 447 - Terrestrial Ecosystem Ecology

  Credits: 3. Offered intermittently. Prereq., BIOB 160N and any ecology-themed course or consent of instr. Introduction to systems thinking and the ecosystem concept, review of water and energy balance, carbon cycling and production processes, nutrient cycling, trophic dynamics, and species effects on ecosystem functioning.

- BIOE 448 - Terrestrial Plant Ecology

  Credits: 4. Offered alternate autumn. Prereq. BIOB 272N. The interrelationships between plants and plant communities and their natural environment.

- BIOE 449 - Plant Biogeography

  Credits: 3. Offered intermittently. Prereq., consent of instr. Description of the distribution of plants and animals at global, continental and regional scales. Analysis of ecological and historical factors influencing distribution and association.

- BIOE 451 - Landscape Ecology

  Credits: 3. Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Biophysical processes that determine landscape and ecosystem structure and function using remote sensing tools, geographic information systems and dynamic models to demonstrate landscape change.

- BIOE 453 - Ecology of Small & Large Lakes

  Credits: 3. Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371, CHMY 121N and CHMY 123N. The physical, chemical and biological characteristics of lake ecosystems with an emphasis on nutrient cycling, food web interactions and water quality.

- BIOE 458 - Forest and Grassland Ecol

  Credits: 3. Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Patterns and processes of the forests and grasslands of the northern Rocky Mountains in the context of principles of population community and ecosystem ecology.

- BIOE 490 - Adv Undergrad Research

  Credits: 1 TO 10. (R-10) Offered every term. Prereq., junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit.

- BIOE 594 - Seminar

  Credits: 1 TO 4. (R-12). Offered intermittently. Prereq. graduate standing. Presentations by student, faculty, and associates on issues and topics in their field. Level: Graduate

Biology-Human

Back to Top

- BIOH 112 - Human Form and Function I

  Credits: 3. Offered autumn. Explores the fundamentals of structure and function at basic cellular and tissue levels, in addition to the anatomy and physiology of the integumentary, musculoskeletal, and nervous systems.

- BIOH 113 - Human Form and Function II

  Credits: 3. Offered spring. Explores the fundamental structures and functions of the endocrine, cardiovascular, respiratory, digestive, urinary and reproductive systems.

- BIOH 191 - Special Topics

  Credits: 1 TO 6. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BIOH 280 - From Molecules to Mind - Fundamentals of Neuroscience

Credits: 3. Course will focus on the molecular and cellular underpinnings of the functions of the brain and nervous system. The topics will range from the basis of electrical and chemical signaling to the organization of the sensory systems and mechanisms involved in learning, memory, and complex behaviors.

- BIOH 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BIOH 365 - Human AP I for Health Profsns

  Credits: 0 TO 4. Offered autumn. Prereq., CHMY 121N or CHMY 141N; BIOB 160N or BIOH 112 or 113. Introduction to basic cellular structure and function. The fundamental facts and concepts of the anatomy and physiology of cells and tissues, the integumentary, musculoskeletal, nervous and special senses with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.

- BIOH 370 - Human AP II for Health Profsns

  Credits: 0 TO 4. Offered spring. Prereq., BIOH 365. The fundamental facts and concepts of the anatomy and physiology of the endocrine, circulatory, respiratory, digestive, urinary and reproductive systems with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.

- BIOH 398 - Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of the Division. Extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internship graduation limit 6

- BIOH 405 - Hematology

  Credits: 3. Offered autumn. Prereq., junior level or consent of instr., BIOM 360. Study of blood and diseases of the circulatory system. Blood banking and serology.

- BIOH 423 - TA: Form & Function I

  Credits: 1 TO 3. (R-4) Offered autumn. Prereq., "A" or "B" in BIOH 112 and 113 and/or one year upper division anatomy and physiology coursework with cadaver lab. Consent of instr. This select group of students teaches regularly scheduled cadaver lab prosection experiences for students enrolled in BIOH 112; assists in preparation and grading of lecture and laboratory visit teaching materials; and assists with proctoring and grading exams of undergraduate students enrolled in BIOH 112.

- BIOH 424 - TA: Form & Function II

  Credits: 1 TO 3. (R-4) Offered spring. Prereq., "A" or "B" in BIOH 112 and 113 and/or one year upper division anatomy and physiology coursework with cadaver lab. Consent of instr. This select group of students teaches regularly scheduled cadaver lab prosection experiences for students enrolled in BIOH 113; assists in preparation and grading of lecture and laboratory visit teaching materials; and assists with proctoring and grading exams of undergraduate students enrolled in BIOH 113.

- BIOH 456 - Cadaver Dissection I

  Credits: 2. Offered autumn. Prereq., "A" or "B" in BIOH 365 and 370 or equivalent with cadaver experience. Consent of instr. This course is a practicum that provides the participant the ability to expand their anatomical knowledge base, professional growth, and public speaking skills. The participant will have the unique opportunity to dissect, within a small group, a region of a cadaver and present visible structures to their peers. The cadavers prepared by these students are used for teaching in DBS A&P offerings. Systems presented in autumn semester include integumentary, musculoskeletal and nervous systems.

- BIOH 457 - Cadaver Dissection II

  Credits: 2. Offered spring. Prereq., "A" or "B" in BIOH 365 and 370 or equivalent with cadaver experience, and a grade of “A” in BIOH 456. Consent of instr. This course is a practicum that provides the participant the ability to expand their anatomical knowledge base, professional growth, and public speaking skills. The participant will have the unique opportunity to dissect, within a small group, a region of a cadaver and present visible structures to their peers. The cadavers prepared by these students are used for teaching in DBS A&P offerings. Systems prepared and presented in spring semester include endocrine, cardiovascular, lymphatic, digestive, urinary and reproductive.

- BIOH 458 - Neuroscience Research

  Credits: 4. Prereq., senior standing in Neuroscience. Theory and practical experience in neuroscience experiment design, data collection, results analysis and report creation. Students will generally assist with ongoing research as well as attend formal classroom presentations and discussions. Students will be required to work with the course writing instructor to undertake the writing process and develop a primary literature review, an abstract and final report based on the experiments conducted and the data collected. Students with well-developed research ideas and skills may be allowed to undertake supplemental independent research. Course Attributes: Writing Course-Advanced

- BIOH 461 - Human Anat/Phys I Tutor/Honors

  Credits: 3. Offered autumn. Prereq., "A" or "B" in BIOH 365 or equiv. and consent of instr. This select group of students performs tutoring for students enrolled in BIOH 365; assists in preparation and grading of lecture and laboratory course teaching materials to undergraduate students enrolled in BIOH 365. Students enrolled in BIOH 461 have the option of co-enrolling in the cadaver dissection course.

- BIOH 462 - Principles Medical Physiology

  Credits: 3. Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care. Course Attributes: Writing Course-Advanced

- BIOH 463 - Human Anat/Phys II Tutor/Honor

  Credits: 3. Offered spring. Prereq., "A" or "B" in BIOH 370 or equiv. and consent of instr. This select group of students performs tutoring for students enrolled in BIOH370; assists in preparation and grading of lecture and laboratory course teaching materials to undergraduate students enrolled in BIOH 370. Students enrolled in BIOH 463 have the option of co-enrolling in the cadaver dissection course.

- BIOH 470 - Summer Clinical Laboratory

  Credits: 12. Offered summer. Prereq., successful completion of medical laboratory science 3+1 on-campus curriculum, admittance into one of our affiliated clinical practicum programs, and consent of instructor. Professional training in clinical laboratory sciences (medical laboratory science). Course Attributes: Internships/Practicums

- BIOH 471 - Professional Training I

  Credits: 13. Offered autumn. Prereq., BIOH 470. Continuation of BIOH 470. Professional training at clinical site(s). Course Attributes: Internships/Practicums

- BIOH 472 - Professional Training II

  Credits: 12. Offered spring. Prereq., BIOH 471. Continuation of BIOH 471. Professional training at clinical site(s). Course Attributes: Internships/Practicums

- BIOH 480 - Tchg Anatomy & Physiology I

  Credits: 3 TO 4. Offered autumn. Prereq., "A" or "B" in BIOH 365 and 370 or equiv. and consent of instr. This select group of students assists in preparation and grading of demonstrations and laboratory teaching materials; and provides laboratory anatomy and physiology instruction to undergraduate students enrolled in BIOH 365. Students enrolling for the 4 credit option will also provide occasional comparable assistance for BIOH 112.

- BIOH 481 - Tchg Anatomy & Physiology II

  Credits: 3 TO 4. Offered spring. Prereq., "A" or "B" in BIOH 365 and 370 or equiv. and consent of instr. This select group of students assists in the preparation and grading of demonstrations and laboratory teaching materials; and provides laboratory anatomy and physiology instruction to undergraduate students enrolled in BIOH 370. Students enrolling for the 4 credit option will also provide occasional comparable assistance for BIOH 113.

- BIOH 491 - Special Topics

  Credits: 1 TO 10. (R-10) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Biology

Back to Top

- BIOL 315 - Peer Advising Internship

  Credits: 1. (R-6) Offered autumn and spring. Prereq., consent of instr. Supervised training and internship for peer advisors who will gain knowledge and ability to communicate degree requirements and relate the various degree offerings to professional and career goals. No more than two credits are allowed toward upper-division major requirements.

- BIOL 435 - Comparative Animal Physiology

  Credits: 3. Offered spring. Prereq., BIOB 260 or equivalent. Animal physiology with emphasis on diversity of functional processes, with strong links to broader ecological and evolutionary contexts.

- BIOL 484 - Plant Evolution

  Credits: 3. Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.

- BIOL 492 - Seminars in Ecol & Res Man

  Credits: 1. Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371 or taken concurrently with BIOE 342. Seminar course that meets weekly for 2 hours in the evening. Includes seminar speaker and discussion.

Biology-Microbiology

Back to Top

- BIOM 135N - Hot Spring Micb: Yellowstone

  Credits: 3. Offered intermittently. A field and laboratory based exploration of the microbial diversity of the thermal features of our first national park. Topics to be discussed include how these communities are shaped by the physical and chemical conditions of the environment and how microorganisms can thrive at life's extremes. Includes a field trip to Yellowstone National Park. Course Attributes: Natural Science Course (N)

- BIOM 227 - Vectors and Parasites

  Credits: 3. Offered spring. Prereq., college level general biology class is recommended but not required. An introduction to the major groups of parasites and arthropod-borne pathogens infecting humans worldwide. The class will stress the biology, transmission dynamics, prevention and control of these organisms.

- BIOM 250N - Microbiology for Hlth Sciences

  Credits: 3. Offered spring. Infectious diseases, including concepts of virulence, resistance, prevention and control of microbial diseases in the individual and in the community. If laboratory experience is desired, the student may enroll concurrently in BIOM 251. Credit not allowed toward a major in microbiology. Course Attributes: Natural Science Course (N)

- BIOM 251 - Microbiology Hlth Sciences Lab

  Credits: 1. Offered spring. Prereq. or coreq., BIOM 250N. Observation of live microorganisms, their characteristics and activities. Experience with microbiological techniques. Credit not allowed toward a major in microbiology.

- BIOM 291 - Special Topics

  Credits: 1 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BIOM 360 - General Microbiology

  Credits: 3. Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.

- BIOM 361 - General Microbiology Lab

  Credits: 2. Offered autumn. Prereq. or coreq., BIOM 360. Basic microbiology procedures and techniques.

- BIOM 390 - Undergraduate Research

  Credits: 1 TO 6. (R-10) Offered every term. Prereq., consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit.

- BIOM 400 - Medical Microbiology

  Credits: 3. Offered autumn. Microbial structure and functions, pathogenic microorganisms, virology, immunology. Credit not allowed toward a major in microbiology.

- BIOM 402 - Medical Bacteriology& Mycology

  Credits: 3. Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.

- BIOM 403 - Medicl Bacteriolgy & Myclgy Lb

  Credits: 2. Offered spring. Prereq. or coreq., BIOM 402. Laboratory study of pathogenic bacteria and fungi.

- BIOM 407 - Clinical Diagnosis

  Credits: 2. Offered spring. Prereq., BIOM 360-361 or BIOH 365 or BIOM 402/403 (may concur). Principles of blood chemistry, urinalysis, blood banking, serology and other clinical parameters of disease and health.

- BIOM 408 - Clinical Diagnosis Lab

  Credits: 1. Offered spring. Prereq., or coreq., BIOM 407, and BIOM 360-361 or BIOH 365 or BIOM 402/403 (may concur). Clinical diagnostic methods.

- BIOM 410 - Microbial Genetics

  Credits: 3. Offered spring. Prereq., BIOM 360 and 361. The molecular genetics of prokaryotic organisms including: structure and replication of the prokaryotic chromosome; gene expression; mutagenesis and DNA repair; plasmids and other tools of genetic engineering; transmission of genetic material and recombination in prokaryotes; regulation of gene expression in prokaryotes; recombinant DNA and biotechnology.

- BIOM 411 - Exprmntl Microbial Genetcs Lab

  Credits: 1. Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.

- BIOM 415 - Microbial Dvrsty Eclgy & Evltn

  Credits: 3. Offered spring. Prereq., BIOB 260, 272, BIOM 360-361 or consent of instr. A broad overview of the physiological, phylogenetic and genomic diversity and ecology of microorganisms within a framework of general ecological principles. Focuses on microbial interactions with their environment at the level of the individual, population and community, including intimate associations with plants and animals. Surveys current methods for studying microbial ecology and diversity in the environment.

- BIOM 427 - General Parasitology

  Credits: 2. Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.

- BIOM 428 - General Parasitology Lab

  Credits: 2. Offered autumn. Coreq., BIOM 427. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.

- BIOM 435 - Virology

  Credits: 3. Offered spring. Prereq., BIOB 260, and either BIOM 360 or BIOM 400. The general nature of viruses, with emphasis on the molecular biology of animal and human viruses. Co-convenes with BIOM 535. Course Attributes: Co-Convened Course

- BIOM 450 - Microbial Physiology

  Credits: 3. Offered autumn. Prereq., BIOM 360-361. Microbial structure and function, physiological diversity, microbial metabolism, role of microbial activity in the environment.

- BIOM 451 - Microbial Physiology Lab

  Credits: 1. Offered autumn. Coreq., BIOM 450. Experimental approaches to analysis of microbial structure, composition and metabolism.

- BIOM 490 - Adv Undergrad Research

  Credits: 1 TO 10. (R-10) Offered every term. Prereq., BIOM 360, junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit. Course Attributes: Research & Creative Schlrshp

- BIOM 491 - Special Topics

  Credits: 1 TO 10. (R-10) Offered intermittently. Experimental offerings of new courses, experimental offerings of visiting professors, or one-time offerings of current topics.

- BIOM 494 - Seminar

  Credits: 1. (R-3) Offered intermittently. Prereq., senior standing in natural sciences. Recent topics in microbiology and related subjects.

- BIOM 498 - Internship

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Course Attributes: Internships/Practicums

- BIOM 499 - Undergraduate Thesis

  Credits: 3 TO 6. (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.

- BIOM 502 - Advanced Immunology

  Credits: 3. Offered autumn even-numbered years. Advanced topics and immunological techniques used in modern immunology. Level: Graduate

- BIOM 505 - Advanced Topics in Metagenomics

  Credits: 1. (R-8) The course comprises a study group of four faculty 4-6 graduate students and select advanced undergraduates that meets weekly to consider and discuss advances in the areas of metagenomics and bioinformatics research based on recent publications in the primary literature or on their own research findings. There are no specific course prerequisites, but the course is only appropriate for microbiology and computer science graduate and advanced undergraduate students and requires permission of the instructor for enrollment. Level: Graduate

- BIOM 509 - Advanced Virology

  Credits: 3. Offered spring add-numbered years. Prereq., BIOM 435 (MICB 420). Students are presented with research papers that have been pivotal to the understanding of important molecular or genetic concepts in virology. Level: Graduate

- BIOM 535 - Advanced Virology

  Credits: 3. Coreq., BIOB 596. A “principles-based” discussion of virology, focusing on the molecular processes and events that must be completed by all viruses for successful replication within an individual host, and spread through host populations. The molecular basis of alternative replication strategies, the interactions of viruses with hosts organisms, and how these interactions lead to disease will be presented with examples drawn from a representative set of more well-understood animal viruses. BIOM 535 emphasizes independent, creative, critical thought. Co-convenes with BIOM 435. Level: Graduate Course Attributes: Co-Convened Course

- BIOM 540 - Microbial Pathogenesis

  Credits: 3. Offered fall. Prereq., graduate standing. Current concepts in pathogenesis at the molecular and cellular levels. Focus is on microbial (virla, bacterial) and genetic factors leading to disease and the host's involvement in the process. Level: Graduate

- BIOM 545 - Adv Topics in Microb Ecol

  Credits: 1. (R-4) Offered every term. Prereq., graduate standing or consent of instr. Discussion of selected themes of the ecology of microorganisms with a focus on the recent primary literature. Level: Graduate

- BIOM 546 - Experimental Microb Ecol

  Credits: 1. Offered every term. Prereq., graduate standing or consent of instr. Focus on experimental design, methods, and presentation of experimental results in the area of microbial ecology. Level: Graduate

- BIOM 570 - Intro to Research

  Credits: 1. (R-2) Offered autumn and spring. Prereq., graduate standing. Required course for biochemistry and microbiology graduate students. Instruction in basic research techniques, research equipment and reading in the relevant scientific literature. Students conduct research projects under faculty mentors of their choosing. Level: Graduate

- BIOM 594 - Seminar

Credits: 1. (R-4) Offered autumn and spring. Prereq., graduate standing or consent of instr. Same as BCH 594. Presentation of current research in biochemistry and molecular biology by senior graduate students, faculty, and invited outside speakers. Level: Graduate

- BIOM 595 - Special Topics
  Credits: 1 TO 3. (R-6) Offered intermittently. Prereq., graduate standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- BIOM 596 - Independent Study
  Credits: 1 TO 6. (R-6) Prereq., consent of instr. Credit for independent research project unrelated to thesis or dissertation. Level: Graduate
- BIOM 597 - Research
  Credits: 1 TO 18. (R-18) Offered intermittently. Prereq., graduate standing, one semester residence. Level: Graduate
- BIOM 599 - Thesis
  Credits: 1 TO 10. (R-10) Offered intermittently. Prereq., master's student in microbiology. Laboratory research for and preparation of a master's thesis. Level: Graduate
- BIOM 699 - Dissertation
  Credits: 1 TO 20. (R-20) Offered intermittently. Prereq., doctoral student in microbiology. Laboratory research for and preparation of a doctoral dissertation. Level: Graduate

Biology - Organismal

Back to Top

- BIOO 101N - Survey MT Wldlife & Habitats
  Credits: 3. Offered online autumn. Prereq., one course in biology. Interpreting biological patterns associated with selected Montana wildlife species, including mammals, birds, reptiles and amphibians. Course Attributes: Natural Science Course (N)
- BIOO 105N - Introduction to Botany
  Credits: 3. Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)
- BIOO 320 - General Botany
  Credits: 5. Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.
- BIOO 335 - Rocky Mountain Flora
  Credits: 3. Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.
- BIOO 340 - Biology and Mgmnt of Fishes
  Credits: 4. Offered autumn. Prereq., BIOB 272 and either STAT 216 or WILD 240. Diversity, adaptations and ecology of fishes. Analysis and management of fish populations and communities.
- BIOO 433 - Plant Physiology
  Credits: 3. Offered spring. Prereq., BIOB 260 or consent of the instructor. The molecular, biochemical and biophysical basis of plant function, from the subcellular to the whole organism level.
- BIOO 434 - Plant Physiology Lab
  Credits: 1. Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.
- BIOO 462 - Entomology
  Credits: 4. Offered alternate springs. Prereq. or Coreq., BIOB 272. The classification, morphology, anatomy, development, life-history, behavior and ecology of insects. Labs include identification of major insect groups, internal and external anatomy and student collections.

- BIOO 470 - Ornithology
  Credits: 4. Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.
- BIOO 475 - Mammalogy
  Credits: 4. Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.
- BIOO 490 - Adv Undergrad Research
  Credits: 1 TO 10. (R-10) Offered every term. Prereq., junior or senior standing and consent of instr. Independent research under the direction of a faculty member.

Biology - Systems Ecology

Back to Top

- BIOS 532 - Ecosystem Ecology
  Credits: 3. Offered autumn every other year. Prereq. CHMY 141N or the equivalent. Coreq. CHMY 143N and BCH 111. This course includes the fundamentals of an ecosystem approach to ecological research by emphasizing relationships among physical, chemical, and biotic elements of interactive systems. It will provide a fundamental basis for more advanced Systems Ecology courses (e.g., Limnology, Integrated Systems Ecology, Landscape Genetics, etc.). Level: Graduate
- BIOS 534 - Integrated Systems Ecology
  Credits: 3. Offered spring semester alternate years. Principles, theories and empirical studies that describe the complex attributes and processes of coupled natural and human systems. Landscape, climate, economic and social change dynamics and processes emphasized. Flagship course of the UM-DBS Systems Ecology Program. Students strongly advised but not required to take BIOS 532 Fundamentals of Ecosystem Ecology prior to this course. Level: Graduate
- BIOS 594 - Seminar
  Credits: 1 TO 6. Offered intermittently. Prereq. graduate standing. Presentations by student, faculty, and associates on issues and topics in their field. Level: Graduate
- BIOS 599 - Thesis
  Credits: 1 TO 10. (R-10) Field and laboratory research on, and writing of, a student's masters thesis. Level: Graduate
- BIOS 699 - Thesis
  Credits: 1 TO 10. (R-10) Field and laboratory research on, and writing of, a student's masters thesis. Level: Graduate

Microbiology

Back to Top

- MICB 699 - Dissertation
  Credits: 1 TO 20. (R-20) Offered intermittently. Prereq., doctoral student in microbiology. Laboratory research for and preparation of a doctoral dissertation. Level: Graduate

Cellular and Molecular Biology

Bachelor of Science - Biology; Cellular & Molecular Biology Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 81

Required Cumulative GPA: 2.0

Note: Cellular and molecular biology is the study of cellular, molecular, and physiological aspects of biology. This option is a graduate prep program, and is for students interested in academia or research jobs in private or government laboratories. It is also an excellent option for pre-medical sciences students.

Biology/Microbiology Lower Division Core

Rule: All of the following courses are required.

Note: The lower division core should be completed before attempting most upper division major courses.

AP Biology credit may be substituted for either BIOB 160N/BIOB 161N or BIOB 170N/171N.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Upper Division Core Courses Required by Cellular & Molecular Biology option

Rule: All of the following courses are required.

	Course	Credits
	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	BIOB 301 - Developmental Biology Offered autumn. Prereq., BIOB 260; BIOB 272 recommended. An analysis of the origin and development of form and patterns in organisms, stressing the processes of growth and differentiation in plants and animals. Graded traditional letter grade only.	3 Credits
	BIOB 375 - General Genetics Offered spring. Prereq., BIOB 260 and 272. This course will focus on the molecular genetics of eukaryotes, with special emphasis on transmission genetics and gene structure and regulation.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 361 - Gen Microbiolgy Lb (equiv 261) Offered autumn. Prereq. or coreq., BIOM 360. Basic microbiology procedures and techniques.	2 Credits
Minimum Required Grade: C-		20 Total Credits Required

Additional UD Major Courses Required for the Cellular & Molecular Biology Option

Rule: Complete one or two courses in each subcategory (as indicated)

Minimum Required Grade: C-

Disease Elective

Rule: Complete at least one of the following courses

	Course	Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOM 435 - Virology Offered spring. Prereq., BIOB 260, and either BIOM 360 or BIOM 400. The general nature of viruses, with emphasis on the molecular biology of animal and human viruses. Co-convenes with BIOM 535.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Additional UD Depth Courses (Lecture)

Rule: Complete at least one of the following lecture courses

Note: If BIOO 433, then the lab BIOO 434 must also be taken.

	Course	Credits
	BIOB 440 - Biological Electron Microscopy Offered spring. Prereq., senior standing or consent of instr. Theory of electron microscopy, recent developments in transmission and scanning electron microscopy. Limited experience with the instruments.	2 Credits
	BIOB 468 - Endocrinology Offered alternate years. Prereq., BIOB 260 and 272. Integration of fundamental concepts of endocrinology (such as hormone release, hormone transport and receptor activation) into complex systems (such as reproduction).	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOB 486 - Genomics Offered autumn. Prereq., BIOB 272. Principles and mechanisms of genome biology of animals and microbes, including genome function, evolution, and basic molecular and computational methodology used in genome biology.	3 Credits
	BIOL 435 - Comparative Animal Physiology Offered spring. Prereq., BIOB 260 or equivalent. Animal physiology with emphasis on diversity of functional processes, with strong links to broader ecological and evolutionary contexts.	3 Credits

	BIOM 410 - Microbial Genetics Offered spring. Prereq., BIOM 360 and 361. The molecular genetics of prokaryotic organisms including: structure and replication of the prokaryotic chromosome; gene expression; mutagenesis and DNA repair; plasmids and other tools of genetic engineering; transmission of genetic material and recombination in prokaryotes; regulation of gene expression in prokaryotes; recombinant DNA and biotechnology.	3 Credits
	BIOM 450 - Microbial Physiology Offered autumn. Prereq., BIOM 360-361. Microbial structure and function, physiological diversity, microbial metabolism, role of microbial activity in the environment.	3 Credits
	BIOO 433 - Plant Physiology Offered spring. Prereq., BIOB 260 or consent of the instructor. The molecular, biochemical and biophysical basis of plant function, from the subcellular to the whole organism level.	3 Credits
Minimum Required Grade: C-		2-4 Total Credits Required

Additional UD Depth Courses (Laboratory)

Rule: Complete at least two of the following laboratory courses

	Course	**Credits**
	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 451 - Microbial Physiology Lab Offered autumn. Coreq., BIOM 450. Experimental approaches to analysis of microbial structure, composition and metabolism.	1 Credits
	BIOM 490 - Adv Undergrad Research (R-10) Offered every term. Prereq., BIOM 360, junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit.	1 To 10 Credits
Minimum Required Grade: C-		2-5 Total Credits Required

Required Courses Outside of the Major

Minimum Required Grade: C-

Mathematics - Calculus

Rule: Required

Note: M 171 Calculus I may be substituted for M 162.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Chemistry

Rule: All of the following courses are required.

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		20 Total Credits Required

Additional Depth in Chemistry

Rule: Complete at least one of the following chemistry courses

	Course	Credits
	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
	CHMY 360 - Applied Physical Chemistry Offered spring. Prereq., CHMY 123 OR 143 AND M 162. Basic thermodynamics and chemical kinetics with applications in the biological and environmental sciences. Credit not allowed for both 360 and 373.	3 Credits
	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits
Minimum Required Grade: C-		3 or 4 Total Credits Required

Physics

Rule: All of the following courses are required.

Note: These are algebra- and trigonometry-based physics courses. The calculus-based physics sequence, PHSX 215N/216N & PHSX 217N/218N (which require M 171 and M 172), may be substituted for PHSX 205N/206N & 207N/208N.

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits

	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Upper Division Writing Expectation for the Major

Rule: Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course or one complete writing course)

Note: To meet the Upper Division Writing Expectation for the Major, Biology students take 2 or 3 partial writing courses (either three 1/3 writing courses or one 1/3 writing course and one 2/3 writing course) or one complete writing course. The Cellular & Molecular Biology Option requires two 1/3 writing courses: BCH 482 and BIOB 425. The UD Writing Expectation for the Major is completed with one additional course, chosen from any of the following.

Minimum Required Grade: C-

1/3 UD Writing Courses

	Course	Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits

	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits
	BIOE 409 - Behavior & EvolutionDiscussion Offered autumn. Co-req., BIOE 406. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies. This discussion course complements the lectures of BIOE 406 by examining both landmark and recent literature. It also includes a written component.	1 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 434 - Plant Physiology Lab Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.	1 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
Minimum Required Grade: C-		

2/3 UD Writing Courses

	Course	**Credits**

	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
	BCH 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Undergraduate Research Symposium or a scientific meeting.	3 To 6 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
Minimum Required Grade: C-		

Complete UD Writing Course

	Course	**Credits**

	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits
Minimum Required Grade: C-		

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Language Requirement. Either of these Calculus courses (required by the major) will satisfy this requirement.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		

Ecology and Organismal Biology

Bachelor of Science - Biology; Ecology and Organismal Biology Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 69

Required Cumulative GPA: 2.0

Note: The Ecology and Organismal Biology option is for students interested in the biology of organisms (plants or animals) or the biology of populations and communities. Course offerings include those from organismal biology, ecology, evolutionary biology, and conservation biology. This option is a graduate prep program, and it is designed for students interested in academia or employment with government agencies (e.g. National Biological Survey, U.S. FWS, etc.), or environmental consulting agencies. This option is also an excellent choice for pre-veterinary students.

Biology/Microbiology Lower Division Core

Rule: All of the following courses are required.

Note: The lower division core should be completed before attempting most upper division major courses.

AP Biology credit may be substituted for either BIOB 160N/161N or BIOB 170N/171N.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Upper Division Core Courses Required by Ecology & Organismal Biology Option

Rule: All of the following courses are required.

Note: BIOE 342 Field Ecology at the Flathead Lake Biological Station may be substituted for BIOE 370/371

	Course	Credits

	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
Minimum Required Grade: C-		5 Total Credits Required

Additional Upper Division Major Courses Required for the Ecology & Organismal Biology Option

Rule: Complete a minimum of 21 credits of UD BIOB, BIOE, BIOH, BIOL, BIOM, BIOO, or BCH, with at least one course from each subcategory

Note: Other recommended courses include BCH 380 or BCH 480-482.

Minimum Required Grade: C-

21 Total Credits Required

Organismal Course Requirement

Rule: Complete at least one organismal course (lab must also be taken, if available) from the following list

Note: If BIOO 433 Plant Physiology, then BIOO 434 Plant Physiology Lab must also be taken.

	Course	**Credits**
	BIOB 301 - Developmental Biology Offered autumn. Prereq., BIOB 260; BIOB 272 recommended. An analysis of the origin and development of form and patterns in organisms, stressing the processes of growth and differentiation in plants and animals. Graded traditional letter grade only.	3 Credits
	BIOB 375 - General Genetics Offered spring. Prereq., BIOB 260 and 272. This course will focus on the molecular genetics of eukaryotes, with special emphasis on transmission genetics and gene structure and regulation.	3 Credits
	BIOB 468 - Endocrinology Offered alternate years. Prereq., BIOB 260 and 272. Integration of fundamental concepts of endocrinology (such as hormone release, hormone transport and receptor activation) into complex systems (such as reproduction).	3 Credits
	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits

	BIOL 435 - Comparative Animal Physiology Offered spring. Prereq., BIOB 260 or equivalent. Animal physiology with emphasis on diversity of functional processes, with strong links to broader ecological and evolutionary contexts.	3 Credits
	BIOO 433 - Plant Physiology Offered spring. Prereq., BIOB 260 or consent of the instructor. The molecular, biochemical and biophysical basis of plant function, from the subcellular to the whole organism level.	3 Credits
Minimum Required Grade: C-		

-Ology Course Requirement

Rule: Complete at least one course with a focus on a group of organisms (lab must also be taken, if available) from the following list

Note: If BIOM 360 General Microbiology, then BIOM 361 General Microbiology Lab must also be taken.
If BIOM 427 General Parasitology, then BIOM 428 General Parasitology Lab must also be taken.

	Course	**Credits**
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 427 - General Parasitology Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.	2 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
	BIOO 340 - Biology and Mgmnt of Fishes Offered autumn. Prereq., BIOB 272 and either STAT 216 or WILD 240. Diversity, adaptations and ecology of fishes. Analysis and management of fish populations and communities.	4 Credits
	BIOO 462 - Entomology Offered alternate springs. Prereq. or Coreq., BIOB 272. The classification, morphology, anatomy, development, life-history, behavior and ecology of insects. Labs include identification of major insect groups, internal and external anatomy and student collections.	4 Credits

	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits
Minimum Required Grade: C-		

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Language Requirement. Either of these Calculus courses (required by the major) will satisfy this requirement.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		

Ecology and Organismal Biology

Bachelor of Science - Biology; Ecology and Organismal Biology Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 69

Required Cumulative GPA: 2.0

Note: The Ecology and Organismal Biology option is for students interested in the biology of organisms (plants or animals) or the biology of populations and communities. Course offerings include those from organismal biology, ecology, evolutionary biology, and conservation biology. This option is a graduate prep program, and it is designed for students interested in academia or employment with government agencies (e.g. National Biological Survey, U.S. FWS, etc.), or environmental consulting agencies. This option is also an excellent choice for pre-veterinary students.

Biology/Microbiology Lower Division Core

Rule: All of the following courses are required.

Note: The lower division core should be completed before attempting most upper division major courses.

AP Biology credit may be substituted for either BIOB 160N/161N or BIOB 170N/171N.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Upper Division Core Courses Required by Ecology & Organismal Biology Option

Rule: All of the following courses are required.

Note: BIOE 342 Field Ecology at the Flathead Lake Biological Station may be substituted for BIOE 370/371

	Course	Credits

	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
Minimum Required Grade: C-		5 Total Credits Required

Additional Upper Division Major Courses Required for the Ecology & Organismal Biology Option

Rule: Complete a minimum of 21 credits of UD BIOB, BIOE, BIOH, BIOL, BIOM, BIOO, or BCH, with at least one course from each subcategory

Note: Other recommended courses include BCH 380 or BCH 480-482.

Minimum Required Grade: C-

21 Total Credits Required

Organismal Course Requirement

Rule: Complete at least one organismal course (lab must also be taken, if available) from the following list

Note: If BIOO 433 Plant Physiology, then BIOO 434 Plant Physiology Lab must also be taken.

	Course	**Credits**
	BIOB 301 - Developmental Biology Offered autumn. Prereq., BIOB 260; BIOB 272 recommended. An analysis of the origin and development of form and patterns in organisms, stressing the processes of growth and differentiation in plants and animals. Graded traditional letter grade only.	3 Credits
	BIOB 375 - General Genetics Offered spring. Prereq., BIOB 260 and 272. This course will focus on the molecular genetics of eukaryotes, with special emphasis on transmission genetics and gene structure and regulation.	3 Credits
	BIOB 468 - Endocrinology Offered alternate years. Prereq., BIOB 260 and 272. Integration of fundamental concepts of endocrinology (such as hormone release, hormone transport and receptor activation) into complex systems (such as reproduction).	3 Credits
	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits

	BIOL 435 - Comparative Animal Physiology Offered spring. Prereq., BIOB 260 or equivalent. Animal physiology with emphasis on diversity of functional processes, with strong links to broader ecological and evolutionary contexts.	3 Credits
	BIOO 433 - Plant Physiology Offered spring. Prereq., BIOB 260 or consent of the instructor. The molecular, biochemical and biophysical basis of plant function, from the subcellular to the whole organism level.	3 Credits
Minimum Required Grade: C-		

-Ology Course Requirement

Rule: Complete at least one course with a focus on a group of organisms (lab must also be taken, if available) from the following list

Note: If BIOM 360 General Microbiology, then BIOM 361 General Microbiology Lab must also be taken.
If BIOM 427 General Parasitology, then BIOM 428 General Parasitology Lab must also be taken.

	Course	**Credits**
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 427 - General Parasitology Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.	2 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
	BIOO 340 - Biology and Mgmnt of Fishes Offered autumn. Prereq., BIOB 272 and either STAT 216 or WILD 240. Diversity, adaptations and ecology of fishes. Analysis and management of fish populations and communities.	4 Credits
	BIOO 462 - Entomology Offered alternate springs. Prereq. or Coreq., BIOB 272. The classification, morphology, anatomy, development, life-history, behavior and ecology of insects. Labs include identification of major insect groups, internal and external anatomy and student collections.	4 Credits

	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
Minimum Required Grade: C-		

Specialized Ecology Course Requirement

Rule: Complete at least one specialized ecology course from the following list

Note: A specialized ecology course taken at the Flathead Lake Biological Station (BIOE 416, 439, 440, 451, 453, or 458) may be substituted for this requirement.

	Course	Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOE 448 - Terrestrial Plant Ecology Offered alternate autumn. Prereq. BIOB 272N. The interrelationships between plants and plant communities and their natural environment.	4 Credits
	BIOE 449 - Plant Biogeography Offered intermittently. Prereq., consent of instr. Description of the distribution of plants and animals at global, continental and regional scales. Analysis of ecological and historical factors influencing distribution and association.	3 Credits
	BIOM 415 - Microbial Dvrsty Eclgy & Evltn Offered spring. Prereq., BIOB 260, 272, BIOM 360-361 or consent of instr. A broad overview of the physiological, phylogenetic and genomic diversity and ecology of microorganisms within a framework of general ecological principles. Focuses on microbial interactions with their environment at the level of the individual, population and community, including intimate associations with plants and animals. Surveys current methods for studying microbial ecology and diversity in the environment.	3 Credits
	WILD 346 - Wildlife Physiological Ecology Offered autumn. Prereq., BIOB 272. Only open to Wildlife Biology Majors. How physiological and biochemical processes in animals influence behavior and ecology. Application of physiological approaches to wildlife conservation such as assessment of animal health, nutritional condition, and physiological performance.	3 Credits
	WILD 470 - Conserv of Wildlife Populatns Offered autumn and spring. Prereq., BIOE 370, M 162 or M 171, and senior standing in Biology, Forestry, Resource Conservation, Recreation Management or Wildlife Biology. Application of population ecology principles and theory to the conservation and management of wildlife populations.	3 Credits

Minimum Required Grade: C-	

Evolution Course Requirement

Rule: Complete at least one evolutionary biology course from the following list

	Course	Credits
	BIOB 480 - Conservation Genetics Offered intermittently. Prereq., BIOB 272. Genetic basis for solving biological problems in conservation including the genetics of small populations, the application of molecular genetic techniques to conservation biology and case studies of the application of genetics to conservation problems.	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOB 486 - Genomics Offered autumn. Prereq., BIOB 272. Principles and mechanisms of genome biology of animals and microbes, including genome function, evolution, and basic molecular and computational methodology used in genome biology.	3 Credits
	BIOE 406 - Behavior & Evolution Offered autumn. Prereq., BIOB 272. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies.	3 Credits
	BIOE 482 - Evolution & Development Offered intermittently. Prereq., BIOB 170N and 272. Lecture, reading and discussion of questions at the intersection of developmental and evolutionary biology. Questions include but are not restricted to: how novel traits arise; how diversity in animal form is generated; and how phenotypic plasticity (environment-sensitive expression of traits) is produced.	3 Credits
	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits
Minimum Required Grade: C-		

Required Courses Outside of the Major

Minimum Required Grade: C-

Mathematics - Calculus

Rule: Complete one of the following calculus courses

Note: Choose M 171, if you plan to take additional calculus courses, or if you plan a double major or minor in a field that requires more calculus (e.g. math, physics, biochemistry, computer science).

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Mathematics - Statistics

Rule: Complete either one semester of statistics (STAT 216) or a full year of statistics (STAT 451/457 and 452/458)

Note: Choose the full year of statistics for graduate preparation in ecology.

	Course	Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	STAT 451 - Statistical Methods I Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate	3 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits

	STAT 457 - Computer Data Analysis I Offered autumn. Coreq., STAT 451 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in STAT 451. Level: Undergraduate-Graduate	1 Credits
	STAT 458 - Computer Data Analysis II Offered spring. Coreq., STAT 452 or consent of instr. Continuation of STAT 457. Intended primarily for students in STAT 452. Level: Undergraduate-Graduate	1 Credits
Minimum Required Grade: C-		4 or 8 Total Credits Required

Chemistry

Rule: Complete either one year of chemistry (CHMY 121N, 123N/124N) or two years of chemistry (CHMY 141N, 143N, 221/222, 223/224)

Note: Choose the two year sequence of chemistry for graduate preparation in organismal biology, or if you are pre-veterinary.

__	**Course**	**Credits**
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits

	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		8 or 20 Total Credits Required

Physics

Rule: All of the following courses are required.

Note: These are algebra- and trigonometry-based physics courses. The calculus-based physics sequence, PHSX 215N/216N & 217N/218N (which require M 171 and M 172), may be substituted for PHSX 205N/206N & 207N/208N.

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Upper Division Writing Expectation for the Major

Rule: Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course or one complete writing course)

Note: To meet the Upper Division Writing Expectation for the Major, Biology students take 2 or 3 partial writing courses (either three 1/3 writing courses or one 1/3 writing course and one 2/3 writing course) or one complete writing course. The Ecology & Organismal Biology Option requires one 2/3 writing course (BIOE 371). The UD Writing Expectation for the Major is completed with one more course, chosen from any of the following.

Minimum Required Grade: C-

1/3 UD Writing Courses

	Course	Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits
	BIOE 409 - Behavior & EvolutionDiscussion Offered autumn. Co-req., BIOE 406. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies. This discussion course complements the lectures of BIOE 406 by examining both landmark and recent literature. It also includes a written component.	1 Credits

	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 434 - Plant Physiology Lab Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.	1 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
Minimum Required Grade: C-		

2/3 UD Writing Courses

	Course	**Credits**
	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
	BCH 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Undergraduate Research Symposium or a scientific meeting.	3 To 6 Credits

	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
Minimum Required Grade: C-		

Complete UD Writing Course

	Course	Credits
	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Language Requirement. Either of these Calculus courses (required by the major) will satisfy this requirement.

	Course	Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		

Field Ecology

Bachelor of Science - Biology; Field Ecology Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 69

Required Cumulative GPA: 2.0

Note: The Field Ecology option is for students interested in field-based ecology. Students with this option spend one or two summers taking field courses at the Flathead Lake Biological Station. This option is a graduate prep program, and is for students interested in academia or employment at a governmental, private or non-profit agency.

Biology/Microbiology Lower Division Core

Rule: All of the following courses are required.

Note: The lower division core should be completed before attempting most upper division major courses.

AP Biology credit may be substituted for either BIOB 160N/161N or BIOB 170N/171N.

	Course	**Credits**
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits

	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Upper Division Core Courses Required for the Field Ecology Option

Rule: Complete the on-campus general ecology lecture and lab (BIOE 370/371) or the field ecology course at the Flathead Lake Biological Station (BIOL 342)

__	**Course**	**Credits**
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
Minimum Required Grade: C-		5 Total Credits Required

Additional Upper Division Major Courses Required for the Field Ecology Option

Rule: Complete a minimum of 8 credits of Upper Division Biology or Microbiology, with at least one course from each subcategory

Minimum Required Grade: C-

8 Total Credits Required

Evolution Course Requirement

Rule: Complete at least one evolutionary biology course from the following list

	Course	Credits
	BIOB 480 - Conservation Genetics Offered intermittently. Prereq., BIOB 272. Genetic basis for solving biological problems in conservation including the genetics of small populations, the application of molecular genetic techniques to conservation biology and case studies of the application of genetics to conservation problems.	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOB 486 - Genomics Offered autumn. Prereq., BIOB 272. Principles and mechanisms of genome biology of animals and microbes, including genome function, evolution, and basic molecular and computational methodology used in genome biology.	3 Credits
	BIOE 406 - Behavior & Evolution Offered autumn. Prereq., BIOB 272. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies.	3 Credits
	BIOE 482 - Evolution & Development Offered intermittently. Prereq., BIOB 170N and 272. Lecture, reading and discussion of questions at the intersection of developmental and evolutionary biology. Questions include but are not restricted to: how novel traits arise; how diversity in animal form is generated; and how phenotypic plasticity (environment-sensitive expression of traits) is produced.	3 Credits
	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits
Minimum Required Grade: C-		

-Ology Course Requirement

Rule: Complete at least one course with a focus on a group of organisms (lab must also be taken, if available) from the following list

Note: If BIOM 360 General Microbiology, then BIOM 361 General Microbiology Lab must also be taken.
If BIOM 427 General Parasitology, then BIOM 428 General Parasitology Lab must also be taken.

	Course	Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 427 - General Parasitology Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.	2 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
	BIOO 340 - Biology and Mgmnt of Fishes Offered autumn. Prereq., BIOB 272 and either STAT 216 or WILD 240. Diversity, adaptations and ecology of fishes. Analysis and management of fish populations and communities.	4 Credits
	BIOO 462 - Entomology Offered alternate springs. Prereq. or Coreq., BIOB 272. The classification, morphology, anatomy, development, life-history, behavior and ecology of insects. Labs include identification of major insect groups, internal and external anatomy and student collections.	4 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
Minimum Required Grade: C-		

Ecology Requirement at the Flathead Lake Biological Station

Rule: Complete either the Aquatic Emphasis or the Terrestrial Emphasis
Minimum Required Grade: C-

Aquatic Emphasis

Rule: All of the following courses are required for the Aquatic Emphasis

	Course	Credits
	BIOE 439 - Stream Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371, CHMY 121N. The biota and biogeochemical processes of running waters with unifying principles and contemporary research approaches.	3 Credits
	BIOE 440 - Conservation Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Concepts and approaches for sustaining biodiversity and other natural goods and services provided by terrestrial and aquatic systems.	3 Credits
	BIOE 451 - Landscape Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Biophysical processes that determine landscape and ecosystem structure and function using remote sensing tools, geographic information systems and dynamic models to demonstrate landscape change.	3 Credits
	BIOE 453 - Ecology of Small & Large Lakes Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371, CHMY 121N and CHMY 123N. The physical, chemical and biological characteristics of lake ecosystems with an emphasis on nutrient cycling, food web interactions and water quality.	3 Credits
	BIOL 492 - Seminars in Ecol & Res Man Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371 or taken concurrently with BIOE 342. Seminar course that meets weekly for 2 hours in the evening. Includes seminar speaker and discussion.	1 Credits
Minimum Required Grade: C-		13 Total Credits Required

Terrestrial Emphasis

Rule: All of the following courses are required for the Terrestrial Emphasis

	Course	Credits
	BIOE 416 - Alpine Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Distribution, abundance and life cycles of plants and animals and their unique ecophysiological adaptations to life in the rigorous environments of the high mountains above the timberline, with emphasis on the Crown of the Continent area.	3 Credits

	BIOE 440 - Conservation Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Concepts and approaches for sustaining biodiversity and other natural goods and services provided by terrestrial and aquatic systems.	3 Credits
	BIOE 451 - Landscape Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Biophysical processes that determine landscape and ecosystem structure and function using remote sensing tools, geographic information systems and dynamic models to demonstrate landscape change.	3 Credits
	BIOE 458 - Forest and Grassland Ecol Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Patterns and processes of the forests and grasslands of the northern Rocky Mountains in the context of principles of population community and ecosystem ecology.	3 Credits
	BIOL 492 - Seminars in Ecol & Res Man Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371 or taken concurrently with BIOE 342. Seminar course that meets weekly for 2 hours in the evening. Includes seminar speaker and discussion.	1 Credits
Minimum Required Grade: C-		13 Total Credits Required

Required Courses Outside of the Major

Minimum Required Grade: C-

Mathematics - Calculus

Rule: Required

Note: M 171 (Calculus I) may be substituted for M 162.

	Course	**Credits**
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Mathematics - Statistics

Rule: Complete either one semester of statistics (STAT 216) or a full year of statistics (STAT 451/457 and 452/458)

	Course	Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	STAT 451 - Statistical Methods I Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate	3 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
	STAT 457 - Computer Data Analysis I Offered autumn. Coreq., STAT 451 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in STAT 451. Level: Undergraduate-Graduate	1 Credits
	STAT 458 - Computer Data Analysis II Offered spring. Coreq., STAT 452 or consent of instr. Continuation of STAT 457. Intended primarily for students in STAT 452. Level: Undergraduate-Graduate	1 Credits
Minimum Required Grade: C-		4 or 8 Total Credits Required

Chemistry

Rule: Complete either one year of chemistry (CHMY 121N, 123N/124N) or two years of chemistry (CHMY 141N, 143N, 221/222, 223/224)

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits

	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		8 or 20 Total Credits Required

Physics

Rule: All of the following courses are required

Note: These are algebra- and trigonometry-based physics courses. The calculus-based physics sequence, PHSX 215N/216N & 217N/218N (which require M 171 and M 172), may be substituted for PHSX 205N/206N & 207N/208N.

	Course	**Credits**
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits

	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Upper Division Writing Expectations for the Major

Rule: Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course or one complete writing course)

Note: To meet the Upper Division Writing Expectation for the Major, Biology students take 2 or 3 partial writing courses (either three 1/3 writing courses or one 1/3 writing course and one 2/3 writing course) or one complete writing course. The Field Ecology Option requires BIOE 371 or BIOE 342 (both 2/3 writing courses). The UD writing requirement is completed with one additional course, chosen from any of the following.

Minimum Required Grade: C-

1/3 UD Writing Courses

	Course	**Credits**
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits

	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits
	BIOE 409 - Behavior & EvolutionDiscussion Offered autumn. Co-req., BIOE 406. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies. This discussion course complements the lectures of BIOE 406 by examining both landmark and recent literature. It also includes a written component.	1 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 434 - Plant Physiology Lab Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.	1 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits

	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
Minimum Required Grade: C-		

2/3 UD Writing Courses

	Course	Credits
	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
	BCH 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Undergraduate Research Symposium or a scientific meeting.	3 To 6 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits

	BIOM 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
Minimum Required Grade: C-		

Complete UD Writing Course

	Course	Credits
	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Language Requirement. Either of these Calculus courses (required by the major) will satisfy this requirement.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		

Human Biological Sciences

Bachelor of Science - Biology; Human Biological Sciences Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 74

Required Cumulative GPA: 2.0

Note: The Human Biological Sciences option is a pre-professional program for students planning careers in a health-related field. The following is a partial list of possible professions: physical therapy, medicine, dentistry, physician's assistant, alternative medicine, nutrition, and public health.

Biology/Microbiology Lower Division Core

Rule: All of the following courses are required.

Note: The lower division core should be completed before attempting most upper division major courses.

AP Biology credit may be substituted for either BIOB 160N/161N or BIOB 170N/171N.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Upper Division Core Courses Required by Human Biological Sciences Option

Rule: All of the following courses are required.

	Course	Credits
	BIOB 301 - Developmental Biology Offered autumn. Prereq., BIOB 260; BIOB 272 recommended. An analysis of the origin and development of form and patterns in organisms, stressing the processes of growth and differentiation in plants and animals. Graded traditional letter grade only.	3 Credits
	BIOB 375 - General Genetics Offered spring. Prereq., BIOB 260 and 272. This course will focus on the molecular genetics of eukaryotes, with special emphasis on transmission genetics and gene structure and regulation.	3 Credits
	BIOH 365 - Human AP I for Health Profsns Offered autumn. Prereq., CHMY 121N or CHMY 141N; BIOB 160N or BIOH 112 or 113. Introduction to basic cellular structure and function. The fundamental facts and concepts of the anatomy and physiology of cells and tissues, the integumentary, musculoskeletal, nervous and special senses with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	4 Credits
	BIOH 370 - Human AP II for Health Profsns Offered spring. Prereq., BIOH 365. The fundamental facts and concepts of the anatomy and physiology of the endocrine, circulatory, respiratory, digestive, urinary and reproductive systems with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	4 Credits
Minimum Required Grade: C-		14 Total Credits Required

Additional Upper Division Major Courses Required for the Human Biological Sciences Option

Minimum Required Grade: C-

Biochemistry Requirement

Rule: Complete either one semester of biochemistry (BCH 380) or a full year of biochemistry (BCH 480-482)

Note: If one year of chemistry is completed, then BCH 380 must be taken. Either BCH 380 or BCH 480-482 may be taken if two years of chemistry are completed.

	Course	Credits
	BCH 380 - Biochemistry Offered autumn and spring. Prereq., CHMY 223 or BIOB 260. Fundamental biochemistry; chemistry and metabolism of biomolecules, energy relationships in metabolism; storage, transmission, and expression of genetic information. Credit not allowed for both BCH 380 and 480-482.	4 Credits

	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
Minimum Required Grade: C-		4 or 6 Total Credits Required

Microbiology Requirement

Rule: Complete either BIOM 400 or both BIOM 360 and 361

	Course	Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 361 - Gen Microbiolgy Lb (equiv 261) Offered autumn. Prereq. or coreq., BIOM 360. Basic microbiology procedures and techniques.	2 Credits
	BIOM 400 - Medical Microbiology Offered autumn. Microbial structure and functions, pathogenic microorganisms, virology, immunology. Credit not allowed toward a major in microbiology.	3 Credits
Minimum Required Grade: C-		3 or 5 Total Credits Required

Additional Depth in Human Biological Sciences

Rule: Complete at least two courses from the following list

Note: If BIOM 427 General Parasitology taken, then BIOM 428 General Parasitology Lab must also be taken.

	Course	Credits

	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
	BIOB 468 - Endocrinology Offered alternate years. Prereq., BIOB 260 and 272. Integration of fundamental concepts of endocrinology (such as hormone release, hormone transport and receptor activation) into complex systems (such as reproduction).	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOB 486 - Genomics Offered autumn. Prereq., BIOB 272. Principles and mechanisms of genome biology of animals and microbes, including genome function, evolution, and basic molecular and computational methodology used in genome biology.	3 Credits
	BIOB 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits

	BIOE 406 - Behavior & Evolution Offered autumn. Prereq., BIOB 272. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies.	3 Credits
	BIOE 482 - Evolution & Development Offered intermittently. Prereq., BIOB 170N and 272. Lecture, reading and discussion of questions at the intersection of developmental and evolutionary biology. Questions include but are not restricted to: how novel traits arise; how diversity in animal form is generated; and how phenotypic plasticity (environment-sensitive expression of traits) is produced.	3 Credits
	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits
	BIOL 435 - Comparative Animal Physiology Offered spring. Prereq., BIOB 260 or equivalent. Animal physiology with emphasis on diversity of functional processes, with strong links to broader ecological and evolutionary contexts.	3 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOM 410 - Microbial Genetics Offered spring. Prereq., BIOM 360 and 361. The molecular genetics of prokaryotic organisms including: structure and replication of the prokaryotic chromosome; gene expression; mutagenesis and DNA repair; plasmids and other tools of genetic engineering; transmission of genetic material and recombination in prokaryotes; regulation of gene expression in prokaryotes; recombinant DNA and biotechnology.	3 Credits
	BIOM 427 - General Parasitology Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.	2 Credits
	BIOM 435 - Virology Offered spring. Prereq., BIOB 260, and either BIOM 360 or BIOM 400. The general nature of viruses, with emphasis on the molecular biology of animal and human viruses. Co-convenes with BIOM 535.	3 Credits
	BIOM 450 - Microbial Physiology Offered autumn. Prereq., BIOM 360-361. Microbial structure and function, physiological diversity, microbial metabolism, role of microbial activity in the environment.	3 Credits
Minimum Required Grade: C-		6 - 9 Total Credits Required

Required Courses Outside of the Major

Minimum Required Grade: C-

Mathematics and Psychology

Rule: All of the following courses are required

Note: M 171 Calculus I may be substituted for M 162.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		12 Total Credits Required

Chemistry

Rule: Complete either one year of chemistry (CHMY 121N, 123N/124N) or two years of chemistry (CHMY 141N, 143N, 221/222, 223/224)

Note: If you plan to apply to a graduate or professional school such as medical or dental, you should plan to complete the two year sequence in chemistry. If you plan to pursue nursing or a graduate program in physical therapy, the one year sequence of chemistry is sufficient. The two year chemistry option is more flexible, and keeps more options open for future careers. Check the requirements of your intended professional program to help determine which sequence is right for you.

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits

	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		8 or 20 Total Credits Required

Physics

Rule: All of the following courses are required.

Note: These are algebra- and trigonometry-based physics courses. The calculus-based physics sequence, PHSX 215N/216N & 217N/218N (which require M 171 and M 172), may be substituted for PHSX 205N/206N & 207N/208N.

	Course	**Credits**
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits

	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Upper Division Writing Expectation for the Major

Rule: Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course or one complete writing course)

Note: To meet the Upper Division Writing Expectation for the Major, Biology students take 2 or 3 partial writing courses (either three 1/3 writing courses or one 1/3 writing course and one 2/3 writing course) or one complete writing course. The Human Biological Sciences Option does not require a specific writing course.

Minimum Required Grade: C-

1/3 UD Writing Courses

	Course	Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits

	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits
	BIOE 409 - Behavior & EvolutionDiscussion Offered autumn. Co-req., BIOE 406. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies. This discussion course complements the lectures of BIOE 406 by examining both landmark and recent literature. It also includes a written component.	1 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 434 - Plant Physiology Lab Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.	1 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits

	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
Minimum Required Grade: C-		

2/3 UD Writing Courses

	Course	Credits
	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
	BCH 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Undergraduate Research Symposium or a scientific meeting.	3 To 6 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits

	BIOM 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
Minimum Required Grade: C-		

Complete UD Writing Course

	Course	Credits
	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Language Requirement. Either of these Calculus courses (required by the major) will satisfy this requirement.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		

Natural History

Bachelor of Arts - Biology; Natural History Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 73

Required Cumulative GPA: 2.0

Note: The natural history option is designed for students who seek an interdisciplinary science program. This option is not research-oriented, and is not considered a preparatory program for traditional research-based graduate programs. It is, however, designed for students seeking careers in environmental education, science writing or illustration, natural history or wildlife film-making, or natural history centers or museums. There is enough latitude in the requirements to allow for a minor or even a double major in a related field of interest (e.g. journalism, art, media arts, etc.).

Biology/Microbiology Lower Division Core

Rule: All of the following courses are required.

Note: The lower division core should be completed before attempting most upper division major courses.

AP Biology credit may be substituted for either BIOB 160N/161N or BIOB 170N/171N.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits

Minimum Required Grade: C-	17 Total Credits Required

Upper Division Core Courses Required by Natural History Option

Rule: All of the following courses are required.

Note: BIOE 342 Field Ecology at the Flathead Lake Biological Station may be substituted for BIOE 370/371

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOE 406 - Behavior & Evolution Offered autumn. Prereq., BIOB 272. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies.	3 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
	BIOO 462 - Entomology Offered alternate springs. Prereq. or Coreq., BIOB 272. The classification, morphology, anatomy, development, life-history, behavior and ecology of insects. Labs include identification of major insect groups, internal and external anatomy and student collections.	4 Credits
Minimum Required Grade: C-		20 Total Credits Required

Additional Upper Division Major Courses Required for Natural History Option

Rule: Complete one of the following courses

	Course	Credits

	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Required Courses Outside of the Major

Minimum Required Grade: C-

Chemistry and Geology

Rule: Complete all of the following courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits
	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
Minimum Required Grade: C-		12 Total Credits Required

Cognate Electives

Rule: Complete 20 credits from the following disciplines (maximum of 10 credits/discipline): ANTY, ASTR, CHMY (excluding 121N, 123N, 124N), GPHY, GEO (excluding 101N, 102N), FORS, M, PHSX, STAT, or WILD

Note: Students should plan on taking M 121 or higher level M course (prerequisite for BIOB 272 and GER math requirement) and STAT 216 (prerequisite for BIOE 371).

Students interested in combining the Natural History Option with another subject area may, with the advisor's permission, substitute 20 credits in English - writing, journalism, photography, art, foreign language, business management, or other appropriate field.

Upper Division Writing Expectation for the Major

Rule: Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course or one complete writing course).

Note: To meet the Upper Division Writing Expectation for the Major, Biology students take 2 or 3 partial writing courses (either three 1/3 writing courses or one 1/3 writing course and one 2/3 writing course) or one complete writing course. The Natural History Option requires one 2/3 writing course (BIOE 371) and several 1/3 writing courses (BIOO 320, BIOO 470 or BIOO 475). No additional writing courses must be taken to meet this requirement.

Minimum Required Grade: C-

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Language Requirement. Either of these Calculus courses will satisfy this requirement. The Natural History Option does not require a calculus course; the Natural History student may choose to take one year of a modern or classical language, or they may take one of these calculus courses (which will count towards a cognate elective).

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		

Biological Education

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 62

Required Cumulative GPA: 2.75

Note: This option provides students with coursework in biology and related science and mathematics needed to be certified by the State of Montana to teach secondary biology (in middle and high school). This option is appropriate for students interested in teaching biology in a larger, more urban school. In order to be licensed to teach secondary biology, students must be admitted to the Teacher Education Program through the Phyllis J. Washington College of Education and Human Sciences.

Biology/Microbiology Lower Division Core

Rule: All of the following courses are required.

Note: The lower division core should be completed before attempting most upper division major courses.

AP Biology credit may be substituted for either BIOB 160N/161N or BIOB 170N/171N.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits

	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Upper Division Core Courses Required by the Biological Education Option

Rule: All of the following courses are required.

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 361 - Gen Microbiolgy Lb (equiv 261) Offered autumn. Prereq. or coreq., BIOM 360. Basic microbiology procedures and techniques.	2 Credits
	BIOO 433 - Plant Physiology Offered spring. Prereq., BIOB 260 or consent of the instructor. The molecular, biochemical and biophysical basis of plant function, from the subcellular to the whole organism level.	3 Credits
	BIOO 434 - Plant Physiology Lab Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.	1 Credits
Minimum Required Grade: C-		14 Total Credits Required

Animal-Based Organismal Requirement

Rule: Complete one of the following courses

	Course	Credits

	BIOB 301 - Developmental Biology Offered autumn. Prereq., BIOB 260; BIOB 272 recommended. An analysis of the origin and development of form and patterns in organisms, stressing the processes of growth and differentiation in plants and animals. Graded traditional letter grade only.	3 Credits
	BIOL 435 - Comparative Animal Physiology Offered spring. Prereq., BIOB 260 or equivalent. Animal physiology with emphasis on diversity of functional processes, with strong links to broader ecological and evolutionary contexts.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Required Content Courses Outside of the Major

Minimum Required Grade: C-

Mathematics - Calculus

Rule: Complete one of the following calculus courses

Note: Choose M 171, if you plan to take additional calculus courses, or if you plan a double major or minor in a field that requires more calculus (e.g. math, physics, biochemistry, computer science).

	Course	**Credits**
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Mathematics - Statistics

Rule: The following course is required

	Course	**Credits**

	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Chemistry

Rule: All of the following courses are required

Note: CHMY 141N, 143N, 123N (required for the general science broadfield teaching option) will substitute for CHMY 121N, 123N/124N.

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
	CHMY 485 - Laboratory Safety Offered autumn. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.	1 Credits
Minimum Required Grade: C-		9 Total Credits Required

Physics

Rule: All of the following courses are required

Note: These are algebra- and trigonometry-based physics courses. The calculus-based physics courses, PHSX 215N/216N (which require M 171), may be substituted for PHSX 205N/206N.

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits

	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		5 Total Credits Required

Environmental Geosciences

Rule: Complete one of the following courses

	Course	Credits
	GEO 105N - Oceanography Offered spring. The ocean covers 70 % of the globe, and yet vast regions remain unexplored. Interactions between the atmosphere and the sea moderate and control our climate. Nearly 40 % of the world's population lives within 100 kilometers of the coast. The oceans are geographically, environmentally, culturally, and economically critical to society. This course introduces oceanography, including the origin of water and ocean basins; marine resources; atmospheric circulation; air-sea interaction; ocean-climate feedback; currents, tides, and coastal processes; marine ecology; and use and misuse of the oceans.	3 Credits
	GEO 108N - Climate Change Offered autumn. The geoscience perspective on the earth's climate system. Climate processes and feedbacks, climate history from early earth to the ice ages, present and future changes due to natural processes and human activities.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Education

Rule: The following course is required

Note: The course number EDU 497 covers many different teaching method courses. The section of EDU 497 entitled "Methods: 5 - 12 Science" is required for the Biological Education option.

	Course	Credits
	EDU 497 - Teaching and Assessing Reading (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and	0 To 4 Credits

	operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing Expectation for the Major

Rule: Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course or one complete writing course)

Note: To meet the Upper Division Writing Expectation for the Major, Biology students take 2 or 3 partial writing courses (either three 1/3 writing courses or one 1/3 writing course and one 2/3 writing course) or one complete writing course. The Biological Education Option requires one 2/3 writing course (BIOE 371) and one 1/3 writing

course (BIOO 434). No additional courses are needed to meet this requirement.
Minimum Required Grade: C-

1/3 UD Writing Courses

	Course	Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits
	BIOE 409 - Behavior & EvolutionDiscussion Offered autumn. Co-req., BIOE 406. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies. This discussion course complements the lectures of BIOE 406 by examining both landmark and recent literature. It also includes a written component.	1 Credits

	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 434 - Plant Physiology Lab Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.	1 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
Minimum Required Grade: C-		

2/3 UD Writing Courses

	Course	**Credits**
	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
	BCH 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Undergraduate Research Symposium or a scientific meeting.	3 To 6 Credits

	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
Minimum Required Grade: C-		

Complete UD Writing Course

	Course	Credits
	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits

Secondary Teaching Licensure

Note: For endorsement to teach biology, a student also must gain admission to the Teacher Education Program and meet all the requirements for secondary teaching licensure (see the College of Education & Human Sciences)

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Language Requirement. Either of these Calculus courses (required by the major) will satisfy this requirement.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		

General Science Broadfield

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Arts - Biology; Track: Teaching General Science Broadfield

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 72

Required Cumulative GPA: 2.75

Note: This option provides students with coursework in biology, chemistry, physics, earth sciences and mathematics needed to be certified by the State of Montana in broad-field science. This allows students to teach secondary science--biology, chemistry, physics, and earth science (in middle and high schools). This option is appropriate for students interested in teaching science in smaller, more rural schools. In order to be licensed to teach secondary science, students must be admitted to the Teacher Education Program through the Phyllis J. Washington College of Education and Human Sciences.

Lower Division Courses in the Content Areas - Biology, Chemistry, Earth Sciences, and Physics

Note: A minimum of 10 credits is required in each of the four content areas.

Biology Content Courses

Rule: All of the following courses are required

Note: AP Biology will substitute for either BIOB 160N/161N or BIOB 170N/171N.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Chemistry Content Courses

Rule: All of the following courses are required.

Note: CHMY 141N & 143N should be completed before attempting CHMY 123N.

	Course	Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 485 - Laboratory Safety Offered autumn. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.	1 Credits
Minimum Required Grade: C-		14 Total Credits Required

Earth Sciences Content Courses

Rule: All of the following courses are required

Note: ASTR 132N/135N are NOT acceptable substitutes for ASTR 131N/134N.

	Course	Credits
	ASTR 131N - Elementary Astronomy I Offered autumn. Prereq., high school algebra and geometry. An introduction to observational, historical, and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	3 Credits
	ASTR 134N - Elementary Astronomy Lab I Offered autumn. Prereq. or coreq., ASTR 131N Laboratory exercises in observational and planetary astronomy. Students will have a chance to visit UM's state-of-the-art planetarium and observe with our 0.4 meter telescope.	1 Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits

	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
Minimum Required Grade: C-		8 Total Credits Required

Earth Sciences Content Courses - Environmental Geosciences

Rule: Complete at least one of the following courses

	Course	Credits
	GEO 105N - Oceanography Offered spring. The ocean covers 70 % of the globe, and yet vast regions remain unexplored. Interactions between the atmosphere and the sea moderate and control our climate. Nearly 40 % of the world's population lives within 100 kilometers of the coast. The oceans are geographically, environmentally, culturally, and economically critical to society. This course introduces oceanography, including the origin of water and ocean basins; marine resources; atmospheric circulation; air-sea interaction; ocean-climate feedback; currents, tides, and coastal processes; marine ecology; and use and misuse of the oceans.	3 Credits
	GEO 108N - Climate Change Offered autumn. The geoscience perspective on the earth's climate system. Climate processes and feedbacks, climate history from early earth to the ice ages, present and future changes due to natural processes and human activities.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physics Content Courses

Rule: All of the following courses are required.

Note: These are algebra- and trigonometry-based physics courses. The calculus-based physics sequence, PHSX 215N/216N & 217N/218N (which require M 171 and M 172), may be substituted for PHSX 205N/206N & 207N/208N.

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits

	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Upper Division Content Courses

Rule: All of the following courses are required.

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
Minimum Required Grade: C-		5 Total Credits Required

Required Content Courses Outside of the Major

Minimum Required Grade: C-

Mathematics - Calculus

Rule: Complete one of the following calculus courses

Note: Choose M 171, if you plan to take additional calculus courses, or if you plan a double major or minor in a field that requires more calculus (e.g. math, physics, biochemistry, computer science).

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Mathematics - Statistics

Rule: The following course is required

	Course	Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Education

Rule: The following course is required

Note: The course number EDU 497 covers many different teaching methods courses. The section of EDU 497 entitled "Methods: 5 - 12 Science" is required for the General Science Broadfield.

	Course	Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits

Minimum Required Grade: C-	3 Total Credits Required

Upper Division Writing Expectation for the Major

Rule: Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course or one complete writing course).

Note: To meet the Upper Division Writing Expectation for the Major, Biology students take 2 or 3 partial writing courses (either three 1/3 writing courses or one 1/3 writing course and one 2/3 writing course) or one complete writing course. The General Science Broadfield requires one 2/3 writing course (BIOE 371). The Upper Division Writing Expectation is completed with one additional course, chosen from any of the following. The recommended course is BIOO 434 Plant Physiology lab (taken with BIOO 433 Plant Physiology), which are required for the Teaching Biology endorsement.

Minimum Required Grade: C-

1/3 UD Writing Courses

	Course	Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits

	BIOE 409 - Behavior & EvolutionDiscussion Offered autumn. Co-req., BIOE 406. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies. This discussion course complements the lectures of BIOE 406 by examining both landmark and recent literature. It also includes a written component.	1 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 434 - Plant Physiology Lab Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.	1 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
Minimum Required Grade: C-		

2/3 UD Writing Courses

	Course	**Credits**
	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits

	BCH 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Undergraduate Research Symposium or a scientific meeting.	3 To 6 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
Minimum Required Grade: C-		

Complete UD Writing Course

	Course	**Credits**
	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits

Secondary Teaching Licensure

Note: For endorsement to teach general science, a student also must gain admission to the Teacher Education Program and meet all the requirements for secondary teaching licensure (see the College of Education & Human Sciences)

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Language Requirement. Either of these Calculus courses (required by the major) will satisfy this requirement.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		

Genetics and Evolution

Bachelor of Science - Biology; Genetics and Evolution Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 70

Required Cumulative GPA: 2.0

Note: Genetics and evolution is for students interested in genetics and evolutionary biology, including molecular genetics, population genetics, ecological genetics, and genomics. This option is a graduate prep program, and is for students interested in academia or research jobs in private or government laboratories. It is also an excellent option for students interested in a professional health program such as medical school or a genetic counseling graduate program.

Biology/Microbiology Lower Division Core

Rule: All of the following courses are required.

Note: The lower division core should be completed before attempting most upper division major courses.

AP Biology credit may be substituted for either BIOB 160N/161N or BIOB 170N/171N.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Upper Division Core Courses Required by the Genetics & Evolution Option

Rule: All of the following courses are required.

	Course	Credits
	BIOB 375 - General Genetics Offered spring. Prereq., BIOB 260 and 272. This course will focus on the molecular genetics of eukaryotes, with special emphasis on transmission genetics and gene structure and regulation.	3 Credits

	BIOB 486 - Genomics Offered autumn. Prereq., BIOB 272. Principles and mechanisms of genome biology of animals and microbes, including genome function, evolution, and basic molecular and computational methodology used in genome biology.	3 Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
Minimum Required Grade: C-		11 Total Credits Required

Additional UD Major Courses Required for the Genetics & Evolution Option

Minimum Required Grade: C-

Biochemistry

Rule: Complete either one semester of biochemistry (BCH 380) or two semesters of biochemistry (BCH 480-482)

Note: If one year of chemistry is completed, then BCH 380 must be taken. Either BCH 380 or BCH 480-482 may be taken if two years of chemistry are completed.

	Course	Credits
	BCH 380 - Biochemistry Offered autumn and spring. Prereq., CHMY 223 or BIOB 260. Fundamental biochemistry; chemistry and metabolism of biomolecules, energy relationships in metabolism; storage, transmission, and expression of genetic information. Credit not allowed for both BCH 380 and 480-482.	4 Credits
	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits

Minimum Required Grade: C-	4 or 6 Total Credits Required

Genetics/Evolution Depth Courses

Rule: Complete at least three of the following genetics/evolution courses

	Course	Credits
	BIOB 480 - Conservation Genetics Offered intermittently. Prereq., BIOB 272. Genetic basis for solving biological problems in conservation including the genetics of small populations, the application of molecular genetic techniques to conservation biology and case studies of the application of genetics to conservation problems.	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOB 488 - Programming for Biology Offered spring. Prereq., BIOB 486 or A- or higher in BIOB 272. An introduction to computer programming using genomic and evolutionary examples. No prior programming experience expected or required.	3 Credits
	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits
	BIOE 406 - Behavior & Evolution Offered autumn. Prereq., BIOB 272. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies.	4 Credits
	BIOE 482 - Evolution & Development Offered intermittently. Prereq., BIOB 170N and 272. Lecture, reading and discussion of questions at the intersection of developmental and evolutionary biology. Questions include but are not restricted to: how novel traits arise; how diversity in animal form is generated; and how phenotypic plasticity (environment-sensitive expression of traits) is produced.	3 Credits

	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits
	BIOM 410 - Microbial Genetics Offered spring. Prereq., BIOM 360 and 361. The molecular genetics of prokaryotic organisms including: structure and replication of the prokaryotic chromosome; gene expression; mutagenesis and DNA repair; plasmids and other tools of genetic engineering; transmission of genetic material and recombination in prokaryotes; regulation of gene expression in prokaryotes; recombinant DNA and biotechnology.	3 Credits
	BIOM 415 - Microbial Dvrsty Eclgy & Evltn Offered spring. Prereq., BIOB 260, 272, BIOM 360-361 or consent of instr. A broad overview of the physiological, phylogenetic and genomic diversity and ecology of microorganisms within a framework of general ecological principles. Focuses on microbial interactions with their environment at the level of the individual, population and community, including intimate associations with plants and animals. Surveys current methods for studying microbial ecology and diversity in the environment.	3 Credits
	CSCI 451 - Computational Biology Offered Autumn. Designed for attendance by both computer scientists and biologists. The course will explore the interdisciplinary nature at the juncture of the two fields. Students will be introduced to bioinformatics (emphasis: computational genomics), with exposure to fundamental problems, algorithms, and tools in the field. This includes a basic introduction to genomics, along with in-depth coverage of algorithms and methods relevant to modern computational genomics, including: biological sequence alignment, sequence database homology search, and phylogeny inference. The programming expectations are limited for a 400-level computer science course, but at least one semester of a programming-intensive course is required. Credit not allowed for CSCI 558 and this course	3 Credits
Minimum Required Grade: C-		9-12 Total Credits Required

Physiology Requirement

Rule: Complete at least one of the following courses (labs must also be taken, if available)
Note: If BIOM 450 Microbial Physiology, then BIOM 451 Microbial Physiology Lab must also be taken.

If BIOO 433 Plant Physiology, then BIOO 434 Plant Physiology Lab must also be taken.

	Course	**Credits**

	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
	BIOL 435 - Comparative Animal Physiology Offered spring. Prereq., BIOB 260 or equivalent. Animal physiology with emphasis on diversity of functional processes, with strong links to broader ecological and evolutionary contexts.	3 Credits
	BIOM 450 - Microbial Physiology Offered autumn. Prereq., BIOM 360-361. Microbial structure and function, physiological diversity, microbial metabolism, role of microbial activity in the environment.	3 Credits
	BIOO 433 - Plant Physiology Offered spring. Prereq., BIOB 260 or consent of the instructor. The molecular, biochemical and biophysical basis of plant function, from the subcellular to the whole organism level.	3 Credits
Minimum Required Grade: C-		3 or 4 Total Credits Required

Required Courses Outside of the Major

Minimum Required Grade: C-

Mathematics - Calculus

Rule: Complete one of the following calculus courses

Note: Choose M 171 if you plan to take additional calculus courses, or if you plan a double major or minor in a field that requires more calculus (e.g. math, physics, biochemistry, computer science).

	Course	**Credits**
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits

Minimum Required Grade: C-	4 Total Credits Required

Mathematics - Statistics

Rule: Complete either one semester of statistics (STAT 216) or a full year of statistics (STAT 451/457 and 452/458)

	Course	Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	STAT 451 - Statistical Methods I Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate	3 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
	STAT 457 - Computer Data Analysis I Offered autumn. Coreq., STAT 451 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in STAT 451. Level: Undergraduate-Graduate	1 Credits
	STAT 458 - Computer Data Analysis II Offered spring. Coreq., STAT 452 or consent of instr. Continuation of STAT 457. Intended primarily for students in STAT 452. Level: Undergraduate-Graduate	1 Credits
Minimum Required Grade: C-		4 or 8 Total Credits Required

Chemistry

Rule: Complete either one year of chemistry (CHMY 121N, 123N/124N) or two years of chemistry (CHMY 141N, 143N, 221/222, 223/224)

	Course	Credits

	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		8 or 20 Total Credits Required

Physics

Rule: All of the following courses are required

Note: These are algebra- and trigonometry-based physics courses. The calculus-based physics sequence, PHSX 215N/216N & 217N/218N (which require M 171 and M 172), may be substituted for PHSX 205N/206N & 207N/208N.

	Course	**Credits**

	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Upper Division Writing Expectation for the Major

Rule: Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course or one complete writing course)

Note: To meet the Upper Division Writing Expectation for the Major, Biology students take 2 or 3 partial writing courses (either three 1/3 writing courses or one 1/3 writing course and one 2/3 writing course) or one complete writing course. The Genetics & Evolution Option requires one 2/3 writing course: BIOE 371. The UD Writing Expectation for the Major is completed with one additional course, chosen from any of the following.

Minimum Required Grade: C-

1/3 UD Writing Courses

	Course	**Credits**
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits

	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits
	BIOE 409 - Behavior & EvolutionDiscussion Offered autumn. Co-req., BIOE 406. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies. This discussion course complements the lectures of BIOE 406 by examining both landmark and recent literature. It also includes a written component.	1 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits

	BIOO 434 - Plant Physiology Lab Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.	1 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
Minimum Required Grade: C-		

2/3 UD Writing Courses

	Course	Credits
	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
	BCH 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Undergraduate Research Symposium or a scientific meeting.	3 To 6 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits

	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
Minimum Required Grade: C-		

Complete UD Writing Course

	Course	Credits
	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Language Requirement. Either of these Calculus courses (required by the major) will satisfy this requirement.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		

Bachelor of Science - Medical Laboratory Science; Track: 3 + 1

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 101

Required Cumulative GPA: 2.0

Note: A Medical Laboratory Science degree prepares students to perform various chemical, histological, and microbial laboratory procedures used in the diagnosis, study, and treatment of disease. Students with this degree seek employment in hospital laboratories, physicians' offices, and health departments. For clinical practice, a student must be certified through the Board of Registry by completing a one year clinical practicum. The 3+1 track is the faster option, as the clinical practicum year is part of the degree. Three years are spent on the UM campus, and then the clinical practicum year with the MUS CLS program (or with one of our affiliated programs) is the fourth year of the Bachelor's degree. Note: this degree requires a total of 130 credits.

Lower Division Biology Courses

Rule: All of the following courses are required.

Note: Either BIOB 160N (C- or better) or BCH 110/111 (C- or better) or BIOH 112 (B- or better) must be taken as a prerequisite for BIOB 260, unless a student has AP Biology credit.

	Course	**Credits**
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Required Major Courses for Medical Technology 3 + 1

Rule: All of the following courses are required

	Course	**Credits**

	BCH 380 - Biochemistry Offered autumn and spring. Prereq., CHMY 223 or BIOB 260. Fundamental biochemistry; chemistry and metabolism of biomolecules, energy relationships in metabolism; storage, transmission, and expression of genetic information. Credit not allowed for both BCH 380 and 480-482.	4 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOH 365 - Human AP I for Health Profsns Offered autumn. Prereq., CHMY 121N or CHMY 141N; BIOB 160N or BIOH 112 or 113. Introduction to basic cellular structure and function. The fundamental facts and concepts of the anatomy and physiology of cells and tissues, the integumentary, musculoskeletal, nervous and special senses with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	4 Credits
	BIOH 405 - Hematology Offered autumn. Prereq., junior level or consent of instr., BIOM 360. Study of blood and diseases of the circulatory system. Blood banking and serology.	3 Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 361 - Gen Microbiolgy Lb (equiv 261) Offered autumn. Prereq. or coreq., BIOM 360. Basic microbiology procedures and techniques.	2 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOM 403 - Medicl Bacteriolgy & Myclgy Lb Offered spring. Prereq. or coreq., BIOM 402. Laboratory study of pathogenic bacteria and fungi.	2 Credits
	BIOM 427 - General Parasitology Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.	2 Credits
	BIOM 428 - General Parasitology Lab Offered autumn. Coreq., BIOM 427. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.	2 Credits
	BIOM 435 - Virology Offered spring. Prereq., BIOB 260, and either BIOM 360 or BIOM 400. The general nature of viruses, with emphasis on the molecular biology of animal and human viruses. Co-convenes with BIOM 535.	3 Credits
Minimum Required Grade: C-		31 Total Credits Required

Required Professional Practicum

Rule: All of the following courses are required

Note: You must apply for the professional practicum during the autumn prior to enrollment. To be competitive for this practicum, you must be in good academic standing with a minimum GPA of ~3.0, and demonstrate a commitment to the clinical laboratory profession. For more information, visit: http://www.umt.edu/medtech/default.html. Contact Dr. Mike Minnick to apply for the practicum.

	Course	Credits
	BIOH 470 - Summer Clinical Laboratory Offered summer. Prereq., successful completion of medical laboratory science 3+1 on-campus curriculum, admittance into one of our affiliated clinical practicum programs, and consent of instructor. Professional training in clinical laboratory sciences (medical laboratory science).	12 Credits
	BIOH 471 - Professional Training I Offered autumn. Prereq., BIOH 470. Continuation of BIOH 470. Professional training at clinical site(s).	13 Credits
	BIOH 472 - Professional Training II Offered spring. Prereq., BIOH 471. Continuation of BIOH 471. Professional training at clinical site(s).	12 Credits
Minimum Required Grade: C-		37 Total Credits Required

Required Courses Outside the Major

Mathematics - Calculus

Rule: Complete one of the following calculus courses

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Mathematics - Statistics

Rule: The following course is required

	Course	Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Chemistry

Rule: All of the following courses are required

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
Minimum Required Grade: C-		15 Total Credits Required

Upper Division Writing Expectation for the Major

Rule: Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course) or one complete writing course.

Note: To meet the Upper Division Writing Expectation for the Major, Medical Laboratory Science 3+1 students take two 1/3 writing courses (BIOB 410 and BIOM 402). The Upper Division Writing Expectation for the Major is completed with one more course, chosen from any of the following. (BIOB 411 Immunology Lab is recommended by many of the clinical practicum affiliates).

Minimum Required Grade: C-

1/3 UD Writing Courses

	Course	Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits
	BIOE 409 - Behavior & EvolutionDiscussion Offered autumn. Co-req., BIOE 406. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies. This discussion course complements the lectures of BIOE 406 by examining both landmark and recent literature. It also includes a written component.	1 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits

	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 434 - Plant Physiology Lab Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.	1 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits

2/3 UD Writing Courses

__	**Course**	**Credits**
	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
	BCH 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Undergraduate Research Symposium or a scientific meeting.	3 To 6 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits

	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits

Complete UD Writing Course

	Course	**Credits**
	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Languages Requirement. Either of these calculus courses (required by the major) will satisfy this requirement.

	Course	**Credits**
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits

	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Medical Laboratory Science 4+1

Bachelor of Science - Medical Laboratory Science; Track: 4+1

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 86

Required Cumulative GPA: 2.0

Note: A Medical Laboratory Science degree prepares students to perform various chemical, histological, and microbial laboratory procedures used in the diagnosis, study, and treatment of disease. Students with this degree seek employment in hospital laboratories, physicians' offices, and health departments. For clinical practice, a student must be certified through the Board of Registry by completing a one year clinical practicum. The 4+1 track is the more flexible option, in which students complete the four years of the Bachelor's degree on the UM campus. Students may apply to a clinical practicum program anywhere in the country.

Lower Division Biology Courses

Rule: All of the following courses are required.

Note: Either BIOB 160N (C- or better) or BCH 110/111 (C- or better) or BIOH 112 (B- or better) must be taken as a prerequisite for BIOB 260, unless a student has AP Biology credit.

	Course	**Credits**
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits

Minimum Required Grade: C-	8 Total Credits Required

Required Major Courses for Medical Technology 4 + 1

Rule: All of the following courses are required

Note: BCH 480-482 may be substituted for BCH 380.

	Course	Credits
	BCH 380 - Biochemistry Offered autumn and spring. Prereq., CHMY 223 or BIOB 260. Fundamental biochemistry; chemistry and metabolism of biomolecules, energy relationships in metabolism; storage, transmission, and expression of genetic information. Credit not allowed for both BCH 380 and 480-482.	4 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOH 365 - Human AP I for Health Profsns Offered autumn. Prereq., CHMY 121N or CHMY 141N; BIOB 160N or BIOH 112 or 113. Introduction to basic cellular structure and function. The fundamental facts and concepts of the anatomy and physiology of cells and tissues, the integumentary, musculoskeletal, nervous and special senses with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	4 Credits
	BIOH 405 - Hematology Offered autumn. Prereq., junior level or consent of instr., BIOM 360. Study of blood and diseases of the circulatory system. Blood banking and serology.	3 Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 361 - Gen Microbiolgy Lb (equiv 261) Offered autumn. Prereq. or coreq., BIOM 360. Basic microbiology procedures and techniques.	2 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOM 403 - Medicl Bacteriolgy & Myclgy Lb Offered spring. Prereq. or coreq., BIOM 402. Laboratory study of pathogenic bacteria and fungi.	2 Credits

	BIOM 407 - Clinical Diagnosis Offered spring. Prereq., BIOM 360-361 or BIOH 365 or BIOM 402/403 (may concur). Principles of blood chemistry, urinalysis, blood banking, serology and other clinical parameters of disease and health.	2 Credits
	BIOM 408 - Clinical Diagnosis Lab Offered spring. Prereq., or coreq., BIOM 407, and BIOM 360-361 or BIOH 365 or BIOM 402/403 (may concur). Clinical diagnostic methods.	1 Credits
	BIOM 427 - General Parasitology Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.	2 Credits
	BIOM 428 - General Parasitology Lab Offered autumn. Coreq., BIOM 427. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.	2 Credits
	BIOM 435 - Virology Offered spring. Prereq., BIOB 260, and either BIOM 360 or BIOM 400. The general nature of viruses, with emphasis on the molecular biology of animal and human viruses. Co-convenes with BIOM 535.	3 Credits
Minimum Required Grade: C-		36 Total Credits Required

Required Courses Outside the Major

Mathematics - Calculus

Rule: Complete one of the following calculus courses

	Course	**Credits**
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Mathematics - Statistics

Rule: The following course is required

	Course	Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Chemistry

Rule: All of the following courses are required

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
Minimum Required Grade: C-		24 Total Credits Required

Physics

Rule: All of the following courses are required

Note: These are algebra- and trigonometry-based physics courses. The calculus-based sequence, PHSX 215N/216N & 217N/218N (which require M 171 and M 172), may be substituted for PHSX 205N/206N & 207N/208N.

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Upper Division Writing Expectation for the Major

Rule: Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course or one complete writing course).

Note: To meet the Upper Division Writing Expectation for the Major, Medical Laboratory Science 4+1 students take BIOB 410 (a 1/3 writing course) and BIOB 411 (a 2/3 writing course).

Minimum Required Grade: C-

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Languages Requirement. Either of these calculus courses (required by the major) will satisfy this requirement.

	Course	Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Microbiology B.S.

Bachelor of Science - Microbiology

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 91

Required Cumulative GPA: 2.0

Note: Microbiology is the study of microorganisms including bacteria, fungi, viruses, and protozoa. This general microbiology option emphasizes microbial structure and function, as well as interactions with humans. This is a graduate prep program, and is appropriate for students interested in research careers in academia or private or government laboratories. It is also an excellent option for pre-medical sciences students.

Biology/Microbiology Lower Division Core

Rule: All of the following courses are required.

Note: The lower division core should be completed before attempting most upper division major courses.

AP Biology credit may be substituted for either BIOB 160N/161N or BIOB 170N/171N.

	Course	**Credits**
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits

	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Upper Division Microbiology Core Courses

Rule: All of the following courses are required.

	Course	**Credits**
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 361 - Gen Microbiolgy Lb (equiv 261) Offered autumn. Prereq. or coreq., BIOM 360. Basic microbiology procedures and techniques.	2 Credits

	BIOM 410 - Microbial Genetics Offered spring. Prereq., BIOM 360 and 361. The molecular genetics of prokaryotic organisms including: structure and replication of the prokaryotic chromosome; gene expression; mutagenesis and DNA repair; plasmids and other tools of genetic engineering; transmission of genetic material and recombination in prokaryotes; regulation of gene expression in prokaryotes; recombinant DNA and biotechnology.	3 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 415 - Microbial Dvrsty Eclgy & Evltn Offered spring. Prereq., BIOB 260, 272, BIOM 360-361 or consent of instr. A broad overview of the physiological, phylogenetic and genomic diversity and ecology of microorganisms within a framework of general ecological principles. Focuses on microbial interactions with their environment at the level of the individual, population and community, including intimate associations with plants and animals. Surveys current methods for studying microbial ecology and diversity in the environment.	3 Credits
	BIOM 450 - Microbial Physiology Offered autumn. Prereq., BIOM 360-361. Microbial structure and function, physiological diversity, microbial metabolism, role of microbial activity in the environment.	3 Credits
	BIOM 451 - Microbial Physiology Lab Offered autumn. Coreq., BIOM 450. Experimental approaches to analysis of microbial structure, composition and metabolism.	1 Credits
Minimum Required Grade: C-		19 Total Credits Required

Additional UD Major Courses Required for Microbiology

Minimum Required Grade: C-

Biochemistry

Rule: Complete either one semester of biochemistry (BCH 380) or one year of biochemistry (BCH 480-482)

	Course	Credits
	BCH 380 - Biochemistry Offered autumn and spring. Prereq., CHMY 223 or BIOB 260. Fundamental biochemistry; chemistry and metabolism of biomolecules, energy relationships in metabolism; storage, transmission, and expression of genetic information. Credit not allowed for both BCH 380 and 480-482.	4 Credits

	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
Minimum Required Grade: C-		4 or 6 Total Credits Required

Additional UD Depth Courses in Microbiology

Rule: Complete 7 - 9 credits from the following list (labs must be taken with lectures, if available). 7 credits if BCH 480-482 taken; 9 credits if BCH 380 taken.

Note: If BIOB 410 Immunology, then BIOB 411 Immunology Lab must also be taken.
If BIOM 402 Medical Bacteriology & Mycology, then BIOM 403 Medical Bacteriology & Mycology Lab must also be taken.
If BIOM 407 Clinical Diagnosis, then BIOM 408 Clinical Diagnosis Lab must also be taken.
If BIOM 427 General Parasitology, then BIOM 428 General Parasitology Lab must also be taken.

__	**Course**	**Credits**
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOH 405 - Hematology Offered autumn. Prereq., junior level or consent of instr., BIOM 360. Study of blood and diseases of the circulatory system. Blood banking and serology.	3 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits

	BIOM 403 - Medicl Bacteriolgy & Myclgy Lb Offered spring. Prereq. or coreq., BIOM 402. Laboratory study of pathogenic bacteria and fungi.	2 Credits
	BIOM 407 - Clinical Diagnosis Offered spring. Prereq., BIOM 360-361 or BIOH 365 or BIOM 402/403 (may concur). Principles of blood chemistry, urinalysis, blood banking, serology and other clinical parameters of disease and health.	2 Credits
	BIOM 408 - Clinical Diagnosis Lab Offered spring. Prereq., or coreq., BIOM 407, and BIOM 360-361 or BIOH 365 or BIOM 402/403 (may concur). Clinical diagnostic methods.	1 Credits
	BIOM 427 - General Parasitology Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.	2 Credits
	BIOM 428 - General Parasitology Lab Offered autumn. Coreq., BIOM 427. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.	2 Credits
	BIOM 435 - Virology Offered spring. Prereq., BIOB 260, and either BIOM 360 or BIOM 400. The general nature of viruses, with emphasis on the molecular biology of animal and human viruses. Co-convenes with BIOM 535.	3 Credits
	BIOM 490 - Adv Undergrad Research (R-10) Offered every term. Prereq., BIOM 360, junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit.	1 To 10 Credits
Minimum Required Grade: C-		7 or 9 Total Credits Required

Required Courses Outside of the Major

Minimum Required Grade: C-

Mathematics

Rule: All of the following courses are required.

Note: M 171 Calculus I may be substituted for M 162.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits

	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Chemistry

Rule: All of the following courses are required.

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
Minimum Required Grade: C-		24 Total Credits Required

Physics

Rule: All of the following courses are required.

Note: These are algebra- and trigonometry-based physics courses. The calculus-based physics sequence, PHSX 215N/216N & PHSX 217N/218N (which require M 171 and M 172), may be substituted for PHSX 205N/206N & 207N/208N.

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Upper Division Writing Expectation for the Major

Rule: Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course or one complete writing course)

Note: To meet the Upper Division Writing Expectation for the Major, Microbiology students take at least 2 partial writing courses. The Microbiology degree requires one 2/3 writing course (BIOM 411). The UD Writing Expectation for the Major is completed with one more course, chosen from any of the following.

Minimum Required Grade: C-

1/3 UD Writing Courses

	Course	Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits

	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits
	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits
	BIOE 409 - Behavior & EvolutionDiscussion Offered autumn. Co-req., BIOE 406. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies. This discussion course complements the lectures of BIOE 406 by examining both landmark and recent literature. It also includes a written component.	1 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits

	BIOO 434 - Plant Physiology Lab Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.	1 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
Minimum Required Grade: C-		

2/3 UD Writing Courses

	Course	Credits
	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
	BCH 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Undergraduate Research Symposium or a scientific meeting.	3 To 6 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits

	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
Minimum Required Grade: C-		

Complete UD Writing Course

	Course	Credits
	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Language Requirement. Either of these Calculus courses (required by the major) will satisfy this requirement.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		

Bachelor of Science - Microbiology; Microbial Ecology Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 76

Required Cumulative GPA: 2.0

Note: Microbiology is the study of microorganisms including bacteria, fungi, viruses, and protozoa. The option in Microbial Ecology emphasizes microbial structure and function as well as interactions and relationships with the environment and other organisms. Students may continue their studies at the graduate level and seek research careers in government, or private laboratories.

Biology/Microbiology Lower Division Core

Rule: All of the following courses are required.

Note: The lower division core should be completed before attempting most upper division major courses.

AP Biology credit may be substituted for either BIOB 160N/161N or BIOB 170N/171N.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits

	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Upper Division Microbiology Core Courses

Rule: All of the following courses are required.

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 361 - Gen Microbiolgy Lb (equiv 261) Offered autumn. Prereq. or coreq., BIOM 360. Basic microbiology procedures and techniques.	2 Credits
	BIOM 410 - Microbial Genetics Offered spring. Prereq., BIOM 360 and 361. The molecular genetics of prokaryotic organisms including: structure and replication of the prokaryotic chromosome; gene expression; mutagenesis and DNA repair; plasmids and other tools of genetic engineering; transmission of genetic material and recombination in prokaryotes; regulation of gene expression in prokaryotes; recombinant DNA and biotechnology.	3 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 415 - Microbial Dvrsty Eclgy & Evltn Offered spring. Prereq., BIOB 260, 272, BIOM 360-361 or consent of instr. A broad overview of the physiological, phylogenetic and genomic diversity and ecology of microorganisms within a framework of general ecological principles. Focuses on microbial interactions with their environment at the level of the individual, population and community, including intimate associations with plants and animals. Surveys current methods for studying microbial ecology and diversity in the environment.	3 Credits
	BIOM 450 - Microbial Physiology Offered autumn. Prereq., BIOM 360-361. Microbial structure and function, physiological diversity, microbial metabolism, role of microbial activity in the environment.	3 Credits

	BIOM 451 - Microbial Physiology Lab Offered autumn. Coreq., BIOM 450. Experimental approaches to analysis of microbial structure, composition and metabolism.	1 Credits
Minimum Required Grade: C-		19 Total Credits Required

Additional UD Major Courses Required for Microbial Ecology Option

Minimum Required Grade: C-

Biochemistry

Rule: Complete either one semester of biochemistry (BCH 380) or one year of biochemistry (BCH 480-482)

Note: If one year of chemistry is completed, then BCH 380 must be taken. Either BCH 380 or BCH 480-482 may be taken if two years of chemistry are completed.

	Course	Credits
	BCH 380 - Biochemistry Offered autumn and spring. Prereq., CHMY 223 or BIOB 260. Fundamental biochemistry; chemistry and metabolism of biomolecules, energy relationships in metabolism; storage, transmission, and expression of genetic information. Credit not allowed for both BCH 380 and 480-482.	4 Credits
	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
Minimum Required Grade: C-		4 or 6 Total Credits Required

Additional UD Depth Courses in Microbiology

Rule: Complete 7 - 9 credits from the following list (labs must be taken with lectures, if available). 7 credits if BCH 480-482 taken; 9 credits if BCH 380 taken.

Note: If BIOB 410 Immunology, then BIOB 411 Immunology Lab must also be taken.
If BIOM 427 General Parasitology, then BIOM 428 General Parasitology Lab must also be taken.
If BIOO 433 Plant Physiology, then BIOO 434 Plant Physiology Lab must also be taken.

	Course	Credits

	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 440 - Biological Electron Microscopy Offered spring. Prereq., senior standing or consent of instr. Theory of electron microscopy, recent developments in transmission and scanning electron microscopy. Limited experience with the instruments.	2 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOE 439 - Stream Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371, CHMY 121N. The biota and biogeochemical processes of running waters with unifying principles and contemporary research approaches.	3 Credits
	BIOE 453 - Ecology of Small & Large Lakes Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371, CHMY 121N and CHMY 123N. The physical, chemical and biological characteristics of lake ecosystems with an emphasis on nutrient cycling, food web interactions and water quality.	3 Credits
	BIOM 427 - General Parasitology Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.	2 Credits
	BIOM 428 - General Parasitology Lab Offered autumn. Coreq., BIOM 427. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.	2 Credits
	BIOM 435 - Virology Offered spring. Prereq., BIOB 260, and either BIOM 360 or BIOM 400. The general nature of viruses, with emphasis on the molecular biology of animal and human viruses. Co-convenes with BIOM 535.	3 Credits
	BIOM 490 - Adv Undergrad Research (R-10) Offered every term. Prereq., BIOM 360, junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit.	1 To 10 Credits

	BIOO 433 - Plant Physiology Offered spring. Prereq., BIOB 260 or consent of the instructor. The molecular, biochemical and biophysical basis of plant function, from the subcellular to the whole organism level.	3 Credits
	BIOO 434 - Plant Physiology Lab Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.	1 Credits
Minimum Required Grade: C-		7 or 9 Total Credits Required

Required Courses Outside of the Major

Minimum Required Grade: C-

Mathematics - Calculus

Rule: Complete one of the following calculus courses

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Mathematics - Statistics

Rule: The following course is required

	Course	Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits

Minimum Required Grade: C-	4 Total Credits Required

Chemistry

Rule: Complete either one year of chemistry (CHMY 121N, 123N/124N) or two years of chemistry (CHMY 141N, 143N, 221/222, 223/224)

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		8 or 20 Total Credits Required

Physics

Rule: The following courses are required.

Note: PHSX 205N/206N & 207N/208N are algebra- and trigonometry-based physics courses. The calculus-based physics sequence, PHSX 215N/216N & 217N/218N (which require M 171 and M 172), may be substituted for PHSX 205N/206N and 207N/208N.

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		5 Total Credits Required

Additional Science Requirement

Rule: Complete at least 6 credits from the following list of courses

	Course	Credits
	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	ENSC 245N - Soils Offered autumn and spring. Prereq., CHMY 121N (CHEM 151N). An introduction to the chemical, physical, biological and morphological properties of soils.	3 Credits
	GEO 420 - Hydrogeology Offered spring. Prereq., GEO 101N-102N; PHSX 205N/206N or PHSX 215N/216N ; M 162 or 171 strongly recommended or consent of instr. Occurrence, movement, quality, and methods of quantification of groundwater. Geological framework and physics of groundwater flow. Supply, contamination, and management problems.	4 Credits

	GEO 482 - Global Change Offered Spring. Same as CCS 482. Prereq., upper division/higher standing in Geosciences or consent of instructor. Lectures, readings, discussions and practicum on the complexity of global climate. Emphasizes the physical, geochemical and geologic processes affecting climate change over geologic and recent time scales.	3 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 273 - Multivariable Calculus Offered autumn and spring. Prereq., M 172 or 182. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.	4 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	STAT 451 - Statistical Methods I Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate	3 Credits
	STAT 452 - Statistical Methods II Offered spring. Prereq., STAT 451. Continuation of STAT 451. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models. Level: Undergraduate-Graduate	3 Credits
	STAT 457 - Computer Data Analysis I Offered autumn. Coreq., STAT 451 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in STAT 451. Level: Undergraduate-Graduate	1 Credits

	STAT 458 - Computer Data Analysis II Offered spring. Coreq., STAT 452 or consent of instr. Continuation of STAT 457. Intended primarily for students in STAT 452. Level: Undergraduate-Graduate	1 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Writing Expectation for the Major

Rule: Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course or one complete writing course).

Note: To meet the Upper Division Writing Expectation for the Major, Microbiology students take at least 2 partial writing courses. The Microbiology degree requires one 2/3 writing course (BIOM 411). The UD Writing Expectation for the Major is completed with one more course, chosen from any of the following.

Minimum Required Grade: C-

1/3 UD Writing Courses

	Course	Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
	BIOB 483 - Phylogenetics and Evolution Offered alternating spring semesters. Prereq., BIOB 260 and BIOB 272. Phylogenies, or evolutionary trees, provide insights into the history of life on Earth, including our own origins. This course focuses on the theoretical foundations of popular methods of reconstructing phylogenies from molecular sequence data and how to implement these methods with computational software for real data sets. Other current methods for testing evolutionary hypotheses with sequence data will also be introduced.	3 Credits

	BIOE 403 - Vert Design & Evolution Offered spring. Prereq., BIOB 170N, 171N and 272 and either PHSX 205N/206N or 215N/216N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.	5 Credits
	BIOE 409 - Behavior & EvolutionDiscussion Offered autumn. Co-req., BIOE 406. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies. This discussion course complements the lectures of BIOE 406 by examining both landmark and recent literature. It also includes a written component.	1 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOL 484 - Plant Evolution Offered fall, alternate years. Prereq., BIOB 272. Lecture, reading and discussion on the evolutionary processes that shape major patterns of plant diversity. Topics include but are not restricted to: local adaptation, floral and mating system evolution, polyploidy, genome evolution, and speciation.	3 Credits
	BIOM 402 - Medical Bacteriology& Mycology Offered spring. Prereq., BIOM 360, 361. A study of the pathogenic bacteria and fungi and the diseases they produce.	3 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 434 - Plant Physiology Lab Offered spring. Prereq or coreq., BIOO 433. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.	1 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
Minimum Required Grade: C-		

2/3 UD Writing Courses

	Course	**Credits**

	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
	BCH 499 - Senior Thesis/Capstone (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Undergraduate Research Symposium or a scientific meeting.	3 To 6 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 499 - Undergraduate Thesis (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit.	3 To 6 Credits
Minimum Required Grade: C-		

Complete UD Writing Course

	Course	**Credits**

	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits

Exception to the Modern/Classical Languages Requirement

Rule: Choose one of the following Math courses

Note: The Division of Biological Sciences has been granted an exception to the Modern/Classical Language Requirement. Either of these Calculus courses (required by the major) will satisfy this requirement.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		

Biology Minor

Minor - Biology

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 25
Required Cumulative GPA: 2.0

Biology/Microbiology Lower Division Core

Rule: All of the following courses are required.

Note: The lower division core should be completed before attempting most upper division BIO_ courses.

AP Biology may be substituted for either BIOB 160N/161N or BIOB 170N/171N.

	Course	Credits

	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Upper Division Biology Requirement for the Minor

Rule: Complete 8 credits of Upper Division in Biology (BIOB, BIOE, BIOH, BIOL, or BIOO)

Note: These eight credits may not include BIOC, BCH, or BIOM courses.

Minimum Required Grade: C-

8 Total Credits Required

Teaching Biology Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Minor - Biology; Track: Teaching Biology

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.75

Note: In order to be licensed to teach secondary biology, students must be admitted to the Teacher Education Program through the Phyllis J. Washington College of Education and Human Sciences.

Biology/Microbiology Lower Division Core

Rule: All of the following courses are required.

Note: The lower division core should be completed before attempting most upper division major courses.

AP Biology credit may be substituted for either BIOB 160N/161N or BIOB 170N/171N.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits

	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		17 Total Credits Required

Upper Division Core Courses Required by the Biology Teaching Minor

Rule: All of the following courses are required.

	Course	Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 361 - Gen Microbiolgy Lb (equiv 261) Offered autumn. Prereq. or coreq., BIOM 360. Basic microbiology procedures and techniques.	2 Credits
Minimum Required Grade: C-		5 Total Credits Required

Required Content Courses Outside of the Major

Minimum Required Grade: C-

Mathematics - Calculus

Rule: Complete one of the following calculus courses

Note: Choose M 171, if you plan to take additional calculus courses, or if you plan a double major or minor in a field that requires more calculus (e.g. math, physics, biochemistry, computer science).

	Course	Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Mathematics - Statistics

Rule: The following course is required

	Course	**Credits**
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Chemistry

Rule: All of the following courses are required

	Course	**Credits**
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits

	CHMY 485 - Laboratory Safety Offered autumn. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.	1 Credits
Minimum Required Grade: C-		7 Total Credits Required

Environmental Geosciences

Rule: Complete one of the following courses

	Course	Credits
	GEO 105N - Oceanography Offered spring. The ocean covers 70 % of the globe, and yet vast regions remain unexplored. Interactions between the atmosphere and the sea moderate and control our climate. Nearly 40 % of the world's population lives within 100 kilometers of the coast. The oceans are geographically, environmentally, culturally, and economically critical to society. This course introduces oceanography, including the origin of water and ocean basins; marine resources; atmospheric circulation; air-sea interaction; ocean-climate feedback; currents, tides, and coastal processes; marine ecology; and use and misuse of the oceans.	3 Credits
	GEO 108N - Climate Change Offered autumn. The geoscience perspective on the earth's climate system. Climate processes and feedbacks, climate history from early earth to the ice ages, present and future changes due to natural processes and human activities.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Education

Rule: The following course is required

Note: The course number EDU 497 covers many different teaching method courses. The section of EDU 497 entitled "Methods: 5 - 12 Science" is required for the Teaching Biology minor.

	Course	Credits
	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and	0 To 4 Credits

	operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	
Minimum Required Grade: C-		3 Total Credits Required

Secondary Teaching Licensure

Note: For endorsement to teach biology, a student also must gain admission to the Teacher Education Program and meet all the requirements for secondary teaching licensure (see the College of Education & Human Sciences)

Microbiology Minor

Minor - Microbiology

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 19
Required Cumulative GPA: 2.0

Microbiology Core Courses

Rule: All of the following courses are required.

	Course	Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 361 - Gen Microbiolgy Lb (equiv 261) Offered autumn. Prereq. or coreq., BIOM 360. Basic microbiology procedures and techniques.	2 Credits
	BIOM 410 - Microbial Genetics Offered spring. Prereq., BIOM 360 and 361. The molecular genetics of prokaryotic organisms including: structure and replication of the prokaryotic chromosome; gene expression; mutagenesis and DNA repair; plasmids and other tools of genetic engineering; transmission of genetic material and recombination in prokaryotes; regulation of gene expression in prokaryotes; recombinant DNA and biotechnology.	3 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 415 - Microbial Dvrsty Eclgy & Evltn Offered spring. Prereq., BIOB 260, 272, BIOM 360-361 or consent of instr. A broad overview of the physiological, phylogenetic and genomic diversity and ecology of microorganisms within a framework of general ecological principles. Focuses on microbial interactions with their environment at the level of the individual, population and community, including intimate associations with plants and animals. Surveys current methods for studying microbial ecology and diversity in the environment.	3 Credits
	BIOM 450 - Microbial Physiology Offered autumn. Prereq., BIOM 360-361. Microbial structure and function, physiological diversity, microbial metabolism, role of microbial activity in the environment.	3 Credits

	BIOM 451 - Microbial Physiology Lab Offered autumn. Coreq., BIOM 450. Experimental approaches to analysis of microbial structure, composition and metabolism.	1 Credits
Minimum Required Grade: C-		16 Total Credits Required

Additional Upper Division Microbiology Requirement

Rule: Complete 3 additional upper division credits in BIOM

Minimum Required Grade: C-

3 Total Credits Required

Geography Department

David Shively, Chair

Whether global climate change or local land use change – geography provides an understanding of complex natural, social, and human-environmental processes at different geographic scales. Drawing on and expanding the knowledge base of Natural Sciences, Social Sciences, and Geographic Information Sciences, we focus on Mountain Studies, Community and Environmental Planning, and Geographic Information Systems.

Our graduates are successful in occupying meaningful and challenging positions in public, private, and non-profit sectors. Their contributions speak to the impacts Geographers have in analyzing, understanding, and shaping our natural and human landscapes for the benefit of future generations.

The Department of Geography offers the Bachelor of Arts, Bachelor of Science, Master of Arts, and Master of Sciences degrees in geography. For a B.A. in geography, an option in community and environmental planning is available. For a B.S. in geography an option in physical geography is available. Also offered are a minor in geography and a teaching major and minor in geography. Several interdisciplinary minors are available to students: a minor in mountain studies, a minor in climate change and a minor in international development studies. See the Graduate School website for more information concerning the M.A. and M.S. programs.

A certificate in GIS Sciences and Technologies, jointly offered by the Department of Geography (College of Humanities and Sciences) and the Department of Forest Management (College of Forestry and Conservation), is also available. This GIST certificate is a complement to an existing major or to a bachelor's degree already obtained. For details, please see below or the GIST website.

Department Faculty

Professor

Sarah J. Halvorson, Professor
Ulrich Kamp, Professor
Anna Klene, Professor
David Shively, Professor and Chair
Christiane von Reichert, Professor

Adjunct

Kyle Balke

Lecturer

Rick Graetz, Lecturer
Kevin McManigal, Lecturer & GIST Certificate Coordinator

Affiliates

Heather Almquist, Faculty Affiliate
Claudia J. Carr, Associate Professor of Environmental Science
Faith Ann Heinsch
Zachary A. Holden, Ecologist
Ia Iashvili
Irena Mrak, Assistant Research Professor

Tamara Wall

Emeritus

John Donahue, Emeritus Professor
Jeffrey Gritzner, Emeritus Professor
Darshan S. Kang, Emeritus Professor
Paul Wilson, Emeritus Professor

Earth Systems

Back to Top

- ERTH 303N - Weather and Climate
  Credits: 3. Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra. Course Attributes: Natural Science Course (N)

Geography

Back to Top

- GPHY 111N - Intro to Physical Geography
  Credits: 3. Offered autumn and spring. Introduction to the earth's major natural environmental systems, their spatial distribution and interrelationships, including weather and climate, vegetation and ecosystems, soils, landforms, and earth-surface processes. Course Attributes: Natural Science Course (N)
- GPHY 112N - Intro to Phys Geography Lab
  Credits: 1. Offered autumn and spring. Prereq. or coreq., GPHY 111N. Introduction to concepts and techniques needed to understand and analyze the information contained in various types of maps, graphs, aerial photos, imagery, and other graphics and geographic data sets. This is prerequisite to GPHY 385. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)
- GPHY 121S - Human Geography
  Credits: 3. Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences. Course Attributes: Social Sciences Course (S) Cultural Intl Diversity (X)
- GPHY 141S - Geography of World Regions
  Credits: 3. Offered autumn and/or spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood. Course Attributes: Social Sciences Course (S) Cultural Intl Diversity (X)
- GPHY 144 - Montana's Mountains
  Credits: 3. Consent of Instructor. A field-based course offered during winter session in the winter splendor of the North Fork of the Flathead River and Glacier National Park. Topics addressed include physical geography, geology, winter ecology, national park management, environmental history, and the changing economy of the region.
- GPHY 241 - Montana
  Credits: 3. Offered autumn. The physical, cultural, economic, political, and historical geography of the state including Montana's mountains and the prairies.
- GPHY 243 - Africa
  Credits: 3. Offered intermittently. A survey of the biophysical and cultural geography of Sub-Saharan Africa. Emphasis is on the region's cultural-historical development and current ecological, demographic, and economic patterns.
- GPHY 245X - The Middle East

Credits: 3. Offered intermittently. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change; prehistory; patterns of cultural and historical change; issues of socio-economic, religious, and political diversity; and the broader political significance of the region. Course Attributes: Cultural Intl Diversity (X)

- GPHY 284 - Intro to GIS and Cartography

  Credits: 3. Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.

- GPHY 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- GPHY 295 - Mountain Field Studies

  Credits: 1. Offered autumn and spring as a series of one-credit courses, maximum of three-credits per semester. Field studies of Montana's Rocky Mountain Front, Crown of the Continent, or Yellowstone. Students prepare to conduct field work, spend time in the field observing wildlife, physical landscapes and cultural aspects of these landscapes, and follow up their observations in written reports.

- GPHY 311N - Biogeography

  Credits: 3. Offered intermittently. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, especially climatic change and human impacts. Course Attributes: Natural Science Course (N)

- GPHY 314 - Global Mountain Environments

  Credits: 3. Offered autumn odd-numbered years. The study of mountain environments and their physical processes around the globe: Andes, Appalachians, East African Mountains, European Alps, Hindu Kush-Himalaya-Karakoram, Pamir, Rocky Mountains, Southern Alps of New Zealand, Tien Shan, and others. Topics include mountain building, alpine glaciers, mountain geomorphology and climatology, mountain watersheds, mountain biogeography, and mountain hazards such as earthquakes and mass movements.

- GPHY 317 - Geomorphology

  Credits: 3. Offered autumn even-numbered years. Prereq., GPHY 111N or GEO 101N. Important landforms and landscapes, their biophysical processes, and their formative elements.

- GPHY 323S - Econ. Geog. of Rural Areas

  Credits: 3. Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas. Course Attributes: Social Sciences Course (S)

- GPHY 335 - Water Policy

  Credits: 3. Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy. Course Attributes: Writing Course-Advanced

- GPHY 336 - Exploration & Discovery

  Credits: 3. Offered intermittently. Emphasis on the evidence of language, genetics, material culture, and transoceanic plant and animal exchanges in assessing mobility and population distributions in prehistory; factors that motivate exploration; the history of navigation; the impacts of exploration upon science, society, economics, and government.

- GPHY 338 - Mountains and Society

  Credits: 3. Offered spring. Physical and cultural aspects of the mountains of North and South America, Europe, Africa, and Asia. Emphasis on combining the physical landscape with an overview of the indigenous people who inhabit the worlds' heights.

- GPHY 342 - North America

  Credits: 3. Offered intermittently. Physiographic regions of North America; highlights of historical geography blended with physical and cultural aspects of the continent. Lesser known places are

explored.

- GPHY 344 - Crown of the Continent

  Credits: 3. Offered autumn. The study of the geographical setting of the Crown of the Continent of North America, including the richness of physical geography, history, culture, and models of conservation. Examines ongoing research initiatives, impacts of climate change, regional transformations, and the relationship between people and this mountainous environment.

- GPHY 347 - Regional Geography (Mult Reg)

  Credits: 3. (R-9) Offered intermittently. Selected regions will be listed as appropriate in each Class Schedule.

- GPHY 348 - Field Studies in Geography

  Credits: 3. (R-12) Offered autumn and spring. Through extended backcountry travel, experiential examination of regional landforms, climate, hydrology, soils, and patterns of vegetation and wildlife. Local landscapes, natural-resource endowment, and societies with particular emphasis on human-environmental interaction. Geographical skills and techniques, including map reading and navigational skills. Offered by the Wild Rockies Field Institute as part of a semester-long, 12-credit field experience with corequisite courses in allied fields.

- GPHY 378 - Preceptorship in Geography

  Credits: 1 TO 3. (R-6) Offered autumn and spring. Consent of instructor. Assisting a faculty member by tutoring, conducting review sessions, helping students with research projects, and carrying out other class-related responsibilities. Open to juniors and seniors who apply to instructor for consent.

- GPHY 385 - Field Techniques

  Credits: 3. Offered autumn and intermittently in spring. Prereq., GPHY 112N or Consent of Instructor. Field techniques used by geographers and planners in making field observations and in collecting data.

- GPHY 391 - Special Topics

  Credits: 1 TO 12. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- GPHY 392 - Independent Study

  Credits: 1 TO 9. (R-9) Offered every term. Consent of Instructor. Independent study in any subfield of geography.

- GPHY 395 - Field Studies

  Credits: 1 TO 9. (R-9) Offered fall and/or spring. Field experience in the region. Includes geographically relevant field courses offered as part of Northwest Connections' Landscapes and Livelihood Field Semester, focusing on natural and human communities and on conservation solutions of the Southwest Crown of the Continent Region: Sustainability and Agriculture (3 cr), and Biogeography of Northwest Montana (4 cr).

- GPHY 400 - Geography Capstone

  Credits: 1. Offered autumn. Prereq.,Senior standing. Exploration of current research, projects, and programs of geographers and scientists/practitioners in allied disciplines and fields, and preparation of a professional portfolio. Student preparation for post-graduate professional and academic careers is emphasized.

- GPHY 421 - Sustainable Cities

  Credits: 3. Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.

- GPHY 432 - Human Role Environ Change

  Credits: 3. Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.

- GPHY 433 - Cultural Ecology

  Credits: 3. Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal

domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.
Course Attributes: Writing Course-Advanced

- GPHY 434 - Food and Famine

  Credits: 3. Offered intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.

- GPHY 438 - Mountain Field Study

  Credits: 3. (R-6) Upper-division or graduate standing and consent of instructor. Examination of aspects of the study of mountain geography through a two-week field course based in a mountainous country and/or region. Possible areas of focus include, but are not limited to, the Northern Rocky Mountains, the Alps, the Himalaya, and the Andes.

- GPHY 442 - Regionalism & Rocky Mtn West

  Credits: 3. Offered intermittently. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political, and cultural entity.
  Course Attributes: Writing Course-Upper-Division

- GPHY 444 - High Asia

  Credits: 3. Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.

- GPHY 465 - Planning Princ & Processes

  Credits: 3. Offered autumn even-numbered years. Prereq., upper-division or graduate standing. Surveys planning principles, practices and issues in urban and rural environments. Attention is devoted to Montana, state planning programs in the United States., and federal programs and policies that influence land-use planning. Emphasizes skills and techniques used in plan development and implementation.

- GPHY 466 - Environmental Planning

  Credits: 3. Offered autumn odd-numbered years. Introduction to practice of environmental planning which includes elements of physical planning, planning design at the landscape scale, and conservation planning. Includes field visits and project-based work.

- GPHY 468 - Community & Regional Analysis

  Credits: 3. Offered autumn. Coreq., GPHY 469. Socio-demographic analysis of communities and regions: population, employment, and spatial interaction. Hands-on course designed for future planners, GIS analysts, and others interested in socio-demographic change. To succeed in this course students should have comfort with basic algebra.

- GPHY 469 - Planning & Analysis Laboratory

  Credits: 1. Offered autumn. Coreq., GPHY 468. Laboratory to accompany GPHY 468.

- GPHY 481 - Advanced Cartographic Design

  Credits: 3. Offered autumn. Prereq., GPHY 284 or FORS 250 or Consent of Instructor. The course concentrates on the presentation of spatial data and the construction of cartographic products that have clear communication and excellent aesthetic design. The class meets the University's service learning course objectives through a semester long project where students consult with a client, design and construct a map, and deliver a final product.

- GPHY 482 - Spatial Analysis & GIS

  Credits: 3. Offered intermittently. Prereq., GPHY 284 or Consent of Instructor. Coreq., GPHY 489. Quantitative analysis of spatial data, including techniques for pattern analysis, classification, and interpolation within a GIS environment.

- GPHY 485 - Internet GIS

  Credits: 3. Offered intermittently. Prereq., GPHY 284 or FORS 250 or Consent of Instructor. Principles and techniques for distributing GIS and mapping applications through the Internet. Students need to register for a required linked lab section.

- GPHY 486 - Transport, Planning & GIS

  Credits: 3. Offered intermittently during wintersession (2 credits) or spring semester (3 credits.) Coreq., GPHY 489. A project-oriented course focusing on patterns and trends in urban passenger

transportation, principles of transport planning, and modeling in GIS-T. To succeed in this course students should have comfort with basic algebra and statistics.

- GPHY 487 - Remote Sensing/Raster GIS

  Credits: 3. Offered autumn. Prereq. or coreq., GPHY 284 or FORS 250 or Consent of Instructor. Coreq., GPHY 489. Basic principles of remote sensing and analyzing images within a raster GIS. Review current data sources.

- GPHY 488 - Applications of GIS

  Credits: 0 TO 3. Offered spring. Prereq., GPHY 284 or GPHY 381 or FORS 250 or Consent of Instructor. Application of GIS for managing natural and cultural resources. Covers choropleth maps, dot maps, proportional figure maps, isarithmic maps, and others. Includes computer mapping and GIS exercises. Students need to register for a required linked lab section.

- GPHY 489 - Cartography/GIS Laboratory

  Credits: 1. (R-4) Offered autumn and spring. Prereq., or coreq., GPHY 482, 486 or 487. Lab to accompany cartography and GIS courses.

- GPHY 491 - Special Topics

  Credits: 0 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- GPHY 492 - Independent Study

  Credits: 1 TO 9. (R-9) Offered every term. Consent of instructor. Independent study in any subfield of geography.

- GPHY 497 - Workshop in Teaching Geography

  Credits: 2 TO 3. Offered intermittently. Concepts and techniques in geography, with emphasis on their use in teaching geography in Montana schools. Students are required to prepare and present a teaching unit project. Designed for pre-service or in-service teachers.

- GPHY 498 - Internship

  Credits: 1 TO 6. Offered every term. Consent of instructor. Extended classroom experience which provides practical application of classroom learning during placements within governmental agencies or the business community. A maximum of 6 credits of Internship may count toward graduation. Course Attributes: Internships/Practicums

- GPHY 499 - senior thesis / capstone

  Credits: 3. (R-6) Offered autumn and spring. Senior standing and consent of instructor. Independent research project in any geographical topic supervised by a faculty member, and leading to completion of the baccalaureate degree. Course Attributes: Writing Course-Advanced

- GPHY 500 - Geography Graduate Colloquium

  Credits: 1. (R-3) Offered autumn. Presentation of faculty and student research. Guest lecturers. Graded pass/not pass only. Enrollment required every autumn graduate students are in residence. Level: Graduate

- GPHY 504 - Geographical Research

  Credits: 1. Offered once a year. Prereq., or coreq., GPHY 505. To be taken during first semester of graduate studies. Understanding of diverse research approaches in geography and development of a thesis topic. To be taken during first year of graduate studies. Level: Graduate

- GPHY 505 - Research Design

  Credits: 2. Offered once a year. Prereq., or corereq GPHY 504. Preparation of a thesis proposal: research design, data collection, analysis, interpretation, and presentation. Recommended to be taken during the first year of graduate studies. Level: Graduate

- GPHY 520 - Seminar Geographical Thought

  Credits: 3. Offered once a year. Geographical ideas, concepts, approaches, and techniques from ancient to modern times. Recommended to be taken during first year of graduate studies. Level: Graduate

- GPHY 525 - Advanced Physical Geography

  Credits: 3. (R-9) Offered intermittently. Advanced topics in climate and global change, paleo-environments and biogeography, landform analysis, soils, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate

- GPHY 550 - Seminar in Geography

  Credits: 3. (R-9) Offered intermittently. Seminar topics in geography and society, human-environmental interaction, physical geography, regional geography, or geographical techniques. Level: Graduate

- GPHY 560 - Seminar in Planning

  Credits: 3. Offered spring odd-numbered years. A critical analysis of land planning history, theory, approaches, and practice. Emphasis is on the United States and England. Level: Graduate

- GPHY 561 - Land Use Planning Law

  Credits: 3. Offered autumn. Same as ENST 561 and LAW 687. Basic overview of the law of land-use planning including, background in the traditional governmental regulatory, proprietary, and fiscal land use tools. Examination of modern techniques for land-use planning; consideration of constitutional limits of the authority of state and local governments. Focus on skills in interpreting, drafting, and applying state legislation and local ordinances. Level: Graduate

- GPHY 562 - Land Use Planning Clinic

  Credits: 1 TO 6. (R-6) Offered every term. Prereq. or coreq., GPHY 561. Same as ENST 562. Students assist local communities in long-range planning efforts and development of growth management plans as required by Montana law; ordinance drafting, development proposals, and land use issues. Level: Graduate

- GPHY 564 - Planning Design

  Credits: 3. Offered spring even-numbered years. Prereq., graduate standing or Consent of Instructor. Analysis of land-use problems and design. Level: Graduate

- GPHY 578 - Preceptorship in Geography

  Credits: 1 TO 3. (R-6) Offered autumn and spring. Graduate standing and Consent of Instructor. Assisting a faculty member by tutoring, helping students with research projects, and carrying out other class-related activities. Level: Graduate

- GPHY 580 - Seminar GIS & Cartography

  Credits: 3. (R-9) Offered every two years. Seminar topics in cartography and GIS. Applications to advanced studies in human and physical geography. Level: Graduate

- GPHY 587 - Image Analysis & Modeling

  Credits: 3. Offered every two years. Prereq., GPHY 487 or FORS 351 or Consent of instructor; coreq., GPHY 589. Advanced topics in image analysis (e.g. hyperspectral images and pattern-recognition-based classification) and foundations of simple raster-based models. Level: Graduate

- GPHY 588 - Spatial Analysis and Modeling

  Credits: 3. Offered autumn. Coreq., GPHY 589. Theoretical/conceptual and practical aspects of entity-based GIS modeling and spatial analysis. Point pattern analysis (i.e. cluster detection, density analysis, kriging), network analysis (i.e. network construction, network-based spatial statistics, accessibility modeling), and areal pattern analysis (i.e. spatial autocorrelative pattern, spatial regression modeling). Applications in urban and environmental planning, transportation, natural resource management, ecology, health, criminology, engineering, and business. To succeed in this course students should have familiarity with GIS. Level: Graduate

- GPHY 589 - Cartography/GIS Laboratory

  Credits: 1. (R-4) Offered autumn and spring. Laboratory to accompany GPHY 587 or 588. Level: Graduate

- GPHY 595 - Special Topics

  Credits: 1 TO 8. (R-9) Offered intermittently. Prereq., Consent of Instructor. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate

- GPHY 596 - Independent Study

  Credits: 1 TO 9. (R-9) Offered every term. Graduate standing and consent of instructor. Independent research in geography or planning. Level: Graduate Course Attributes: Independent Study

- GPHY 597 - Professional Paper

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Graduate standing in Geography and Consent of Advisor. Level: Graduate

- GPHY 598 - Internship
  Credits: 1 TO 9. (R-9) Offered every term. Graduate standing and consent of instructor. Extended classroom experience which provides practical application of classroom learning during placements off campus. Level: Graduate Course Attributes: Internships/Practicums
- GPHY 599 - Thesis
  Credits: 1 TO 6. Offered every term. Graduate standing in Geography and Consent of Advisor. Level: Graduate

Geography B.A.

The general geography B.A. degree (without option) is very flexible. In addition to meeting the core requirements for all geography majors, students may take a wide range of electives in geography (minimum 11, maximum 35 elective credits). Electives may be chosen from the fields of regional geography, geographic methods and techniques, or systematic geography (physical geography, human-environment interaction, or geography and society).

Bachelor of Arts - Geography

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36
Required Cumulative GPA: 2.5

Introduction to Geography

Rule: Must complete all of the following courses:

	Course	Credits
	GPHY 111N - Intro to Physical Geography Offered autumn and spring. Introduction to the earth's major natural environmental systems, their spatial distribution and interrelationships, including weather and climate, vegetation and ecosystems, soils, landforms, and earth-surface processes.	3 Credits
	GPHY 112N - Intro to Phys Geography Lab Offered autumn and spring. Prereq. or coreq., GPHY 111N. Introduction to concepts and techniques needed to understand and analyze the information contained in various types of maps, graphs, aerial photos, imagery, and other graphics and geographic data sets. This is prerequisite to GPHY 385.	1 Credits
	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Regional Geography Course

Rule: Must complete at least 1 of the following courses

	Course	Credits
	GPHY 141S - Geography of World Regions Offered autumn and/or spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood.	3 Credits
	GPHY 144 - Montana's Mountains Consent of Instructor. A field-based course offered during winter session in the winter splendor of the North Fork of the Flathead River and Glacier National Park. Topics addressed include physical geography, geology, winter ecology, national park management, environmental history, and the changing economy of the region.	3 Credits
	GPHY 241 - Montana Offered autumn. The physical, cultural, economic, political, and historical geography of the state including Montana's mountains and the prairies.	3 Credits
	GPHY 243X - Africa Offered intermittently. A survey of the biophysical and cultural geography of Sub-Saharan Africa. Emphasis is on the region's cultural-historical development and current ecological, demographic, and economic patterns.	3 Credits
	GPHY 245X - The Middle East Offered intermittently. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change; prehistory; patterns of cultural and historical change; issues of socio-economic, religious, and political diversity; and the broader political significance of the region.	3 Credits
	GPHY 342 - North America Offered intermittently. Physiographic regions of North America; highlights of historical geography blended with physical and cultural aspects of the continent. Lesser known places are explored.	3 Credits
	GPHY 344 - Crown of the Continent Offered autumn. The study of the geographical setting of the Crown of the Continent of North America, including the richness of physical geography, history, culture, and models of conservation. Examines ongoing research initiatives, impacts of climate change, regional transformations, and the relationship between people and this mountainous environment.	3 Credits
	GPHY 347 - Regional Geography (Mult Reg) (R-9) Offered intermittently. Selected regions will be listed as appropriate in each Class Schedule.	3 Credits
	GPHY 348 - Field Studies in Geography (R-12) Offered autumn and spring. Through extended backcountry travel, experiential examination of regional landforms, climate, hydrology, soils, and patterns of vegetation and wildlife. Local landscapes, natural-resource endowment, and societies with particular emphasis on human-environmental interaction. Geographical skills and techniques, including map reading and navigational skills. Offered by the Wild Rockies Field Institute as part of a semester-long, 12-credit field experience with corequisite courses in allied fields.	3 Credits

	GPHY 442 - Regionalism & Rocky Mtn West Offered intermittently. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political, and cultural entity.	3 Credits
	GPHY 444 - High Asia Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.	3 Credits
	GPHY 445 - Regional Geography Offered intermittently. In-depth treatment of a geographic region, a particular regional problem, or the methodology of regional geography. Topics vary.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geographic Methods

Rule: Must complete all of the following courses

	Course	Credits
	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits
	GPHY 385 - Field Techniques Offered autumn and intermittently in spring. Prereq., GPHY 112N or Consent of Instructor. Field techniques used by geographers and planners in making field observations and in collecting data.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Systematic Geography

Rule: Must complete the following subcategories of courses
Minimum Required Grade: C-
9 Total Credits Required

Physical Geography

Rule: Must complete at least 1 of the following courses

	Course	Credits

	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	GPHY 311N - Biogeography Offered intermittently. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, especially climatic change and human impacts.	3 Credits
	GPHY 314 - Global Mountain Environments Offered autumn odd-numbered years. The study of mountain environments and their physical processes around the globe: Andes, Appalachians, East African Mountains, European Alps, Hindu Kush-Himalaya-Karakoram, Pamir, Rocky Mountains, Southern Alps of New Zealand, Tien Shan, and others. Topics include mountain building, alpine glaciers, mountain geomorphology and climatology, mountain watersheds, mountain biogeography, and mountain hazards such as earthquakes and mass movements.	3 Credits
	GPHY 317 - Geomorphology Offered autumn even-numbered years. Prereq., GPHY 111N or GEO 101N. Important landforms and landscapes, their biophysical processes, and their formative elements.	3 Credits
	GPHY 438 - Mountain Field Study (R-6) Upper-division or graduate standing and consent of instructor. Examination of aspects of the study of mountain geography through a two-week field course based in a mountainous country and/or region. Possible areas of focus include, but are not limited to, the Northern Rocky Mountains, the Alps, the Himalaya, and the Andes.	3 Credits
	GPHY 525 - Adv Physical Geography (R-9) Offered intermittently. Advanced topics in climate and global change, paleo-environments and biogeography, landform analysis, soils, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geography and Society

Rule: Must complete at least 1 of the following:

	Course	**Credits**

	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits
	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits
	GPHY 434 - Food and Famine Offered intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.	3 Credits
	GPHY 443 - Cultural & Global Competence Offered intermittently. Prereq., upper-division or graduate standing. Designed to increase awareness of student's own culture and increase cross-cultural sensitivity. Understanding the perspectives of other cultures and resolving possible conflicts. Examination of the role of perception, belief systems, social structures, and culture practices.	3 Credits
	GPHY 515 - Adv Human Geography (R-9) Offered intermittently. Advanced topics in cultural and historical geography, gender issues, migration and population change, economic geography, urban and settlement geography, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Human Environment Interaction

Rule: Must complete at least 1 of the following:

	Course	**Credits**
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	GPHY 336 - Exploration & Discovery Offered intermittently. Emphasis on the evidence of language, genetics, material culture, and transoceanic plant and animal exchanges in assessing mobility and population distributions in prehistory; factors that motivate exploration; the history of navigation; the impacts of exploration upon science, society, economics, and government.	3 Credits

	GPHY 338 - Mountains and Society Offered spring. Physical and cultural aspects of the mountains of North and South America, Europe, Africa, and Asia. Emphasis on combining the physical landscape with an overview of the indigenous people who inhabit the worlds' heights.	3 Credits
	GPHY 432 - Human Role Environ Change Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.	3 Credits
	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Degree Electives

Rule: Must complete 10 credits of GPHY electives to fulfill the 36 degree credit total

Note: Students must fulfill the degree credit total of 36 credits plus the university requirement for 39 upper division credits.

Minimum Required Grade: C-

10 Total Credits Required

Capstone

Rule: Seniors must complete the following course

Note: Seniors must enroll in GPHY 400 in fall, attend GPHY 500 in fall, and complete course requirements in spring.

	Course	**Credits**
	GPHY 400 - Geography Capstone Offered autumn. Prereq.,Senior standing. Exploration of current research, projects, and programs of geographers and scientists/practitioners in allied disciplines and fields, and preparation of a professional portfolio. Student preparation for post-graduate professional and academic careers is emphasized.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Upper Division Writing

Rule: Must complete 1 of the following courses

Note: GPHY 335 or GPHY 433 will also count toward the upper division core requirements
GPHY 499 will also count toward upper division elective credits.

	Course	Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
	GPHY 499 - senior thesis / capstone (R-6) Offered autumn and spring. Senior standing and consent of instructor. Independent research project in any geographical topic supervised by a faculty member, and leading to completion of the baccalaureate degree.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

General Ed Symbolic Systems

Rule: Must complete either 1 year of a foreign language or STAT 216 Introduction to Statistics

Note: Gen Ed credits do not count towards degree credits.

Minimum Required Grade: C-

3-10 Total Credits Required

Geography B.S.

The B.S. in Geography is designed to accommodate those students who are interested in pursuing more science-based and technical areas of study and work in the field of Geography, such as aspects involving physical geography and geospatial technologies, or environmental planning. Those pursuing a geography B.S. degree (with or without an option) must complete 6-10 additional credits (a two-course sequence) of science coursework. The classes must be selected and approved by the student and advisor as appropriate to individual student goals (e.g., BIOO 105N (BIOL 120N), BIOE 172N (BIOL 121).

Bachelor of Science - Geography

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.5

Note: Depending on the courses selected, the degree requirements vary from 36 to 39 credits.

Introduction to Geography

Rule: Must complete all of the following courses:

	Course	Credits

	GPHY 111N - Intro to Physical Geography Offered autumn and spring. Introduction to the earth's major natural environmental systems, their spatial distribution and interrelationships, including weather and climate, vegetation and ecosystems, soils, landforms, and earth-surface processes.	3 Credits
	GPHY 112N - Intro to Phys Geography Lab Offered autumn and spring. Prereq. or coreq., GPHY 111N. Introduction to concepts and techniques needed to understand and analyze the information contained in various types of maps, graphs, aerial photos, imagery, and other graphics and geographic data sets. This is prerequisite to GPHY 385.	1 Credits
	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Regional Geography Course

Rule: Must complete at least 1 of the following courses

	Course	Credits
	GPHY 141S - Geography of World Regions Offered autumn and/or spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood.	3 Credits
	GPHY 144 - Montana's Mountains Consent of Instructor. A field-based course offered during winter session in the winter splendor of the North Fork of the Flathead River and Glacier National Park. Topics addressed include physical geography, geology, winter ecology, national park management, environmental history, and the changing economy of the region.	3 Credits
	GPHY 241 - Montana Offered autumn. The physical, cultural, economic, political, and historical geography of the state including Montana's mountains and the prairies.	3 Credits
	GPHY 243X - Africa Offered intermittently. A survey of the biophysical and cultural geography of Sub-Saharan Africa. Emphasis is on the region's cultural-historical development and current ecological, demographic, and economic patterns.	3 Credits
	GPHY 245X - The Middle East Offered intermittently. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change; prehistory; patterns of cultural and historical change; issues of socio-economic, religious, and political diversity; and the broader political significance of the region.	3 Credits

	GPHY 342 - North America Offered intermittently. Physiographic regions of North America; highlights of historical geography blended with physical and cultural aspects of the continent. Lesser known places are explored.	3 Credits
	GPHY 344 - Crown of the Continent Offered autumn. The study of the geographical setting of the Crown of the Continent of North America, including the richness of physical geography, history, culture, and models of conservation. Examines ongoing research initiatives, impacts of climate change, regional transformations, and the relationship between people and this mountainous environment.	3 Credits
	GPHY 347 - Regional Geography (Mult Reg) (R-9) Offered intermittently. Selected regions will be listed as appropriate in each Class Schedule.	3 Credits
	GPHY 348 - Field Studies in Geography (R-12) Offered autumn and spring. Through extended backcountry travel, experiential examination of regional landforms, climate, hydrology, soils, and patterns of vegetation and wildlife. Local landscapes, natural-resource endowment, and societies with particular emphasis on human-environmental interaction. Geographical skills and techniques, including map reading and navigational skills. Offered by the Wild Rockies Field Institute as part of a semester-long, 12-credit field experience with corequisite courses in allied fields.	3 Credits
	GPHY 442 - Regionalism & Rocky Mtn West Offered intermittently. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political, and cultural entity.	3 Credits
	GPHY 444 - High Asia Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.	3 Credits
	GPHY 445 - Regional Geography Offered intermittently. In-depth treatment of a geographic region, a particular regional problem, or the methodology of regional geography. Topics vary.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geographic Methods

Rule: Must complete all of the following courses

	Course	**Credits**
	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits

	GPHY 385 - Field Techniques Offered autumn and intermittently in spring. Prereq., GPHY 112N or Consent of Instructor. Field techniques used by geographers and planners in making field observations and in collecting data.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Systematic Geography

Rule: Must complete the following subcategories of courses
Minimum Required Grade: C-
9 Total Credits Required

Physical Geography

Rule: Must complete at least 1 of the following courses

	Course	Credits
	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	GPHY 311N - Biogeography Offered intermittently. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, especially climatic change and human impacts.	3 Credits
	GPHY 314 - Global Mountain Environments Offered autumn odd-numbered years. The study of mountain environments and their physical processes around the globe: Andes, Appalachians, East African Mountains, European Alps, Hindu Kush-Himalaya-Karakoram, Pamir, Rocky Mountains, Southern Alps of New Zealand, Tien Shan, and others. Topics include mountain building, alpine glaciers, mountain geomorphology and climatology, mountain watersheds, mountain biogeography, and mountain hazards such as earthquakes and mass movements.	3 Credits
	GPHY 317 - Geomorphology Offered autumn even-numbered years. Prereq., GPHY 111N or GEO 101N. Important landforms and landscapes, their biophysical processes, and their formative elements.	3 Credits
	GPHY 438 - Mountain Field Study (R-6) Upper-division or graduate standing and consent of instructor. Examination of aspects of the study of mountain geography through a two-week field course based in a mountainous country and/or region. Possible areas of focus include, but are not limited to, the Northern Rocky Mountains, the Alps, the Himalaya, and the Andes.	3 Credits

	GPHY 525 - Adv Physical Geography (R-9) Offered intermittently. Advanced topics in climate and global change, paleo-environments and biogeography, landform analysis, soils, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geography and Society

Rule: Must complete at least 1 of the following:

	Course	Credits
	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits
	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits
	GPHY 434 - Food and Famine Offered intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.	3 Credits
	GPHY 443 - Cultural & Global Competence Offered intermittently. Prereq., upper-division or graduate standing. Designed to increase awareness of student's own culture and increase cross-cultural sensitivity. Understanding the perspectives of other cultures and resolving possible conflicts. Examination of the role of perception, belief systems, social structures, and culture practices.	3 Credits
	GPHY 515 - Adv Human Geography (R-9) Offered intermittently. Advanced topics in cultural and historical geography, gender issues, migration and population change, economic geography, urban and settlement geography, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Human Environment Interaction

Rule: Must complete at least 1 of the following:

	Course	Credits

	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	GPHY 336 - Exploration & Discovery Offered intermittently. Emphasis on the evidence of language, genetics, material culture, and transoceanic plant and animal exchanges in assessing mobility and population distributions in prehistory; factors that motivate exploration; the history of navigation; the impacts of exploration upon science, society, economics, and government.	3 Credits
	GPHY 338 - Mountains and Society Offered spring. Physical and cultural aspects of the mountains of North and South America, Europe, Africa, and Asia. Emphasis on combining the physical landscape with an overview of the indigenous people who inhabit the worlds' heights.	3 Credits
	GPHY 432 - Human Role Environ Change Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.	3 Credits
	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Degree Electives

Rule: 36 Geography credits are required for the major. May require additional Geography elective credits to fulfill the major.

Capstone

Rule: Seniors must complete the following course

Note: Seniors must enroll in GPHY 400 in fall, attend GPHY 500 in fall, and complete course requirements in spring.

	Course	**Credits**

	GPHY 400 - Geography Capstone Offered autumn. Prereq.,Senior standing. Exploration of current research, projects, and programs of geographers and scientists/practitioners in allied disciplines and fields, and preparation of a professional portfolio. Student preparation for post-graduate professional and academic careers is emphasized.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Upper Division Writing

Rule: Must complete 1 of the following courses

Note: GPHY 335 will also count toward the upper division core requirements
GPHY 499 will also count toward upper division elective credits.
Other science-based writing courses(e.g. GEO 320, GEO 499, BIOO 470, BIOO 475) may be approved by the advisor.

	Course	Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	GPHY 499 - senior thesis / capstone (R-6) Offered autumn and spring. Senior standing and consent of instructor. Independent research project in any geographical topic supervised by a faculty member, and leading to completion of the baccalaureate degree.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Science Electives

Rule: Must complete 1 of the following science categories

Note: Science sequence must be approved by advisor as appropriate to individual student's goals. Different science sequences may be approved by the advisor.

6-10 Total Credits Required

Biology

Rule: May complete the following courses

	Course	Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits

	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Chemistry

Rule: May complete the following courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

College Chemistry

Rule: May complete the following courses

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

College Physics

Rule: May complete the following courses

	Course	Credits

	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete the following courses

	Course	**Credits**
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits

	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

General Ed Symbolic Systems (Mathematics)

Rule: Must complete 1 of the following subcategories

Note: GenEd credits do not count towards degree credits.

Note: Students MUST meet the symbolic systems requirement by taking M 115 and STAT 216, OR just one of M 162, M 171, or STAT 451. M 171 Calculus is recommended.

3-7 Total Credits Required

Math Fundamentals

Rule: May complete all of the following courses

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		7 Total Credits Required

Advanced Math

Rule: May complete 1 of the following courses

Note: M 171 Calculus I is recommended.

	Course	**Credits**

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	STAT 451 - Statistical Methods I Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Physical Geography

In addition to satisfying the general requirements for a B.S. degree in geography, a student pursuing the option in physical geography must complete additional requirements, including ERTH 303N (GEOG 322N), GPHY 317 (GEOG 324), and GPHY 411N (GEOG 426N), though substitutions which broaden the student's curriculum may be approved by their advisor. Also, students must complete an additional appropriate math course above the 150 level to complement the one used to fulfill their symbolic systems requirements (the second semester of Calculus is recommended), and the two-course sequence in science used to fulfill the B.S. requirement MUST be one of the following: CHMY121N-123N (CHEM 151N-152N), CHMY 141N-143N (CHEM 161N-162N), PHSX 205N-207N (PHYS 121N-122N), PHSX 215N-217N (PHYS 211N- 212N), or BIOO 105N (BIOL 120N), BIOE 172N (BIOL 121N)).

Bachelor of Science - Geography; Physical Geography Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 47

Required Cumulative GPA: 2.5

Note: Depending on the courses selected the degree requirements vary from 47 to 56 credits.

Introduction to Geography

Rule: Must complete all of the following courses:

	Course	**Credits**

	GPHY 111N - Intro to Physical Geography Offered autumn and spring. Introduction to the earth's major natural environmental systems, their spatial distribution and interrelationships, including weather and climate, vegetation and ecosystems, soils, landforms, and earth-surface processes.	3 Credits
	GPHY 112N - Intro to Phys Geography Lab Offered autumn and spring. Prereq. or coreq., GPHY 111N. Introduction to concepts and techniques needed to understand and analyze the information contained in various types of maps, graphs, aerial photos, imagery, and other graphics and geographic data sets. This is prerequisite to GPHY 385.	1 Credits
	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Regional Geography Course

Rule: Must complete at least 1 of the following courses

	Course	Credits
	GPHY 141S - Geography of World Regions Offered autumn and/or spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood.	3 Credits
	GPHY 144 - Montana's Mountains Consent of Instructor. A field-based course offered during winter session in the winter splendor of the North Fork of the Flathead River and Glacier National Park. Topics addressed include physical geography, geology, winter ecology, national park management, environmental history, and the changing economy of the region.	3 Credits
	GPHY 241 - Montana Offered autumn. The physical, cultural, economic, political, and historical geography of the state including Montana's mountains and the prairies.	3 Credits
	GPHY 243X - Africa Offered intermittently. A survey of the biophysical and cultural geography of Sub-Saharan Africa. Emphasis is on the region's cultural-historical development and current ecological, demographic, and economic patterns.	3 Credits
	GPHY 245X - The Middle East Offered intermittently. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change; prehistory; patterns of cultural and historical change; issues of socio-economic, religious, and political diversity; and the broader political significance of the region.	3 Credits

	GPHY 342 - North America Offered intermittently. Physiographic regions of North America; highlights of historical geography blended with physical and cultural aspects of the continent. Lesser known places are explored.	3 Credits
	GPHY 344 - Crown of the Continent Offered autumn. The study of the geographical setting of the Crown of the Continent of North America, including the richness of physical geography, history, culture, and models of conservation. Examines ongoing research initiatives, impacts of climate change, regional transformations, and the relationship between people and this mountainous environment.	3 Credits
	GPHY 347 - Regional Geography (Mult Reg) (R-9) Offered intermittently. Selected regions will be listed as appropriate in each Class Schedule.	3 Credits
	GPHY 348 - Field Studies in Geography (R-12) Offered autumn and spring. Through extended backcountry travel, experiential examination of regional landforms, climate, hydrology, soils, and patterns of vegetation and wildlife. Local landscapes, natural-resource endowment, and societies with particular emphasis on human-environmental interaction. Geographical skills and techniques, including map reading and navigational skills. Offered by the Wild Rockies Field Institute as part of a semester-long, 12-credit field experience with corequisite courses in allied fields.	3 Credits
	GPHY 442 - Regionalism & Rocky Mtn West Offered intermittently. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political, and cultural entity.	3 Credits
	GPHY 444 - High Asia Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.	3 Credits
	GPHY 445 - Regional Geography Offered intermittently. In-depth treatment of a geographic region, a particular regional problem, or the methodology of regional geography. Topics vary.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geographic Methods

Rule: Must complete all of the following courses

	Course	**Credits**
	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits

	GPHY 385 - Field Techniques Offered autumn and intermittently in spring. Prereq., GPHY 112N or Consent of Instructor. Field techniques used by geographers and planners in making field observations and in collecting data.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Systematic Geography

Rule: Must complete the following subcategories of courses
Minimum Required Grade: C-
9 Total Credits Required

Physical Geography

Rule: Must complete at least 1 of the following courses

Note: These courses simultaneously count towards the Upper Division Systematic Geography-Physical Geography and the Physical Geography Option core (see below).

	Course	Credits
	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	GPHY 311N - Biogeography Offered intermittently. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, especially climatic change and human impacts.	3 Credits
	GPHY 314 - Global Mountain Environments Offered autumn odd-numbered years. The study of mountain environments and their physical processes around the globe: Andes, Appalachians, East African Mountains, European Alps, Hindu Kush-Himalaya-Karakoram, Pamir, Rocky Mountains, Southern Alps of New Zealand, Tien Shan, and others. Topics include mountain building, alpine glaciers, mountain geomorphology and climatology, mountain watersheds, mountain biogeography, and mountain hazards such as earthquakes and mass movements.	3 Credits
	GPHY 317 - Geomorphology Offered autumn even-numbered years. Prereq., GPHY 111N or GEO 101N. Important landforms and landscapes, their biophysical processes, and their formative elements.	3 Credits

	GPHY 438 - Mountain Field Study (R-6) Upper-division or graduate standing and consent of instructor. Examination of aspects of the study of mountain geography through a two-week field course based in a mountainous country and/or region. Possible areas of focus include, but are not limited to, the Northern Rocky Mountains, the Alps, the Himalaya, and the Andes.	3 Credits
	GPHY 525 - Adv Physical Geography (R-9) Offered intermittently. Advanced topics in climate and global change, paleo-environments and biogeography, landform analysis, soils, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geography and Society

Rule: Must complete at least 1 of the following:

	Course	Credits
	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits
	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits
	GPHY 434 - Food and Famine Offered intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.	3 Credits
	GPHY 443 - Cultural & Global Competence Offered intermittently. Prereq., upper-division or graduate standing. Designed to increase awareness of student's own culture and increase cross-cultural sensitivity. Understanding the perspectives of other cultures and resolving possible conflicts. Examination of the role of perception, belief systems, social structures, and culture practices.	3 Credits
	GPHY 515 - Adv Human Geography (R-9) Offered intermittently. Advanced topics in cultural and historical geography, gender issues, migration and population change, economic geography, urban and settlement geography, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Human Environment Interaction

Rule: Must complete at least 1 of the following:

	Course	Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	GPHY 336 - Exploration & Discovery Offered intermittently. Emphasis on the evidence of language, genetics, material culture, and transoceanic plant and animal exchanges in assessing mobility and population distributions in prehistory; factors that motivate exploration; the history of navigation; the impacts of exploration upon science, society, economics, and government.	3 Credits
	GPHY 338 - Mountains and Society Offered spring. Physical and cultural aspects of the mountains of North and South America, Europe, Africa, and Asia. Emphasis on combining the physical landscape with an overview of the indigenous people who inhabit the worlds' heights.	3 Credits
	GPHY 432 - Human Role Environ Change Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.	3 Credits
	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Capstone

Rule: Seniors must complete the following course

Note: Seniors must enroll in GPHY 400 in fall, attend GPHY 500 in fall, and complete course requirements in spring.

	Course	Credits

	GPHY 400 - Geography Capstone Offered autumn. Prereq.,Senior standing. Exploration of current research, projects, and programs of geographers and scientists/practitioners in allied disciplines and fields, and preparation of a professional portfolio. Student preparation for post-graduate professional and academic careers is emphasized.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Upper Division Writing

Rule: Must complete 1 of the following courses

Note: GPHY 335 will also count toward the upper division core requirements
GPHY 499 will also count toward upper division elective credits.
Other science-based writing courses (e.g. GEO 320, GEO 499, BIOO 470, BIOO 475) may be approved by the advisor.

	Course	Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	GPHY 499 - senior thesis / capstone (R-6) Offered autumn and spring. Senior standing and consent of instructor. Independent research project in any geographical topic supervised by a faculty member, and leading to completion of the baccalaureate degree.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Geography Option Science Electives

Rule: Must complete 1 of the following science categories

6-10 Total Credits Required

Biology

Rule: May complete the following courses

	Course	Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits

Minimum Required Grade: C-	6 Total Credits Required

Chemistry

Rule: May complete the following courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

College Chemistry

Rule: May complete the following courses

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

College Physics

Rule: May complete the following courses

	Course	Credits

	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physics with Calculus

Rule: May complete the following courses

	Course	**Credits**
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits

	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Physical Geography Option Core

Rule: Must complete all of the following courses

Note: One course can be used to satisfy the Upper Division Systematic Geography – Physical Geography. Substitutions which broaden the student's curriculum may be approved by their advisor.

	Course	Credits
	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	GPHY 311N - Biogeography Offered intermittently. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, especially climatic change and human impacts.	3 Credits
	GPHY 317 - Geomorphology Offered autumn even-numbered years. Prereq., GPHY 111N or GEO 101N. Important landforms and landscapes, their biophysical processes, and their formative elements.	3 Credits
Minimum Required Grade: C-		6-9 Total Credits Required

Advanced Math

Rule: Must complete 1 additional math or statistics course in addition to the one chosen for Math Fundamentals. For instance, if M 171 has been taken, M 172 is recommended.

Minimum Required Grade: C-

3-4 Total Credits Required

General Ed Symbolic Systems (Math Fundamentals)

Rule: Must complete 1 of the following courses

Note: Gen Ed credits do not count towards degree credits.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	STAT 451 - Statistical Methods I Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Community and Environmental Planning

Bachelor of Arts - Geography; Community & Environmental Plng Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 43
Required Cumulative GPA: 2.5
Note: An internship is strongly recommended.

Introduction to Geography

Rule: Must complete all of the following courses:

	Course	Credits

	GPHY 111N - Intro to Physical Geography Offered autumn and spring. Introduction to the earth's major natural environmental systems, their spatial distribution and interrelationships, including weather and climate, vegetation and ecosystems, soils, landforms, and earth-surface processes.	3 Credits
	GPHY 112N - Intro to Phys Geography Lab Offered autumn and spring. Prereq. or coreq., GPHY 111N. Introduction to concepts and techniques needed to understand and analyze the information contained in various types of maps, graphs, aerial photos, imagery, and other graphics and geographic data sets. This is prerequisite to GPHY 385.	1 Credits
	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Regional Geography Course

Rule: Must complete at least 1 of the following courses

	Course	Credits
	GPHY 141S - Geography of World Regions Offered autumn and/or spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood.	3 Credits
	GPHY 144 - Montana's Mountains Consent of Instructor. A field-based course offered during winter session in the winter splendor of the North Fork of the Flathead River and Glacier National Park. Topics addressed include physical geography, geology, winter ecology, national park management, environmental history, and the changing economy of the region.	3 Credits
	GPHY 241 - Montana Offered autumn. The physical, cultural, economic, political, and historical geography of the state including Montana's mountains and the prairies.	3 Credits
	GPHY 243X - Africa Offered intermittently. A survey of the biophysical and cultural geography of Sub-Saharan Africa. Emphasis is on the region's cultural-historical development and current ecological, demographic, and economic patterns.	3 Credits
	GPHY 245X - The Middle East Offered intermittently. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change; prehistory; patterns of cultural and historical change; issues of socio-economic, religious, and political diversity; and the broader political significance of the region.	3 Credits

	GPHY 342 - North America Offered intermittently. Physiographic regions of North America; highlights of historical geography blended with physical and cultural aspects of the continent. Lesser known places are explored.	3 Credits
	GPHY 344 - Crown of the Continent Offered autumn. The study of the geographical setting of the Crown of the Continent of North America, including the richness of physical geography, history, culture, and models of conservation. Examines ongoing research initiatives, impacts of climate change, regional transformations, and the relationship between people and this mountainous environment.	3 Credits
	GPHY 347 - Regional Geography (Mult Reg) (R-9) Offered intermittently. Selected regions will be listed as appropriate in each Class Schedule.	3 Credits
	GPHY 348 - Field Studies in Geography (R-12) Offered autumn and spring. Through extended backcountry travel, experiential examination of regional landforms, climate, hydrology, soils, and patterns of vegetation and wildlife. Local landscapes, natural-resource endowment, and societies with particular emphasis on human-environmental interaction. Geographical skills and techniques, including map reading and navigational skills. Offered by the Wild Rockies Field Institute as part of a semester-long, 12-credit field experience with corequisite courses in allied fields.	3 Credits
	GPHY 442 - Regionalism & Rocky Mtn West Offered intermittently. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political, and cultural entity.	3 Credits
	GPHY 444 - High Asia Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.	3 Credits
	GPHY 445 - Regional Geography Offered intermittently. In-depth treatment of a geographic region, a particular regional problem, or the methodology of regional geography. Topics vary.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Methods

Rule: Must complete all of the following courses
Minimum Required Grade: C-
10 Total Credits Required

Geographic Methods

	Course	Credits

	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits
	GPHY 385 - Field Techniques Offered autumn and intermittently in spring. Prereq., GPHY 112N or Consent of Instructor. Field techniques used by geographers and planners in making field observations and in collecting data.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Mathematics/Statistics

	Course	Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Upper Division Systematic Geography

Rule: Must complete the following subcategories of courses

9 Total Credits Required

Physical Geography

Rule: Must complete at least 1 of the following courses

	Course	Credits
	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits

	GPHY 311N - Biogeography Offered intermittently. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, especially climatic change and human impacts.	3 Credits
	GPHY 314 - Global Mountain Environments Offered autumn odd-numbered years. The study of mountain environments and their physical processes around the globe: Andes, Appalachians, East African Mountains, European Alps, Hindu Kush-Himalaya-Karakoram, Pamir, Rocky Mountains, Southern Alps of New Zealand, Tien Shan, and others. Topics include mountain building, alpine glaciers, mountain geomorphology and climatology, mountain watersheds, mountain biogeography, and mountain hazards such as earthquakes and mass movements.	3 Credits
	GPHY 317 - Geomorphology Offered autumn even-numbered years. Prereq., GPHY 111N or GEO 101N. Important landforms and landscapes, their biophysical processes, and their formative elements.	3 Credits
	GPHY 438 - Mountain Field Study (R-6) Upper-division or graduate standing and consent of instructor. Examination of aspects of the study of mountain geography through a two-week field course based in a mountainous country and/or region. Possible areas of focus include, but are not limited to, the Northern Rocky Mountains, the Alps, the Himalaya, and the Andes.	3 Credits
	GPHY 525 - Adv Physical Geography (R-9) Offered intermittently. Advanced topics in climate and global change, paleo-environments and biogeography, landform analysis, soils, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geography and Society

Rule: Must complete at least 1 of the following:

Note: GPHY 323S and 421 count simultaneously toward Upper Division Systematic Geography and CEP electives.

	Course	**Credits**
	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits

	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits
	GPHY 434 - Food and Famine Offered intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.	3 Credits
	GPHY 443 - Cultural & Global Competence Offered intermittently. Prereq., upper-division or graduate standing. Designed to increase awareness of student's own culture and increase cross-cultural sensitivity. Understanding the perspectives of other cultures and resolving possible conflicts. Examination of the role of perception, belief systems, social structures, and culture practices.	3 Credits
	GPHY 515 - Adv Human Geography (R-9) Offered intermittently. Advanced topics in cultural and historical geography, gender issues, migration and population change, economic geography, urban and settlement geography, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Human Environment Interaction

Rule: Must complete at least 1 of the following:

Note: GPHY 335 and 432 count simultaneously toward Upper Division Systematic Geography and CEP electives.

	Course	**Credits**
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	GPHY 336 - Exploration & Discovery Offered intermittently. Emphasis on the evidence of language, genetics, material culture, and transoceanic plant and animal exchanges in assessing mobility and population distributions in prehistory; factors that motivate exploration; the history of navigation; the impacts of exploration upon science, society, economics, and government.	3 Credits

	GPHY 338 - Mountains and Society Offered spring. Physical and cultural aspects of the mountains of North and South America, Europe, Africa, and Asia. Emphasis on combining the physical landscape with an overview of the indigenous people who inhabit the worlds' heights.	3 Credits
	GPHY 432 - Human Role Environ Change Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.	3 Credits
	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Capstone

Rule: Seniors must complete the following course

Note: Seniors must enroll in GPHY 400 in fall, attend GPHY 500 in fall, and complete course requirements in spring.

	Course	Credits
	GPHY 400 - Geography Capstone Offered autumn. Prereq.,Senior standing. Exploration of current research, projects, and programs of geographers and scientists/practitioners in allied disciplines and fields, and preparation of a professional portfolio. Student preparation for post-graduate professional and academic careers is emphasized.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Upper Division Writing

Rule: Must complete 1 of the following courses

Note: GPHY 335 or GPHY 433 will also count toward the upper division core requirements

	Course	Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits

	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
	GPHY 499 - senior thesis / capstone (R-6) Offered autumn and spring. Senior standing and consent of instructor. Independent research project in any geographical topic supervised by a faculty member, and leading to completion of the baccalaureate degree.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Community and Environmental Planning Option

Rule: Must complete the following subcategories

13-20 Total Credits Required

Community and Environmental Planning Core

Rule: Must complete both courses

	Course	Credits
	GPHY 465 - Planning Princ & Processes Offered autumn even-numbered years. Prereq., upper-division or graduate standing. Surveys planning principles, practices and issues in urban and rural environments. Attention is devoted to Montana, state planning programs in the United States., and federal programs and policies that influence land-use planning. Emphasizes skills and techniques used in plan development and implementation.	3 Credits
	GPHY 466 - Environmental Planning Offered autumn odd-numbered years. Introduction to practice of environmental planning which includes elements of physical planning, planning design at the landscape scale, and conservation planning. Includes field visits and project-based work.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Community and Environmental Planning Methods

Rule: Must complete at least 1 of the following course/lab combinations

Note: GPHY 468 must be taken together with GPHY 469.
GPHY 486 must be taken together with GPHY 489.

	Course	Credits

	GPHY 468 - Community & Regional Analysis Offered autumn. Coreq., GPHY 469. Socio-demographic analysis of communities and regions: population, employment, and spatial interaction. Hands-on course designed for future planners, GIS analysts, and others interested in socio-demographic change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	GPHY 469 - Planning & Analysis Laboratory Offered autumn. Coreq., GPHY 468. Laboratory to accompany GPHY 468.	1 Credits
	GPHY 486 - Transport, Planning & GIS Offered intermittently during wintersession (2 credits) or spring semester (3 credits.) Coreq., GPHY 489. A project-oriented course focusing on patterns and trends in urban passenger transportation, principles of transport planning, and modeling in GIS-T. To succeed in this course students should have comfort with basic algebra and statistics.	3 Credits
	GPHY 489 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Prereq., or coreq., GPHY 482, 486 or 487. Lab to accompany cartography and GIS courses.	1 Credits
Minimum Required Grade: C-		4 Total Credits Required

Community and Environmental Planning Electives

Rule: Must complete at least 3 courses from the following courses:

Note: If not previously taken to fulfill CEP Methods, the following courses can be selected as electives:
1) GPHY 468/469 Community and Regional Analysis with co-requisite lab - 4 cr
2) GPHY 486/489 Transport, Planning & GIS with co-requisite lab = 4 cr
Other courses can count towards CEP electives.
GPHY 323S and GPHY 421 can be used to satisfy upper division requirements in 'Geography and Society'
GPHY 335 and GPHY 432 can be used to satisfy upper division requirements in 'Human Environment Interaction.'

	Course	**Credits**
	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits

	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits
	GPHY 432 - Human Role Environ Change Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.	3 Credits
Minimum Required Grade: C-		3-10 Total Credits Required

General Ed Mathematics

Rule: Must complete 1 of the following

Note: Students are encouraged to take M 115. Students who successfully complete M 122 Trigonometry, M 171 Calculus I, or M 172 Calculus II also meet the degree specific Gen Ed Mathematics requirement. Gen Ed credits do not count towards degree credits.

	Course	Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits

Minimum Required Grade: C-	3 Total Credits Required

Geography Minor

Minor - Geography (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 19
Required Cumulative GPA: 2.0

Introduction to Geography

Rule: Must complete all of the following courses

	Course	Credits
	GPHY 111N - Intro to Physical Geography Offered autumn and spring. Introduction to the earth's major natural environmental systems, their spatial distribution and interrelationships, including weather and climate, vegetation and ecosystems, soils, landforms, and earth-surface processes.	3 Credits
	GPHY 112N - Intro to Phys Geography Lab Offered autumn and spring. Prereq. or coreq., GPHY 111N. Introduction to concepts and techniques needed to understand and analyze the information contained in various types of maps, graphs, aerial photos, imagery, and other graphics and geographic data sets. This is prerequisite to GPHY 385.	1 Credits
	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Regional Core

Rule: Must complete at least 1 of the following courses

	Course	Credits
	GPHY 141S - Geography of World Regions Offered autumn and/or spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood.	3 Credits

	GPHY 144 - Montana's Mountains Consent of Instructor. A field-based course offered during winter session in the winter splendor of the North Fork of the Flathead River and Glacier National Park. Topics addressed include physical geography, geology, winter ecology, national park management, environmental history, and the changing economy of the region.	3 Credits
	GPHY 241 - Montana Offered autumn. The physical, cultural, economic, political, and historical geography of the state including Montana's mountains and the prairies.	3 Credits
	GPHY 243X - Africa Offered intermittently. A survey of the biophysical and cultural geography of Sub-Saharan Africa. Emphasis is on the region's cultural-historical development and current ecological, demographic, and economic patterns.	3 Credits
	GPHY 245X - The Middle East Offered intermittently. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change; prehistory; patterns of cultural and historical change; issues of socio-economic, religious, and political diversity; and the broader political significance of the region.	3 Credits
	GPHY 342 - North America Offered intermittently. Physiographic regions of North America; highlights of historical geography blended with physical and cultural aspects of the continent. Lesser known places are explored.	3 Credits
	GPHY 344 - Crown of the Continent Offered autumn. The study of the geographical setting of the Crown of the Continent of North America, including the richness of physical geography, history, culture, and models of conservation. Examines ongoing research initiatives, impacts of climate change, regional transformations, and the relationship between people and this mountainous environment.	3 Credits
	GPHY 347 - Regional Geography (Mult Reg) (R-9) Offered intermittently. Selected regions will be listed as appropriate in each Class Schedule.	3 Credits
	GPHY 348 - Field Studies in Geography (R-12) Offered autumn and spring. Through extended backcountry travel, experiential examination of regional landforms, climate, hydrology, soils, and patterns of vegetation and wildlife. Local landscapes, natural-resource endowment, and societies with particular emphasis on human-environmental interaction. Geographical skills and techniques, including map reading and navigational skills. Offered by the Wild Rockies Field Institute as part of a semester-long, 12-credit field experience with corequisite courses in allied fields.	3 Credits
	GPHY 442 - Regionalism & Rocky Mtn West Offered intermittently. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political, and cultural entity.	3 Credits

	GPHY 444 - High Asia Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.	3 Credits
	GPHY 445 - Regional Geography Offered intermittently. In-depth treatment of a geographic region, a particular regional problem, or the methodology of regional geography. Topics vary.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geographic Methods

Rule: Must complete 1 of the following courses

	Course	Credits
	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits
	GPHY 385 - Field Techniques Offered autumn and intermittently in spring. Prereq., GPHY 112N or Consent of Instructor. Field techniques used by geographers and planners in making field observations and in collecting data.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Systematic Geography

Rule: Must complete at least 1 course from 2 subcategories: 'Physical Geography', 'Geography and Society', and 'Human-Environment Interaction'

6 Total Credits Required

Physical Geography

Rule: May complete 1 of the following courses

	Course	Credits
	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits

	GPHY 311N - Biogeography Offered intermittently. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, especially climatic change and human impacts.	3 Credits
	GPHY 314 - Global Mountain Environments Offered autumn odd-numbered years. The study of mountain environments and their physical processes around the globe: Andes, Appalachians, East African Mountains, European Alps, Hindu Kush-Himalaya-Karakoram, Pamir, Rocky Mountains, Southern Alps of New Zealand, Tien Shan, and others. Topics include mountain building, alpine glaciers, mountain geomorphology and climatology, mountain watersheds, mountain biogeography, and mountain hazards such as earthquakes and mass movements.	3 Credits
	GPHY 317 - Geomorphology Offered autumn even-numbered years. Prereq., GPHY 111N or GEO 101N. Important landforms and landscapes, their biophysical processes, and their formative elements.	3 Credits
	GPHY 438 - Mountain Field Study (R-6) Upper-division or graduate standing and consent of instructor. Examination of aspects of the study of mountain geography through a two-week field course based in a mountainous country and/or region. Possible areas of focus include, but are not limited to, the Northern Rocky Mountains, the Alps, the Himalaya, and the Andes.	3 Credits
	GPHY 525 - Adv Physical Geography (R-9) Offered intermittently. Advanced topics in climate and global change, paleo-environments and biogeography, landform analysis, soils, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geography and Society

Rule: May complete 1 of the following courses

	Course	Credits
	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits
	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits

	GPHY 434 - Food and Famine Offered intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.	3 Credits
	GPHY 443 - Cultural & Global Competence Offered intermittently. Prereq., upper-division or graduate standing. Designed to increase awareness of student's own culture and increase cross-cultural sensitivity. Understanding the perspectives of other cultures and resolving possible conflicts. Examination of the role of perception, belief systems, social structures, and culture practices.	3 Credits
	GPHY 515 - Adv Human Geography (R-9) Offered intermittently. Advanced topics in cultural and historical geography, gender issues, migration and population change, economic geography, urban and settlement geography, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Human Environment Interaction

Rule: May complete 1 of the following courses

	Course	Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	GPHY 336 - Exploration & Discovery Offered intermittently. Emphasis on the evidence of language, genetics, material culture, and transoceanic plant and animal exchanges in assessing mobility and population distributions in prehistory; factors that motivate exploration; the history of navigation; the impacts of exploration upon science, society, economics, and government.	3 Credits
	GPHY 338 - Mountains and Society Offered spring. Physical and cultural aspects of the mountains of North and South America, Europe, Africa, and Asia. Emphasis on combining the physical landscape with an overview of the indigenous people who inhabit the worlds' heights.	3 Credits
	GPHY 432 - Human Role Environ Change Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.	3 Credits

	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Mountain Studies Minor

Mountain Studies is an interdisciplinary field of study focusing on the physical and human dimensions of mountain environments. Coursework in the minor emphasizes physical geography and mountain-society interactions, including a critical analysis of the processes of change and influence shaping local and regional mountain environments today. The minor in Mountain Studies takes advantage of existing faculty expertise and an array of courses to provide students with a science-based curriculum and global perspective. Students pursuing the minor in mountain studies will develop knowledge and skills appropriate for graduate study and for working with government and non-government agencies and groups.

Minor - Mountain Studies (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18

Required Cumulative GPA: 2.5

Note: In addition to completing the requirements for a major in any discipline, students electing the minor in Mountain Studies must have a GPA of 3.0 in the major and complete a minimum of 18 additional credits in this minor.

Upper Division Core

Rule: Must complete all of the following courses

	Course	**Credits**
	GPHY 314 - Global Mountain Environments Offered autumn odd-numbered years. The study of mountain environments and their physical processes around the globe: Andes, Appalachians, East African Mountains, European Alps, Hindu Kush-Himalaya-Karakoram, Pamir, Rocky Mountains, Southern Alps of New Zealand, Tien Shan, and others. Topics include mountain building, alpine glaciers, mountain geomorphology and climatology, mountain watersheds, mountain biogeography, and mountain hazards such as earthquakes and mass movements.	3 Credits
	GPHY 338 - Mountains and Society Offered spring. Physical and cultural aspects of the mountains of North and South America, Europe, Africa, and Asia. Emphasis on combining the physical landscape with an overview of the indigenous people who inhabit the worlds' heights.	3 Credits

Minimum Required Grade: C-	6 Total Credits Required

Region-Specific Mountain Studies

Rule: Must complete 6 credits from the following courses

Note: Two sections of NRSM 391 may be taken to fulfill this requirements, each for 3 credits:
1) Community and Conservation in the Northern Rockies
2) Ecological Restoration in Greater Yellowstone

	Course	Credits
	BIOL 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOL 459 - Alpine Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Distribution, abundance and life cycles of plants and animals and their unique ecophysiological adaptations to life in the rigorous environments of the high mountains above the timberline, with emphasis on the Crown of the Continent area.	3 Credits
	BIOO 101N - Survey MT Wldlife & Habitats Offered online autumn. Prereq., one course in biology. Interpreting biological patterns associated with selected Montana wildlife species, including mammals, birds, reptiles and amphibians.	3 Credits
	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
	GEO 231 - Geosciences Field Methods Offered autumn and spring. Prereq. GEO 101N-102N. This course introduces students to a variety of field methodologies routinely used in the collection, processing, and interpretation of geoscientific field data.	2 Credits
	GPHY 144 - Montana's Mountains Consent of Instructor. A field-based course offered during winter session in the winter splendor of the North Fork of the Flathead River and Glacier National Park. Topics addressed include physical geography, geology, winter ecology, national park management, environmental history, and the changing economy of the region.	3 Credits

	GPHY 344 - Crown of the Continent Offered autumn. The study of the geographical setting of the Crown of the Continent of North America, including the richness of physical geography, history, culture, and models of conservation. Examines ongoing research initiatives, impacts of climate change, regional transformations, and the relationship between people and this mountainous environment.	3 Credits
	GPHY 391 - Special Topics (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 12 Credits
	GPHY 438 - Mountain Field Study (R-6) Upper-division or graduate standing and consent of instructor. Examination of aspects of the study of mountain geography through a two-week field course based in a mountainous country and/or region. Possible areas of focus include, but are not limited to, the Northern Rocky Mountains, the Alps, the Himalaya, and the Andes.	3 Credits
	GPHY 442 - Regionalism & Rocky Mtn West Offered intermittently. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political, and cultural entity.	3 Credits
	GPHY 444 - High Asia Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.	3 Credits
	NRSM 352 - Mountain Environment and Dev Offered summer only. Coreq., PTRM 353. This course covers the contentious issues surrounding environment and development in the Himalaya using the Garhwal region of India as the example.	3 Credits
	NRSM 391 - Special Topics (R 12) Offered intermittently. Experimental offerings of visiting professors; new courses or one time offerings of current topics.	0 To 12 Credits
	PTRM 353 - Tourism & Sustnbility Himalaya Offered summer only. Coreq. NRSM 352. In this course we will explore the opportunities and challenges of development with particular reference to nature-based tourism and sustainability in an isolated but rapidly globalizing region of the Himalaya. Students will learn through extensive readings, class discussions, direct field experience (including living in a remote mountain village), meetings with development officials, sustainability activists and stakeholders in the region.	3 Credits
	PTRM 418 - Winter Wilderness Field Stdies Examination of wilderness values, management issues and strategies, winter ecology and snow science, risk management and group leadership, and traditional skills. Winter field course in the Swan Valley and Mission Mountains Wilderness. Offered wintersession.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

General Mountain Studies

Rule: Must complete 6 credits from the following courses

Note: One section of NRSM 311 fulfills this requirement: Conservation Biology in the Northern Rockies

	Course	Credits
	BIOL 451 - Landscape Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 342 or BIOE 370/371. Biophysical processes that determine landscape and ecosystem structure and function using remote sensing tools, geographic information systems and dynamic models to demonstrate landscape change.	3 Credits
	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	GEO 391 - Special Topics (R–9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one–time offerings of current topics.	1 To 9 Credits
	GEO 433 - Global Tectonics Offered autumn. Prereq., GEO 315, M 162, and 2.25 or better overall GPA in geosciences courses. Geodynamics and tectonics of the Earth and other planets. Course material includes methods of observing tectonic processes and tectonic phenomena, both at the surface and in the deep earth, over a wide range of time scales.	3 Credits
	GEO 488 - Snow, Ice and Climate Offered spring. Prereq., M 121. Study of basic physical processes occurring in snow and ice, and how these processes govern the interaction between frozen water and the climate system. The first half of the course focuses in snow, with special attention to snow formation in the atmosphere, snow metamorphism, water flow through snow, and basic avalanche mechanics. The second half of the course focuses on ice and includes glacier and ice sheet flow dynamics, glacier hydrology, and ice age theory. Graduate students will be required to complete additional problem sets requiring higher level math; perform additional reading assignments; perform at a higher level on assignments and exams where students are asked to outline and describe various physical processes; submit a well researched and reference research proposal that is able to synthesize previous research and provide a sophisticated research plan.	3 Credits

	GPHY 311N - Biogeography Offered intermittently. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, especially climatic change and human impacts.	3 Credits
	NASX 351 - Traditional Eco Knowledge ?Offered summer. This course is one unit of the four unit (12 credit) summer semester program: "Wild Rockies Summer Semester." Description: This course will explore the traditional ecological perspectives of the Salish, Kootenai, Blackfeet and Tlingit people, as well as how these perspectives relate to Western concepts of ecology. Through field-based activities, lectures by tribal elders, and personal exploration, students will come to a heightened understanding of the still vital cultural perspectives and practices of modern American Indians, particularly in the Rockies of Montana and Canada.	3 Credits
	NRSM 311 - Field Stds ecol/Human Commun (R-12) Offered every term. Prereq., consent of instr. Via extended backcountry travel, experiential examination of the structure and function of the ecosystems occurring within the course area. Also investigates the relationship of those ecosystems with the people that manage, live, and work in the area. Offered by the Wild Rockies Field Institute.	2 To 3 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	PTRM 482 - Wilderness & Protctd Area Mgt Offered spring. Prereq., PTRM 217S, or consent of instructor. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Teaching Geography

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Students who want to be licensed to teach geography at the middle and high school level must complete the B.A. degree requirements in geography (general geography, no option required). They also must complete a teaching major or minor in a second field of their choice and the professional licensure program in the College of Education. Students may also earn a teaching minor in geography. See the Department of Curriculum & Instruction for information about admission to the Teacher Education Program and completion of the licensure program.

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Bachelor of Arts - Geography; Track: Teaching Geography

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 39

Required Cumulative GPA: 2.0

Introduction to Geography

Rule: Must complete all of the following courses:

	Course	Credits
	GPHY 111N - Intro to Physical Geography Offered autumn and spring. Introduction to the earth's major natural environmental systems, their spatial distribution and interrelationships, including weather and climate, vegetation and ecosystems, soils, landforms, and earth-surface processes.	3 Credits
	GPHY 112N - Intro to Phys Geography Lab Offered autumn and spring. Prereq. or coreq., GPHY 111N. Introduction to concepts and techniques needed to understand and analyze the information contained in various types of maps, graphs, aerial photos, imagery, and other graphics and geographic data sets. This is prerequisite to GPHY 385.	1 Credits
	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Regional Geography Course

Rule: Must complete at least 1 of the following courses

Note: GPHY 141 Geography of World Regions is highly recommended for Geography teaching majors.

	Course	Credits
	GPHY 141S - Geography of World Regions Offered autumn and/or spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood.	3 Credits

	GPHY 144 - Montana's Mountains Consent of Instructor. A field-based course offered during winter session in the winter splendor of the North Fork of the Flathead River and Glacier National Park. Topics addressed include physical geography, geology, winter ecology, national park management, environmental history, and the changing economy of the region.	3 Credits
	GPHY 241 - Montana Offered autumn. The physical, cultural, economic, political, and historical geography of the state including Montana's mountains and the prairies.	3 Credits
	GPHY 243X - Africa Offered intermittently. A survey of the biophysical and cultural geography of Sub-Saharan Africa. Emphasis is on the region's cultural-historical development and current ecological, demographic, and economic patterns.	3 Credits
	GPHY 245X - The Middle East Offered intermittently. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change; prehistory; patterns of cultural and historical change; issues of socio-economic, religious, and political diversity; and the broader political significance of the region.	3 Credits
	GPHY 342 - North America Offered intermittently. Physiographic regions of North America; highlights of historical geography blended with physical and cultural aspects of the continent. Lesser known places are explored.	3 Credits
	GPHY 344 - Crown of the Continent Offered autumn. The study of the geographical setting of the Crown of the Continent of North America, including the richness of physical geography, history, culture, and models of conservation. Examines ongoing research initiatives, impacts of climate change, regional transformations, and the relationship between people and this mountainous environment.	3 Credits
	GPHY 347 - Regional Geography (Mult Reg) (R-9) Offered intermittently. Selected regions will be listed as appropriate in each Class Schedule.	3 Credits
	GPHY 348 - Field Studies in Geography (R-12) Offered autumn and spring. Through extended backcountry travel, experiential examination of regional landforms, climate, hydrology, soils, and patterns of vegetation and wildlife. Local landscapes, natural-resource endowment, and societies with particular emphasis on human-environmental interaction. Geographical skills and techniques, including map reading and navigational skills. Offered by the Wild Rockies Field Institute as part of a semester-long, 12-credit field experience with corequisite courses in allied fields.	3 Credits
	GPHY 442 - Regionalism & Rocky Mtn West Offered intermittently. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political, and cultural entity.	3 Credits

	GPHY 444 - High Asia Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.	3 Credits
	GPHY 445 - Regional Geography Offered intermittently. In-depth treatment of a geographic region, a particular regional problem, or the methodology of regional geography. Topics vary.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geographic Methods

Rule: Must complete all of the following subcategories
Minimum Required Grade: C-
5-6 Total Credits Required

GIS

Rule: Must complete the following course

	Course	Credits
	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Field Techniques/Workshop

Rule: Must complete 1 of the following courses

Note: GPHY 284 and 385 are offered at least once per year. GPHY 497 is offered intermittently in summer.

	Course	Credits
	GPHY 385 - Field Techniques Offered autumn and intermittently in spring. Prereq., GPHY 112N or Consent of Instructor. Field techniques used by geographers and planners in making field observations and in collecting data.	3 Credits
	GPHY 497 - Workshop in Teaching Geography Offered intermittently. Concepts and techniques in geography, with emphasis on their use in teaching geography in Montana schools. Students are required to prepare and present a teaching unit project. Designed for pre-service or in-service teachers.	2 To 3 Credits

Minimum Required Grade: C-	2-3 Total Credits Required

Upper Division Systematic Geography

Rule: Must complete the following subcategories of courses

9 Total Credits Required

Physical Geography

Rule: Must complete at least 1 of the following courses

	Course	Credits
	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	GPHY 311N - Biogeography Offered intermittently. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, especially climatic change and human impacts.	3 Credits
	GPHY 314 - Global Mountain Environments Offered autumn odd-numbered years. The study of mountain environments and their physical processes around the globe: Andes, Appalachians, East African Mountains, European Alps, Hindu Kush-Himalaya-Karakoram, Pamir, Rocky Mountains, Southern Alps of New Zealand, Tien Shan, and others. Topics include mountain building, alpine glaciers, mountain geomorphology and climatology, mountain watersheds, mountain biogeography, and mountain hazards such as earthquakes and mass movements.	3 Credits
	GPHY 317 - Geomorphology Offered autumn even-numbered years. Prereq., GPHY 111N or GEO 101N. Important landforms and landscapes, their biophysical processes, and their formative elements.	3 Credits
	GPHY 438 - Mountain Field Study (R-6) Upper-division or graduate standing and consent of instructor. Examination of aspects of the study of mountain geography through a two-week field course based in a mountainous country and/or region. Possible areas of focus include, but are not limited to, the Northern Rocky Mountains, the Alps, the Himalaya, and the Andes.	3 Credits
	GPHY 525 - Adv Physical Geography (R-9) Offered intermittently. Advanced topics in climate and global change, paleo-environments and biogeography, landform analysis, soils, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Geography and Society

Rule: Must complete at least 1 of the following:

	Course	Credits
	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits
	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits
	GPHY 434 - Food and Famine Offered intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.	3 Credits
	GPHY 443 - Cultural & Global Competence Offered intermittently. Prereq., upper-division or graduate standing. Designed to increase awareness of student's own culture and increase cross-cultural sensitivity. Understanding the perspectives of other cultures and resolving possible conflicts. Examination of the role of perception, belief systems, social structures, and culture practices.	3 Credits
	GPHY 515 - Adv Human Geography (R-9) Offered intermittently. Advanced topics in cultural and historical geography, gender issues, migration and population change, economic geography, urban and settlement geography, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Human Environment Interaction

Rule: Must complete at least 1 of the following:

	Course	Credits

	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	GPHY 336 - Exploration & Discovery Offered intermittently. Emphasis on the evidence of language, genetics, material culture, and transoceanic plant and animal exchanges in assessing mobility and population distributions in prehistory; factors that motivate exploration; the history of navigation; the impacts of exploration upon science, society, economics, and government.	3 Credits
	GPHY 338 - Mountains and Society Offered spring. Physical and cultural aspects of the mountains of North and South America, Europe, Africa, and Asia. Emphasis on combining the physical landscape with an overview of the indigenous people who inhabit the worlds' heights.	3 Credits
	GPHY 432 - Human Role Environ Change Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.	3 Credits
	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing

Rule: Must complete 1 of the following courses

Note: GPHY 335 or GPHY 433 will also count toward the upper division core requirements. GPHY 499 will also count toward upper-division electives.

	Course	**Credits**
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits

	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
	GPHY 499 - senior thesis / capstone (R-6) Offered autumn and spring. Senior standing and consent of instructor. Independent research project in any geographical topic supervised by a faculty member, and leading to completion of the baccalaureate degree.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Degree Electives

Rule: Must complete sufficient credits of GPHY electives to fulfill the 39 degree credit total

Note: Students must fulfill the degree credit total of 39 credits plus the university requirement for 39 upper division credits.
EDU 497 Methods: 5-12 Social Studies' counts toward degree credit totals.

Minimum Required Grade: C-

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching. This major does not qualify as a single field endorsement. Individuals must complete a second teaching major or minor in another content area.

Teaching Track

Rule: Must complete the following course

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Social Studies.

	Course	**Credits**

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

General Ed Mathematics

Rule: Must complete 1 of the following

Note: Students are encouraged to take M 115. Students who successfully complete M 122 Trigonometry, M 171 Calculus I, or M 172 Calculus II also meet the degree specific Gen Ed Mathematics requirement. Gen Ed credits do not count towards degree credits.

	Course	Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

General Ed Symbolic Systems

Rule: Must complete either 1 year of a foreign language or STAT 216 Introduction to Statistics

Note: Gen Ed credits do not count towards degree credits.

Minimum Required Grade: C-

3-10 Total Credits Required

Teaching Geography Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - Geography (Minor); Track: Teaching Geography

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 22
Required Cumulative GPA: 2.0

Introduction to Geography

Rule: Must complete all of the following courses

	Course	Credits
	GPHY 111N - Intro to Physical Geography Offered autumn and spring. Introduction to the earth's major natural environmental systems, their spatial distribution and interrelationships, including weather and climate, vegetation and ecosystems, soils, landforms, and earth-surface processes.	3 Credits
	GPHY 112N - Intro to Phys Geography Lab Offered autumn and spring. Prereq. or coreq., GPHY 111N. Introduction to concepts and techniques needed to understand and analyze the information contained in various types of maps, graphs, aerial photos, imagery, and other graphics and geographic data sets. This is prerequisite to GPHY 385.	1 Credits
	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Regional Core

Rule: Must complete at least 1 of the following courses

	Course	Credits
	GPHY 141S - Geography of World Regions Offered autumn and/or spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood.	3 Credits

	GPHY 144 - Montana's Mountains Consent of Instructor. A field-based course offered during winter session in the winter splendor of the North Fork of the Flathead River and Glacier National Park. Topics addressed include physical geography, geology, winter ecology, national park management, environmental history, and the changing economy of the region.	3 Credits
	GPHY 241 - Montana Offered autumn. The physical, cultural, economic, political, and historical geography of the state including Montana's mountains and the prairies.	3 Credits
	GPHY 243X - Africa Offered intermittently. A survey of the biophysical and cultural geography of Sub-Saharan Africa. Emphasis is on the region's cultural-historical development and current ecological, demographic, and economic patterns.	3 Credits
	GPHY 245X - The Middle East Offered intermittently. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change; prehistory; patterns of cultural and historical change; issues of socio-economic, religious, and political diversity; and the broader political significance of the region.	3 Credits
	GPHY 342 - North America Offered intermittently. Physiographic regions of North America; highlights of historical geography blended with physical and cultural aspects of the continent. Lesser known places are explored.	3 Credits
	GPHY 344 - Crown of the Continent Offered autumn. The study of the geographical setting of the Crown of the Continent of North America, including the richness of physical geography, history, culture, and models of conservation. Examines ongoing research initiatives, impacts of climate change, regional transformations, and the relationship between people and this mountainous environment.	3 Credits
	GPHY 347 - Regional Geography (Mult Reg) (R-9) Offered intermittently. Selected regions will be listed as appropriate in each Class Schedule.	3 Credits
	GPHY 348 - Field Studies in Geography (R-12) Offered autumn and spring. Through extended backcountry travel, experiential examination of regional landforms, climate, hydrology, soils, and patterns of vegetation and wildlife. Local landscapes, natural-resource endowment, and societies with particular emphasis on human-environmental interaction. Geographical skills and techniques, including map reading and navigational skills. Offered by the Wild Rockies Field Institute as part of a semester-long, 12-credit field experience with corequisite courses in allied fields.	3 Credits
	GPHY 442 - Regionalism & Rocky Mtn West Offered intermittently. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political, and cultural entity.	3 Credits

	GPHY 444 - High Asia Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.	3 Credits
	GPHY 445 - Regional Geography Offered intermittently. In-depth treatment of a geographic region, a particular regional problem, or the methodology of regional geography. Topics vary.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geographic Methods

Rule: Must complete 1 of the following courses

	Course	Credits
	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits
	GPHY 385 - Field Techniques Offered autumn and intermittently in spring. Prereq., GPHY 112N or Consent of Instructor. Field techniques used by geographers and planners in making field observations and in collecting data.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Systematic Geography

Rule: Must complete at least 1 course from 2 subcategories: 'Physical Geography', 'Geography and Society', and 'Human-Environment Interaction'

6 Total Credits Required

Physical Geography

Rule: May complete 1 of the following courses

	Course	Credits
	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits

	GPHY 311N - Biogeography Offered intermittently. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, especially climatic change and human impacts.	3 Credits
	GPHY 314 - Global Mountain Environments Offered autumn odd-numbered years. The study of mountain environments and their physical processes around the globe: Andes, Appalachians, East African Mountains, European Alps, Hindu Kush-Himalaya-Karakoram, Pamir, Rocky Mountains, Southern Alps of New Zealand, Tien Shan, and others. Topics include mountain building, alpine glaciers, mountain geomorphology and climatology, mountain watersheds, mountain biogeography, and mountain hazards such as earthquakes and mass movements.	3 Credits
	GPHY 317 - Geomorphology Offered autumn even-numbered years. Prereq., GPHY 111N or GEO 101N. Important landforms and landscapes, their biophysical processes, and their formative elements.	3 Credits
	GPHY 438 - Mountain Field Study (R-6) Upper-division or graduate standing and consent of instructor. Examination of aspects of the study of mountain geography through a two-week field course based in a mountainous country and/or region. Possible areas of focus include, but are not limited to, the Northern Rocky Mountains, the Alps, the Himalaya, and the Andes.	3 Credits
	GPHY 525 - Adv Physical Geography (R-9) Offered intermittently. Advanced topics in climate and global change, paleo-environments and biogeography, landform analysis, soils, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Geography and Society

Rule: May complete 1 of the following courses

	Course	Credits
	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits
	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits

	GPHY 434 - Food and Famine Offered intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.	3 Credits
	GPHY 443 - Cultural & Global Competence Offered intermittently. Prereq., upper-division or graduate standing. Designed to increase awareness of student's own culture and increase cross-cultural sensitivity. Understanding the perspectives of other cultures and resolving possible conflicts. Examination of the role of perception, belief systems, social structures, and culture practices.	3 Credits
	GPHY 515 - Adv Human Geography (R-9) Offered intermittently. Advanced topics in cultural and historical geography, gender issues, migration and population change, economic geography, urban and settlement geography, and other selected topics. Topic titles will appear in the Class Schedule. Level: Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Human Environment Interaction

Rule: May complete 1 of the following courses

	Course	Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	GPHY 336 - Exploration & Discovery Offered intermittently. Emphasis on the evidence of language, genetics, material culture, and transoceanic plant and animal exchanges in assessing mobility and population distributions in prehistory; factors that motivate exploration; the history of navigation; the impacts of exploration upon science, society, economics, and government.	3 Credits
	GPHY 338 - Mountains and Society Offered spring. Physical and cultural aspects of the mountains of North and South America, Europe, Africa, and Asia. Emphasis on combining the physical landscape with an overview of the indigenous people who inhabit the worlds' heights.	3 Credits
	GPHY 432 - Human Role Environ Change Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.	3 Credits

	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Licensure Requirements

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Teaching Methods Course

Rule: Complete the following course.

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Social Studies.

	Course	Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Certificate in GIS Sciences and Technologies

The Certificate in GIS Sciences and Technologies, jointly offered by the departments of Geography and Forest Management, is aimed at present or future professionals or scientists who require skills in GIS technologies. The purpose of this program is to provide undergraduate students or individuals possessing an undergraduate degree with the training, knowledge, and understanding necessary to acquire, process, analyze, and properly display digital geographic data.

Special Requirements for the Certificate

To earn a certificate in GIS Sciences and Technologies, students must either complete or have completed an undergraduate degree and complete a minimum of 20 semester credit hours of course work, including 9 to 11 required credits and 9 to 11 elective credits as described below. Students must achieve at least an overall grade point average of 3.0 for courses within the program in order to earn a certificate. The certificate will be awarded upon the successful completion of all of the requirements of the certificate and the undergraduate degree.

Certificate of Art - Geographic Information Systems

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 20

Required Cumulative GPA: 3.0

Required GIS Core Courses

Rule: Must complete 1 from each of the following subcategories

Minimum Required Grade: C-

9-11 Total Credits Required

Introduction to GIS

Rule: Must complete 1 and only 1 of the following courses

Note: Prior to Fall 2013, this was fulfilled by FOR 250 & 350 or GPHY 381 & 382. In 2013 this requirement could be fulfilled with FORS 284.

	Course	Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Photogrammetry/Remote Sensing

Rule: Must complete 3-4 credits of the following courses

Note: GPHY 487 and 489 should be completed together.

	Course	Credits
	FORS 351 - Env Remote Sensing Offered spring. The theory and application of photo- and electro-optical remote sensing for mapping resources and developing information systems.	3 Credits
	GPHY 487 - Remote Sensing/Raster GIS Offered autumn. Prereq. or coreq., GPHY 284 or FORS 250 or Consent of Instructor. Coreq., GPHY 489. Basic principles of remote sensing and analyzing images within a raster GIS. Review current data sources.	3 Credits
	GPHY 489 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Prereq., or coreq., GPHY 482, 486 or 487. Lab to accompany cartography and GIS courses.	1 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Additional Required Courses

Rule: Must complete 3-4 credits of the following courses

Note: GPHY 488 and 489 should be completed together. Spring 2014 and 2015, GPHY 488 and 489 are fulfilled by GPHY 491 GIS Applications.

	Course	Credits
	FORS 350 - Forestry Apps of GIS Offered spring. Prereq., FORS 250 or FORS 284 or GPHY 284. Introduction to the basic concepts and techniques of computerized spatial data management and analysis systems and application to natural resource management.	3 Credits
	GPHY 488 - Thematic Cartography & GIS Offered spring. Prereq., GPHY 284 or GPHY 381 or FORS 250 or Consent of Instructor. Application of GIS for managing natural and cultural resources. Covers choropleth maps, dot maps, proportional figure maps, isarithmic maps, and others. Includes computer mapping and GIS exercises. Students need to register for a required linked lab section.	3 Credits
	GPHY 489 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Prereq., or coreq., GPHY 482, 486 or 487. Lab to accompany cartography and GIS courses.	1 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Advanced Elective Courses

Rule: Must complete 9-11 credits of the following subcategories

Note: Students can choose electives from any subcategory/ies.

Minimum Required Grade: C-

9-11 Total Credits Required

Raster GIS, Remote Sensing, and Image Analysis

Rule: May complete 4-8 credits from the following courses

Note: GPHY 587 and 489 should be completed together.

	Course	Credits
	FORS 551 - Digital Image Processing Offered intermittently. Prereq., FORS 351 or consent of instr. Fundamentals of electro-optical digital remote sensors, data compilation, preprocessing, and pattern recognition. Level: Graduate	4 Credits
	GPHY 587 - Image Analysis & Modeling Offered every two years. Prereq., GPHY 487 or FORS 351 or Consent of instructor; coreq., GPHY 589. Advanced topics in image analysis (e.g. hyperspectral images and pattern-recognition-based classification) and foundations of simple raster-based models. Level: Graduate	3 Credits
	GPHY 589 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Laboratory to accompany GPHY 587 or 588. Level: Graduate	1 Credits
Minimum Required Grade: C-		4-8 Total Credits Required

Vector GIS and Networks

Rule: May complete 3-11 credits of the following courses

Note: GPHY 486 and 489 should be completed together. GPHY 588 and 589 should be completed together.

	Course	Credits
	GPHY 486 - Transport, Planning & GIS Offered intermittently during wintersession (2 credits) or spring semester (3 credits.) Coreq., GPHY 489. A project-oriented course focusing on patterns and trends in urban passenger transportation, principles of transport planning, and modeling in GIS-T. To succeed in this course students should have comfort with basic algebra and statistics.	3 Credits
	GPHY 489 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Prereq., or coreq., GPHY 482, 486 or 487. Lab to accompany cartography and GIS courses.	1 Credits
	GPHY 580 - Seminar GIS & Cartography (R-9) Offered every two years. Seminar topics in cartography and GIS. Applications to advanced studies in human and physical geography. Level: Graduate	3 Credits

	GPHY 588 - Vector GIS Offered autumn. Coreq., GPHY 589. Theoretical/conceptual and practical aspects of entity-based GIS modeling and spatial analysis. Point pattern analysis (i.e. cluster detection, density analysis, kriging), network analysis (i.e. network construction, network-based spatial statistics, accessibility modeling), and areal pattern analysis (i.e. spatial autocorrelative pattern, spatial regression modeling). Applications in urban and environmental planning, transportation, natural resource management, ecology, health, criminology, engineering, and business. To succeed in this course students should have familiarity with GIS. Level: Graduate	3 Credits
	GPHY 589 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Laboratory to accompany GPHY 587 or 588. Level: Graduate	1 Credits
Minimum Required Grade: C-		3-11 Total Credits Required

Data Management and Programming

Rule: May complete 3-10 credits of the following courses

Note: GPHY 468 and 469 should be completed together.

	Course	**Credits**
	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
	FORS 505 - Sampling Methods Offered spring. Prereq., consent of instr. Fundamentals of statistical sampling emphasizing natural and environmental resource applications. Principles of inferences and alternative estimators are studied in the context of simple random, systematic, unequal probability, stratified, and 3P/Poisson designs. Variable radius plot sampling, line intersect sampling, and other probability proportional to size designs used in forest and ecological inventories are also covered. Level: Graduate	3 Credits
	GPHY 468 - Community & Regional Analysis Offered autumn. Coreq., GPHY 469. Socio-demographic analysis of communities and regions: population, employment, and spatial interaction. Hands-on course designed for future planners, GIS analysts, and others interested in socio-demographic change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	GPHY 469 - Planning & Analysis Laboratory Offered autumn. Coreq., GPHY 468. Laboratory to accompany GPHY 468.	1 Credits

Minimum Required Grade: C-	3-10 Total Credits Required

GIS Applications

Rule: May complete 3-11 credits of the following courses

Note: GPHY 482 and 489 should be completed together.

	Course	Credits
	ANTY 452 - GIS in Archaeology Offered intermittently. Prereq., ANTY 250s. Anthropological and archaeological data acquisition, management, and analysis using Geographic Information Systems (GIS) tools and techniques.	3 Credits
	FORS 503 - GIS:Meth & Applic I Offered intermittently. Prereq., consent of instr. Introduction to the theory and development of statistical gradient and predictive distribution models in the resource and conservation sciences. Course will develop climatic, edaphic, biophysical, and inventory data sources for use in predictive distribution modeling. Survey of multiple modeling approaches, limitations and assumptions, and applications in the resource and conservation fields. Emphasis on the integration of GIS and raster analysis methods with spatial and non-spatial statistical techniques. Level: Graduate	3 Credits
	GPHY 385 - Field Techniques Offered autumn and intermittently in spring. Prereq., GPHY 112N or Consent of Instructor. Field techniques used by geographers and planners in making field observations and in collecting data.	3 Credits
	GPHY 481 - Advanced Cartographic Design Offered autumn. Prereq., GPHY 284 or FORS 250 or Consent of Instructor. The course concentrates on the presentation of spatial data and the construction of cartographic products that have clear communication and excellent aesthetic design. The class meets the University's service learning course objectives through a semester long project where students consult with a client, design and construct a map, and deliver a final product.	3 Credits
	GPHY 482 - Spatial Analysis & GIS Offered intermittently. Prereq., GPHY 284 or Consent of Instructor. Coreq., GPHY 489. Quantitative analysis of spatial data, including techniques for pattern analysis, classification, and interpolation within a GIS environment.	3 Credits
	GPHY 489 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Prereq., or coreq., GPHY 482, 486 or 487. Lab to accompany cartography and GIS courses.	1 Credits
	GPHY 564 - Planning Design Offered spring even-numbered years. Prereq., graduate standing or Consent of Instructor. Analysis of land-use problems and design. Level: Graduate	3 Credits
	WILD 562 - Wildlife Habitat Modeling Offered spring, odd years. Prereq., consent of instr. A survey of theory and applications in the study of resource selection by animals. Level: Graduate	3 Credits

Minimum Required Grade: C-	3-11 Total Credits Required

Environmental Studies

Len Broberg, Interim Director

The Environmental Studies Program (EVST) seeks to provide students with the literacy, skills and commitment needed to foster a healthy natural environment and to create a more sustainable, equitable, and peaceful world. To these ends, the EVST program educates and challenges students to become knowledgeable, motivated, and engaged in environmental affairs. Our students acquire the skills and awareness to promote positive social change and improve the environment and communities of Montana and the world, for current and future generations. Our program is organized upon the following principles:

- Environmental studies require an interdisciplinary approach that integrates the natural sciences, social sciences, and humanities.
- Creating solutions to environmental problems requires enterprise and performance as well as reflection; therefore, an effective environmental education generates thinkers who can do as well as doers who can think.
- It is important to provide both classroom and experiential learning opportunities in the arts and responsibilities of democratic citizenship, including communication, collaboration, and committed civic participation.
- Students should be co-creators of their educational experience.

High School Preparation: Students in high school who are planning to major in environmental studies should take their school's college preparatory curriculum. Courses in biology, chemistry, math through pre-calculus, and writing are recommended.

Department Faculty

Professor

Len Broberg, Professor, EVST Program Director
Phil Condon, Professor
Neva Hassanein, Professor
Vicki Watson, Professor

Associate Professor

Fletcher Brown, Associate Professor
Robin Saha, Associate Professor
Dan Spencer, Professor

Assistant Professor

Rosalyn La Pier, Assistant Professor

Adjunct

Theresa Duncan, Adjunct Instructor
Anthony Mandala
Melissa Mylchreest, Adjunct Professor
Stephanie Potts
Ethan Smith
Emily Withnall, Adjunct Professor

Lecturer

Josh Slotnick, PEAS Farm Director, Lecturer

Emeritus

Tom Roy, Professor Emeritus

Environmental Sciences

Back to Top

- ENSC 105N - Environmental Science

  Credits: 3. Offered autumn. Provides students with opportunities to use class knowledge to make a difference; helps students build all of the following: scientific literacy; skills in critical thinking, research and self-instruction; an understanding of the scientific basis of environmental issues, policies and laws; habits of sustainable living, scientifically-informed, active participation in social decisions, and service to their community and to the earth. Course Attributes: Natural Science Course (N)

- ENSC 291 - Special Topics/Experimental Courses

  Credits: 1 TO 6. (R-6) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics.

- ENSC 360 - Applied Ecology

  Credits: 3. Offered autumn. Prereq or coreq ENST 201. To succeed in this course, students also need college level courses in general biology, chemistry & statistics. Principles and concepts of ecology and how they can be applied to inform real life decisions about human interactions with the environment. Emphasizes the science of sustainability and the conservation of watersheds and biodiversity.

- ENSC 391 - Special Topics/Exp. Courses

  Credits: 1 TO 9. (R 12) Offerered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, new courses, or one time offerings of current topics.

- ENSC 398 - Cooperative Education/Intern

  Credits: 1 TO 6. Offered autumn and spring. Requires consent of instructor. Practical application of classroom learning through internship with governments, organizations or industry. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

- ENSC 491 - Special Topics/Exper Courses

  Credits: 1 TO 9. (R-9) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, new courses, or one time offerings of current topics.

- ENSC 492 - Independent Study

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Requires consent of instructor. Course material appropriate to the needs and objectives of the individual student.

- ENSC 494 - Seminar/Workshop

  Credits: 1 TO 3. (R-6) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. A seminar on a current environmental topic.

- ENSC 495 - Field Study

  Credits: 1 TO 10. Offered autumn. Prereq or coreq ENSC 360. Designing, executing, interpreting and documenting field studies. Project oriented.

- ENSC 501 - Sci Apprchs Environ Prob

  Credits: 3. Offered autumn. Prereq., graduate standing in EVST or consent of instructor. The strength and limitations of the scientific approach to investigating and solving selected environmental problems with an emphasis on the natural sciences. Level: Graduate

- ENSC 540 - Watershed Conservation

  Credits: 3. Offered autumn. Prereq., graduate standing or consent of instructor. Course assumes students have level of knowledge presented in a college level ecology course. Integrates watershed science, policy, planning, action and organizing. The science component explores watershed connections, evaluating change and assessing watershed condition. The policy component explains the scientific basis of national, state and local laws, programs and agencies that affect watersheds. The planning and action component discusses developing watershed

conservation plans and selecting actions likely to address problems without creating other problems. The organizing component covers how to help watershed communities make choices, resolve conflicts, build commitment and find funding. Students work individually or in teams to assist Montana groups in developing watershed CPR plans, initiating monitoring projects, and/or conducting education projects. Level: Graduate

- ENSC 550 - Pollution Ecology

  Credits: 3. Offered spring even-numbered years. Prereq., graduate standing or consent of instructor. Course assumes students have level of knowledge presented in a college level ecology course. Examines sources, fate, and effects of pollutants on organisms and ecosystems; methods of measuring and predicting pollutant fate and effects, assessing and reducing risks, estimating ecosystem assimilation capacity; setting standards and restoring ecosystems damaged by pollution. Briefly examines some relevant laws and policies at the federal, state and local level. Level: Graduate

- ENSC 551 - Environmental Field Study

  Credits: 1 TO 3. (R-3) Offered intermittently. Prereq. or coreq., ENSC 540 or 550 or ENST 560 or consent of instructor. Same as BIOB 551. Designing, executing and interpreting environmental field studies. Oriented to studies of aquatic systems and watersheds. Students will assist with a class project and may also pursue their own projects. Projects focus on the Clark Fork, Bitterroot and Blackfoot River basins. Level: Graduate

- ENSC 593 - Professional Paper

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Prereq., graduate standing in EVST and consent of instructor. Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate

- ENSC 594 - Graduate Seminar

  Credits: 1 TO 15. (R-15) Offered autumn and spring. Prereq., graduate standing. May be restricted to EVST majors. May require consent of instructor. In depth analysis of a current environmental topic. Different topics offered each semester. Level: Graduate

- ENSC 595 - Special Topics

  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., graduate standing. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, of new courses, or one-time offerings of current topics. Level: Graduate

- ENSC 596 - Independent Study

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., graduate standing in EVST and consent of instructor. Work on selected problems by individual students under direct faculty supervision. Level: Graduate

- ENSC 597 - Research

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., graduate standing in EVST and consent of instructor. Directed individual graduate research and study appropriate to background and objectives of the student. Level: Graduate

- ENSC 598 - Internship

  Credits: 1 TO 8. (R-8) Offered autumn and spring. Prereq., graduate standing in EVST and consent of instructor. Practical application of classroom learning during placements off campus. Level: Graduate

- ENSC 599 - Thesis

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Prereq., graduate standing in EVST and consent of instructor. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

Environmental Studies

Back to Top

- ENST 191 - Special Topics

  Credits: 1 TO 9. (R 9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.

- ENST 201 - Environmental Info Resources

Credits: 3. Offered autumn and spring. Students learn how to find, evaluate and use existing information to increase understanding of environmental issues and resolve controversies. Students will research a subject using a variety of sources (refereed literature, government sources, internet sources, interviews); evaluate sources critically; write a literature review and give an oral presentation on their topic. Focus is on critical thinking and dealing with the information explosion. Course Attributes: Writing Course-Intermediate

- ENST 225 - Community & Environment

  Credits: 3. Offered autumn. Same as SOCI 225. Exploration of the ways that communities address their environmental concerns. Introduction of relevant social science concepts.

- ENST 230H - Nature and Society

  Credits: 3. UM campus course offered spring. Explores the relationship between ideas about nature and the development of political and social ideas, institutions, and practices, primarily in western (Euro-American) society. Complements ethics offerings in philosophy aimed at environmental studies majors. Course Attributes: Hist & Cultural Studies (H)

- ENST 291 - Spec Topics/Exp Courses

  Credits: 1 TO 9. (R-9) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, of new courses, or one-time offerings of current topics.

- ENST 294 - Seminar

  Credits: 1 TO 6. (R-6) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. A review and discussion of current research. Topics vary.

- ENST 310 - Environment Montana: A to Z

  Credits: 3. The environment of Montana has changed dramatically since its founding 150 years ago. The purpose of this course is to provide an introduction to the land, people and places of Montana as viewed through the lens of environmental change. It will explore environmental change in relation to the actions of human beings. It will also explore how federal policies intersect with Montana environmental stories. Through a combination of lectures, readings, focused in-class discussions, and a research project students will learn the environmental stories of Montana.

- ENST 335L - The Environmental Vision

  Credits: 3. Offered autumn. Provides background, overview, interpretations, and understanding of key concepts, themes, approaches, and forms in American nature and environmental nonfiction as well as that literature's response to and influence on environmental events, figures, and movements. Course Attributes: Lit & Artistic Studies (L) Writing Course-Advanced

- ENST 367 - Envr Politics & Policies

  Credits: 3. Offered autumn. Foundation in public lands history, bedrock environmental laws, policy processes and institutions. Research and analysis of current environmental and natural resource policy issues. Focus is domestic illustrated by case studies. Course Attributes: Writing Course-Advanced

- ENST 373A - Nature Works

  Credits: 3. Offered spring. Writing workshop for the creation, critique, and revision of essays about the environment to include natural history, personal narrative, science interpretation, advocacy/editorial, place-based essay, and others. Examination of concepts, forms, and approaches to writing about environmental concerns, awareness and sensitivity. Reading and responding to published work, primarily from the perspective of technique and approach. Course Attributes: Expressive Arts Course (A) Writing Course-Upper-Division

- ENST 382 - Environmental Law

  Credits: 3. Offered spring. Introduction to the history, law and theory of environmental regulation in the United States using public and private land regulation mechanisms as case studies. Basic principles of constitutional and administrative law relevant to environmental regulation, substantive public and private land use law and the history of environmental problems and their regulation. Course Attributes: Writing Course-Advanced

- ENST 391 - Special Topics/Exp Courses

  Credits: 1 TO 12. (R-12) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, of new courses, or one-time offerings of current topics.

- ENST 395 - Field Studies: Env. Studies

Credits: 2 TO 3. (R-12) Offered every term. Via extended backcountry travel, experiential examination of cultural history and public lands management, and how those affect ecosystem integrity. Investigation of personal roles in and relationships with human and ecological communities. Offered by the Wild Rockies Field Institute and Northwest Connections. Course Attributes: Internships/Practicums

- ENST 396 - Supervised Internship (PEAS)

  Credits: 0 TO 10. (R-10) Offered Fall (2 cr.), Spring (2 cr.); Summer intensive, (6 cr.). Students learn small scale sustainable vegetable farming in a hands-on work environment at the PEAS farm (15 minute bike ride from campus). Lectures, readings and reflection inform the work. Summer students also visit local farms on once-a-week field trips. PEAS is repeatable, as the curriculum changes across the season, and students can attend any semester, though the 6 credit summer intensive course is the heart of the program. Course Attributes: Internships/Practicums Service Learning/Volunteer Service Learning

- ENST 398 - Cooperative Education/Intern

  Credits: 1 TO 6. Offered autumn and spring. Consent of instructor required. Practical application of classroom learning through internship with governments, organizations or industry. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- ENST 410 - TEK of Native Peoples

  Credits: 3. Offered intermittently. Examines traditional environmental knowledge (TEK) of Native peoples with a special focus on ancient peoples of the Northern Great Plains.

- ENST 420 - US Environmental Movement

  Credits: 3. Offered Intermittently. Study of the environmental movement as a social movement. Examination of different approaches to environmental protection and restoration in view of the movement's historical roots and contemporary debates.

- ENST 427 - Social Issues:The Mekong Delta

  Credits: 3. The course focuses on the history, culture, economy and environment of Vietnam, with particular emphasis on the Mekong Delta region. This is achieved through lectures from local professors at Can Tho University, active participation in field trips, the home stay, course readings, and synthesis through questions sets and discussions provided by University of Montana instructor. The goal of this half of the Vietnam study abroad program is to provide an understanding of the unique environments and the socio-economy of the Mekong Delta region to facilitate learning about the effects of climate change on these complex natural and anthropogenic systems. Co-convenes with ENST 514. Course Attributes: Co-Convened Course

- ENST 430 - Culture & Agriculture

  Credits: 3. Offered spring, from start of semester to mid-April. Surveys treatment of farmers and farming in the humanities. Course covers specific agricultural crops and their effect on social and environmental history, artistic commentary on agricultural life and farmer philosophy. Themes range from agriculturally influenced historical events to Wendell Berry's poetry to Albert Borgmann's philosophy.

- ENST 437 - Climate Change: Mekong Delta

  Credits: 3. This course focuses on the threats posed by climate change in Vietnam, with particular emphasis on the Mekong Delta region. This is achieved through lectures from Can Tho University professors, active participation in field trips, the homestay, course readings, and synthesis through questions sets and discussions provided by University of Montana instructor. The goal of this half of the Vietnam study abroad program is to provide an understanding of the potential impacts of climate change on the ecosystems and people of the Mekong Delta, and explore opportunities for people to adapt to and mitigate these impacts. Co-convenes with ENST 516. Course Attributes: Co-Convened Course

- ENST 472 - Gen Sci: Conserv Ed

  Credits: 3. Offered autumn and spring. A study of the foundations of environmental science and conservation education with applications to community service and teaching.

- ENST 476 - Environmental Citizenship

  Credits: 3. Offered spring. Prereq., open to juniors and seniors only or by consent of instructor. Same as CCS 476. Develops leadership and environmental citizenship skills, values and virtues through student-initiated projects informed by principles of organizing and sustainable behavior change theories of social marketing.

- ENST 480 - Food, Agriculture, Environment

  Credits: 3. Offered spring. Exploration of the premise that agricultural sustainability requires practices, policies, and social arrangements that balance concerns of environmental soundness, economic viability, and social justice among all sectors of society.

- ENST 487 - Globalization, Justice & Envir

  Credits: 3. Offered autumn. Study of current trends in economic globalization and its effects on efforts to work for social justice and environmental sustainability, particularly in the Global South. Examination of different models and theories of globalization, analysis of ethical issues raised, and assessment of alternatives proposed. Course Attributes: Writing Course-Advanced

- ENST 489S - Env. Justice Iss & Solut

  Credits: 3. Offered autumn. Examination of evidence, causes and consequences of social inequality in the distribution of environmental risks and in access to natural resources and environmental amenities. Community, government and industry responses and service approaches for addressing environmental inequities. Course Attributes: Social Sciences Course (S)

- ENST 491 - Special Topics/Exper Courses

  Credits: 1 TO 12. (R-12) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, of new courses, or one-time offerings of current topics.

- ENST 492 - Independent Study

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Consent of instructor required. Course material appropriate to the needs and objectives of the individual student.

- ENST 493 - Study Abroad: Envir Justice LA

  Credits: 3. Offered intermittently. Two week travel seminar to one or more Latin American countries to examine Latin American perspectives on environmental justice and efforts toward sustainable development within the context of the global economy and U. S. foreign policy. Required one-credit seminar offered spring semester to provide background readings. Course Attributes: Faculty-Led Study Abroad

- ENST 494 - Seminar/Workshop

  Credits: 1 TO 3. (R-6) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. A seminar on a current environmental topic.

- ENST 499 - Senior Thesis/Capstone

  Credits: 3. Offered intermittently. Prereq., senior standing in EVST. For seniors who want to design and perform a significant capstone project involving research and/or service. Students have responsibility for designing their projects which are subject to faculty approval. A final report and public presentation are required. Honors credit available.

- ENST 505 - Literature of Nature Writing

  Credits: 3. Offered spring. Prereq., graduate standing. Study of nature, environmental, and place-based writing, with emphasis on the American tradition and its relationship to twenty-first century environmental concerns, challenges, and opportunities, and to the current practice of nature and environmental writing. Level: Graduate

- ENST 510 - Native American Environmental Issues

  Credits: 3. This graduate readings seminar provides an overview of environmental issues of Native American communities through the 19th to 21st centuries. Level: Graduate

- ENST 513 - Nat Res Conflict Resolution

  Credits: 3. Offered autumn. Same as NRSM 513 and LAW 613. Prereq., graduate standing. Examines the basic framework for preventing and resolving natural resource and environmental conflicts in America. Reviews the history of alternative approaches, emphasizes the theory and practice of collaboration, and considers future trends. This highly interactive course uses lectures, guest speakers, case studies, and simulations. Level: Graduate

- ENST 514 - Social Issues:The Mekong Delta

  Credits: 3. This course focuses on the history, culture, economy and environment of Vietnam, with particular emphasis on the Mekong Delta region. This is achieved through lectures from local professors at Can Tho University, active participation in field trips, the home stay, course readings, independent graduate research, and synthesis through questions sets and discussions provided

by University of Montana instructor. The goal of this half of the Vietnam study abroad program is to provide an understanding of the unique environments and the socio-economy of the Mekong Delta region to facilitate learning about the effects of climate change on these complex natural and anthropogenic systems. Co-convenes with ENST 427. Level: Graduate Course Attributes: Co-Convened Course

- ENST 515 - Enviro Negotiation Mediation

  Credits: 3. Offered intermittently. Same as NRSM 515 and COMX 515. Prereq., graduate standing. This course prepares students to effectively engage in multiparty negotiation on natural resource and environmental issues. It is grounded in theory and provides an opportunity to develop practical skills in both negotiation and facilitation/mediation. Guest speakers, case studies, and simulations allow students to develop, test, and refine best practices. The course is fast-paced, highly interactive, and serves as the second of three required courses in the Natural Resources Conflict Resolution Program. Level: Graduate

- ENST 516 - Climate Change: Mekong Delta

  Credits: 3. This courses focuses on the threats posed by climate change in Vietnam, with particular emphasis on the Mekong Delta region. This is achieved through lectures from Can Tho University professors, active participation in field trips, field data collection, analysis and interpretation, the homestay, course readings, independent graduate research, and synthesis provided by University of Montana professors. The goal of this half of the Vietnam study abroad program is to provide an understanding of the potential impacts of climate change on the ecosystems and people of the Mekong Delta, and explore opportunities for people to adapt to and mitigate these impacts. Co-convenes with ENST 516. Level: Graduate Course Attributes: Co-Convened Course

- ENST 519 - Foundations of Change

  Credits: 3. Designed for the first-year graduate cohort in Environmental Studies, this foundational course aims to strengthen participants' capacities to effectively meet today's environmental and social justice challenges. Our incoming cohort (around 20-25 in recent years) includes students from a wide variety of backgrounds. The course provides an introduction to the history and development of the environmental movement(s), as well as a theoretical understanding of democracy, citizenship, power, and social change. Participants will also explore their own sense of personal purpose and develop community. Level: Graduate

- ENST 520 - Environmental Organizing

  Credits: 3. Offered intermittently. Prereq., graduate standing. Developing understanding of and skills in community and environmental organizing. Emphasis on theory and practice of civic engagement and social change with a focus on developing and running campaigns and working in a group. Team projects. Level: Graduate

- ENST 521 - Found Environmental Educ

  Credits: 3. Offered autumn. Prereq., graduate standing in environmental studies. Same as C&I 521. Problem-solving approaches to environmental education; problem identification, research and design and implementation of an educational approach to selected environmental issues. Level: Graduate

- ENST 530 - The Greening of Religion

  Credits: 3. Offered yearly. A critical examination of different religious traditions' views on nature and society, and contemporary religious traditions' responses to environmental issues. Level: Graduate

- ENST 535 - Local Climate Solutions

  Credits: 3. Offered intermittently. This course seeks to develop students' understanding and skills for participating in local solutions to climate change that can also support broader conservation, efficiency and sustainability efforts. This will be accomplished by engaging in planning and carrying out group projects that further advance existing climate change mitigation or adaptation efforts. Level: Graduate

- ENST 537 - Bld Effective Environment Org

  Credits: 3. Offered intermittently. Prereq., graduate standing. Focus on the tasks and skills necessary to building and managing effective environmental organizations, particularly non-profit. Budgeting, fund-raising, grant-writing, attracting and utilizing volunteers, working with the media. Strategic approaches and how they are shaped by issue, context, and structure. Level: Graduate

- ENST 542 - Transboundary Env Issues

  Credits: 3. Offered intermittently in autumn. Prereq., graduate standing in environmental studies program. Review of the political systems and administrative systems of each country relevant to

natural resource policy decision-making and ecological systems. Review pertinent literature, interact with stakeholders, and produce group reports. Level: Graduate

- ENST 548 - Super Tchg Envir Ed

  Credits: 3. Offered intermittently. Prereq., ENST 521 or EDU 521. Design, selection and evaluation of materials for the teaching of environmental education. Level: Graduate

- ENST 555 - Rsch Methods for Soc Change

  Credits: 3. Offered intermittently. Prereq., graduate standing. Introduction to qualitative methods of research design, data collection, and analysis. Emphasis on research that facilitates and documents social change processes. Hands-on research experience through fieldwork projects. Includes instruction on writing social science and on research ethics. Level: Graduate

- ENST 560 - Environmental Impact Analysis

  Credits: 3. Offered intermittently. Prereq., graduate standing or consent of instructor. Covers legal and scientific aspects of the Environmental Impact Analysis (EIA) including: What is required by international, national and state law and regulations? How does one organize an effective interdisciplinary team research effort and public participation program? What scientific tools are used in EIA? How could EIA process be improved? Level: Graduate

- ENST 561 - Land Use Planning Law

  Credits: 3. Offered autumn. Same as GPHY 561 and LAW 687. Prereq., graduate standing. Basic overview of the law of land use planning including background in the traditional governmental regulatory, proprietary, and fiscal land use tools. Examination of modern techniques for land use planning; consideration of constitutional limits of authority of state and local governments. Focus on skills in interpreting, drafting and applying state legislation and local ordinances. Level: Graduate

- ENST 563 - Environmental Law I

  Credits: 3. Offered autumn. Prereq., graduate standing in EVST. Same as LAW 650. Philosophy and values underlying environmental regulation, basic introduction to administrative law, in-depth study of air and water pollution and the environmental policy acts. Level: Graduate

- ENST 564 - Environmental Law II

  Credits: 3. Offered autumn. Prereq., graduate standing in EVST. Same as LAW 649. In-depth study of the laws addressing toxic substances and solid and hazardous waste, and the Endangered Species Act. Exploration of interaction between land use regulation and environmental law. Level: Graduate

- ENST 565 - Public Land & Resources Law

  Credits: 3. Offered spring. Prereq., graduate standing in EVST and consent of instr. Same as LAW 654. Historical development of United States public land law, state-federal relations, and the roles of Congress, the executive and the courts; the law applying to specific public land resources: water, minerals, timber, range, and preservation. Level: Graduate

- ENST 567 - Water Law

  Credits: 3. Offered spring. Same as LAW 663. Prereq., graduate standing. Interstate water problems; federal/state powers; federal/Indian water rights/Montana water law. Level: Graduate

- ENST 570 - Ethics & Restoration

  Credits: 3. Offered yearly. Prereq., graduate level or consent of instr. A critical examination of the ethical issues that emerge in the field of ecological restoration, and decisions to manipulate nature intentionally for social and ecological goals. Level: Graduate

- ENST 573 - Environmental Writing

  Credits: 3. Offered autumn. Prereq., graduate standing. Writing workshop designed to improve skills in writing on environmental topics for general audiences. Approaches include personal narrative, natural history, science interpretation, advocacy/argument, place-based essays. Includes analysis of published work from the perspective of technique and craft. Level: Graduate

- ENST 579 - Collaborative Conservation

  Credits: 3. (R-4) Offered every semester. Same as NRSM 579. Prereq., ENST 513 or consent of instructor. Designed as the capstone experience of the Natural Resources Conflict Resolution Program. Provides practical experience in multi-party collaboration and conflict resolution. Students may design their own project in consultation with the director of the NRCR Program, or participate in a project organized and convened by faculty. Projects may be conducted year-round. Level: Graduate

- ENST 580 - The Politics of Food

  Credits: 3. Offered intermittently. This seminar explores social, economic, and ecological issues related to the contemporary food and agricultural system and alternatives to that system. Level: Graduate

- ENST 590 - Supervised Internship PEAS

  Credits: 0 TO 8. (R-8) Spring and autumn, 2 cr.; summer intensive, 3 cr. Prereq., graduate standing. Students learn small scale sustainable vegetable farming in a hands-on work environment at the PEAS farm (15 minute bike ride from campus). Lectures, readings and reflection inform the work. Summer students also visit local farms on a once-a week filed trips. PEAS is repeatable, as the curriculum changes across the season, and students can attend any semester, though the 3 credit (grad level) summer intensive course is the heart of the program. Level: Graduate Course Attributes: Internships/Practicums

- ENST 591 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ENST 593 - Professional Paper

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Prereq., graduate standing in EVST and consent of instructor. Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate

- ENST 594 - Graduate Seminar

  Credits: 1 TO 15. (R-15) Offered autumn and spring. Prereq., graduate standing. May be restricted to EVST majors. May require consent of instructor. In-depth analysis of a current environmental topic. Different topics offered each semester. Level: Graduate

- ENST 595 - Special Topics

  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., graduate standing. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, of new courses, or one-time offerings of current topics. Level: Graduate

- ENST 596 - Independent Study

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., graduate standing in EVST and consent of instructor. Work on selected problems by individual students under direct faculty supervision. Level: Graduate Course Attributes: Independent Study

- ENST 597 - Research

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., graduate standing in EVST and consent of instructor. Directed individual graduate research and study appropriate to background and objectives of the student. Level: Graduate

- ENST 598 - Internship

  Credits: 1 TO 8. (R-8) Offered autumn and spring. Prereq., graduate standing in EVST and consent of instructor. Practical application of classroom learning during placements off campus. Level: Graduate Course Attributes: Internships/Practicums

- ENST 599 - Thesis

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Prereq., graduate standing in EVST and consent of instructor. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

Environmental Studies B.A.

Bachelor of Arts - Environmental Studies

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 54

Required Cumulative GPA: 2.0

Note: To obtain depth of knowledge in an area of focus, students are expected to select a minor or double major from another campus discipline, or work with an EVST advisor on selecting or designing an EVST focus area.

Lower Division Core Courses

Rule: Complete the following subcategories of courses

24 Total Credits Required

Environmental Science and Environmental Studies

Rule: Complete all courses

	Course	Credits
	ENSC 105N - Environmental Science Offered autumn. Provides students with opportunities to use class knowledge to make a difference; helps students build all of the following: scientific literacy; skills in critical thinking, research and self-instruction; an understanding of the scientific basis of environmental issues, policies and laws; habits of sustainable living, scientifically-informed, active participation in social decisions, and service to their community and to the earth.	3 Credits
	ENST 201 - Environmental Info Resources Offered autumn and spring. Students learn how to find, evaluate and use existing information to increase understanding of environmental issues and resolve controversies. Students will research a subject using a variety of sources (refereed literature, government sources, internet sources, interviews); evaluate sources critically; write a literature review and give an oral presentation on their topic. Focus is on critical thinking and dealing with the information explosion.	3 Credits
	ENST 225 - Community & Enviornment Offered autumn. Same as SOCI 225. Exploration of the ways that communities address their environmental concerns. Introduction of relevant social science concepts.	3 Credits
	ENST 230H - Nature and Society UM campus course offered spring. Explores the relationship between ideas about nature and the development of political and social ideas, institutions, and practices, primarily in western (Euro-American) society. Complements ethics offerings in philosophy aimed at environmental studies majors.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Chemistry

Rule: Complete the following course

	Course	Credits

	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Math

Rule: Complete the following course

	Course	Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Biology

Rule: Complete 1 of the following

	Course	Credits
	BIOB 101N - Discover Biology Offered every term. Contemporary exploration of the organization and complexity of living organisms and the systems in which they live. The central question of biology--relationship between form and function, acquisition and use of energy, and continuity between generations will be addressed through lectures and laboratory investigations. Credit not allowed toward a major in biology. Credit not allowed for both BIOB 101N and BIOB 160N.	3 Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits

	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Quantitative Skills - Statistics

Rule: Complete 1 of the following

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core

Rule: Complete the following subcategories of courses

15 Total Credits Required

Natural Science - Ecology

Rule: Complete one of the following:

	Course	Credits

	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	ENSC 360 - Applied Ecology Offered autumn. Prereq or coreq ENST 201. To succeed in this course, students also need college level courses in general biology, chemistry & statistics. Principles and concepts of ecology and how they can be applied to inform real life decisions about human interactions with the environment. Emphasizes the science of sustainability and the conservation of watersheds and biodiversity.	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Policy

Rule: Complete one of the following:

	Course	Credits
	ENST 367 - Envr Politics & Policies Offered autumn. Foundation in public lands history, bedrock environmental laws, policy processes and institutions. Research and analysis of current environmental and natural resource policy issues. Focus is domestic illustrated by case studies.	3 Credits
	ENST 382 - Environmental Law Offered spring. Introduction to the history, law and theory of environmental regulation in the United States using public and private land regulation mechanisms as case studies. Basic principles of constitutional and administrative law relevant to environmental regulation, substantive public and private land use law and the history of environmental problems and their regulation.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Humanities

Rule: Complete one of the following:

	Course	Credits
	ENST 335L - The Environmental Vision Offered autumn. Provides background, overview, interpretations, and understanding of key concepts, themes, approaches, and forms in American nature and environmental nonfiction as well as that literature's response to and influence on environmental events, figures, and movements.	3 Credits
	ENST 410 - TEK of Native Peoples Offered intermittently. Examines traditional environmental knowledge (TEK) of Native peoples with a special focus on ancient peoples of the Northern Great Plains.	3 Credits
	ENST 430 - Culture & Agriculture Offered spring, from start of semester to mid-April. Surveys treatment of farmers and farming in the humanities. Course covers specific agricultural crops and their effect on social and environmental history, artistic commentary on agricultural life and farmer philosophy. Themes range from agriculturally influenced historical events to Wendell Berry's poetry to Albert Borgmann's philosophy.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: Complete one of the following:

	Course	Credits
	ENST 391 - Special Topics/Exp Courses (R-12) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, of new courses, or one-time offerings of current topics.	1 To 12 Credits
	ENST 487 - Globalization, Justice & Envir Offered autumn. Study of current trends in economic globalization and its effects on efforts to work for social justice and environmental sustainability, particularly in the Global South. Examination of different models and theories of globalization, analysis of ethical issues raised, and assessment of alternatives proposed.	3 Credits
	ENST 489S - Env. Justice Iss & Solut Offered autumn. Examination of evidence, causes and consequences of social inequality in the distribution of environmental risks and in access to natural resources and environmental amenities. Community, government and industry responses and service approaches for addressing environmental inequities.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Approved Community Service/Internship Experience

Rule: Complete one of the following:

	Course	Credits
	ENSC 398 - Cooperative Education/Intern Offered autumn and spring. Requires consent of instructor. Practical application of classroom learning through internship with governments, organizations or industry. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	ENST 396 - Supervised Internship (PEAS) (R-10) Offered Fall (2 cr.), Spring (2 cr.); Summer intensive, (6 cr.). Students learn small scale sustainable vegetable farming in a hands-on work environment at the PEAS farm (15 minute bike ride from campus). Lectures, readings and reflection inform the work. Summer students also visit local farms on once-a-week field trips. PEAS is repeatable, as the curriculum changes across the season, and students can attend any semester, though the 6 credit summer intensive course is the heart of the program.	0 To 10 Credits
	ENST 398 - Cooperative Education/Intern Offered autumn and spring. Consent of instructor required. Practical application of classroom learning through internship with governments, organizations or industry. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
Minimum Required Grade: C-		3 Total Credits Required

Elective Environmental Studies Courses

Rule: In addition to the required courses above, complete 9 division credits from the following:

	Course	Credits
	COMX 347 - Rhetoric Nature & Environmtlsm Offered every other year. Same as ENST 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.	3 Credits
	COMX 349 - Comm Consump & Climate Offered every other year. Same as CCS 349. Analyzes consumption as a communication practice, investigates discourses that promote consumption, and illuminates environmental impacts on consumption.	3 Credits
	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits

	ECNS 445 - Int Env Econ & Clim Change Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.	3 Credits
	ENSC 391 - Special Topics/Exp. Courses (R 12) Offerered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, new courses, or one time offerings of current topics.	1 To 9 Credits
	ENSC 491 - Special Topics/Exper Courses (R-9) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, new courses, or one time offerings of current topics.	1 To 9 Credits
	ENSC 492 - Independent Study (R-6) Offered autumn and spring. Requires consent of instructor. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	ENSC 494 - Seminar/Workshop (R-6) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. A seminar on a current environmental topic.	1 To 3 Credits
	ENSC 495 - Field Study Offered autumn. Prereq or coreq ENSC 360. Designing, executing, interpreting and documenting field studies. Project oriented.	1 To 10 Credits
	ENST 373A - Nature Works Offered spring. Writing workshop for the creation, critique, and revision of essays about the environment to include natural history, personal narrative, science interpretation, advocacy/editorial, place-based essay, and others. Examination of concepts, forms, and approaches to writing about environmental concerns, awareness and sensitivity. Reading and responding to published work, primarily from the perspective of technique and approach.	3 Credits
	ENST 391 - Special Topics/Exp Courses (R-12) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, of new courses, or one-time offerings of current topics.	1 To 12 Credits
	ENST 395 - Field Studies: Env. Studies (R-12) Offered every term. Via extended backcountry travel, experiential examination of cultural history and public lands management, and how those affect ecosystem integrity. Investigation of personal roles in and relationships with human and ecological communities. Offered by the Wild Rockies Field Institute and Northwest Connections.	2 To 3 Credits
	ENST 420 - US Environmental Movement Offered Intermittently. Study of the environmental movement as a social movement. Examination of different approaches to environmental protection and restoration in view of the movement's historical roots and contemporary debates.	3 Credits

	ENST 427 - Social Issues:The Mekong Delta The course focuses on the history, culture, economy and environment of Vietnam, with particular emphasis on the Mekong Delta region. This is achieved through lectures from local professors at Can Tho University, active participation in field trips, the home stay, course readings, and synthesis through questions sets and discussions provided by University of Montana instructor. The goal of this half of the Vietnam study abroad program is to provide an understanding of the unique environments and the socio-economy of the Mekong Delta region to facilitate learning about the effects of climate change on these complex natural and anthropogenic systems. Co-convenes with ENST 514.	3 Credits
	ENST 437 - Climate Change: Mekong Delta This course focuses on the threats posed by climate change in Vietnam, with particular emphasis on the Mekong Delta region. This is achieved through lectures from Can Tho University professors, active participation in field trips, the homestay, course readings, and synthesis through questions sets and discussions provided by University of Montana instructor. The goal of this half of the Vietnam study abroad program is to provide an understanding of the potential impacts of climate change on the ecosystems and people of the Mekong Delta, and explore opportunities for people to adapt to and mitigate these impacts. Co-convenes with ENST 516.	3 Credits
	ENST 472 - Gen Sci: Conserv Ed Offered autumn and spring. A study of the foundations of environmental science and conservation education with applications to community service and teaching.	3 Credits
	ENST 476 - Environmental Citizenship Offered spring. Prereq., open to juniors and seniors only or by consent of instructor. Same as CCS 476. Develops leadership and environmental citizenship skills, values and virtues through student-initiated projects informed by principles of organizing and sustainable behavior change theories of social marketing.	3 Credits
	ENST 480 - Food, Agriculture, Environment Offered spring. Exploration of the premise that agricultural sustainability requires practices, policies, and social arrangements that balance concerns of environmental soundness, economic viability, and social justice among all sectors of society.	3 Credits
	ENST 491 - Special Topics/Exper Courses (R-12) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, of new courses, or one-time offerings of current topics.	1 To 12 Credits
	ENST 492 - Independent Study (R-6) Offered autumn and spring. Consent of instructor required. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits

	ENST 493 - Study Abroad: Envir Justice LA Offered intermittently. Two week travel seminar to one or more Latin American countries to examine Latin American perspectives on environmental justice and efforts toward sustainable development within the context of the global economy and U. S. foreign policy. Required one-credit seminar offered spring semester to provide background readings.	3 Credits
	ENST 494 - Seminar/Workshop (R-6) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. A seminar on a current environmental topic.	1 To 3 Credits
	ENST 499 - Senior Thesis/Capstone Offered intermittently. Prereq., senior standing in EVST. For seniors who want to design and perform a significant capstone project involving research and/or service. Students have responsibility for designing their projects which are subject to faculty approval. A final report and public presentation are required. Honors credit available.	3 Credits
	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits
	PHL 323 - Ethics of Climate Change This course examines some of the fundamental issues raised by global climate change and considers how environmental ethics might help to address these issues. Students will become acquainted with the essential elements of climate change science and be provided with an introduction to contemporary approaches to environmental ethics that have developed out of the primary ethical traditions of western thought: deontological (Kantian) ethics, utilitarian ethics, and virtue ethics. In addition, the course examines alternative understandings of the appropriate relationship between humans and the natural world including: “Deep Ecology” and Native American perspectives.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Foreign Language Requirement

Rule: Students must complete successfully the second semester of a Modern and Classical Language at the University of Montana

Minimum Required Grade: C-

10 Total Credits Required

Additional Requirements

Rule: Complete the following subcategories of courses

6 Total Credits Required

> ### *Native American Studies*
> **Rule:** Complete 1 of the following:

	Course	Credits
	ENST 410 - TEK of Native Peoples Offered intermittently. Examines traditional environmental knowledge (TEK) of Native peoples with a special focus on ancient peoples of the Northern Great Plains.	3 Credits
	NASX 303E - Ecol Persp in Nat Amer Trad Offered Autumn and Spring. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.	3 Credits
	NASX 304E - Native American Beliefs/Philos Offered Autumn and Spring. A study of selected ethical systems; origins, world views; religious beliefs and the way they have been affected by western civilization.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Additional Science Course

Rule: Complete 1 of the following:

Note: BIOB 170N: Principles of Biological Diversity may only be used to satisfy this requirement if not used to satisfy the introductory Biology requirement.

	Course	Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	GEO 108N - Climate Change Offered autumn. The geoscience perspective on the earth's climate system. Climate processes and feedbacks, climate history from early earth to the ice ages, present and future changes due to natural processes and human activities.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
	NRSM 265 - Elements of Ecological Restora Offered autumn. Prereq., one course in the ecological or biological sciences: BIOO 105N, BIOB 160N, BIOB 170N, BIOB 172, BIOE 370, BIOE 428, BIOE 447 or BIOE 448; or FORS 330; or NRSM 271N or NRSM 462 or consent of instructor. Overview of the natural and social science elements of ecological restoration, including the ecological foundations of restoration, practices used to restore terrestrial and aquatic habitats, philosophical and ethical challenges involved, and current initiatives in Montana and the United States. Includes Saturday field trips.	3 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Environmental Studies Minor

Minor - Environmental Studies (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 25
Required Cumulative GPA: 2.0

Lower Core Courses

Rule: Must complete all of the following:

	Course	Credits
	ENSC 105N - Environmental Science Offered autumn. Provides students with opportunities to use class knowledge to make a difference; helps students build all of the following: scientific literacy; skills in critical thinking, research and self-instruction; an understanding of the scientific basis of environmental issues, policies and laws; habits of sustainable living, scientifically-informed, active participation in social decisions, and service to their community and to the earth.	3 Credits
	ENST 225 - Community & Enviornment Offered autumn. Same as SOCI 225. Exploration of the ways that communities address their environmental concerns. Introduction of relevant social science concepts.	3 Credits
	ENST 230H - Nature and Society UM campus course offered spring. Explores the relationship between ideas about nature and the development of political and social ideas, institutions, and practices, primarily in western (Euro-American) society. Complements ethics offerings in philosophy aimed at environmental studies majors.	3 Credits
		9 Total Credits Required

Upper Division Electives

Rule: Complete the following subcategories of courses

16 Total Credits Required

Environmental Studies

Rule: Must complete 13 credits from the following

	Course	Credits
	COMX 347 - Rhetoric Nature & Environmtlsm Offered every other year. Same as ENST 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.	3 Credits
	COMX 349 - Comm Consump & Climate Offered every other year. Same as CCS 349. Analyzes consumption as a communication practice, investigates discourses that promote consumption, and illuminates environmental impacts on consumption.	3 Credits

	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	ECNS 445 - Int Env Econ & Clim Change Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.	3 Credits
	ENSC 398 - Cooperative Education/Intern Offered autumn and spring. Requires consent of instructor. Practical application of classroom learning through internship with governments, organizations or industry. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	ENSC 491 - Special Topics/Exper Courses (R-9) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, new courses, or one time offerings of current topics.	1 To 9 Credits
	ENSC 492 - Independent Study (R-6) Offered autumn and spring. Requires consent of instructor. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	ENSC 495 - Field Study Offered autumn. Prereq or coreq ENSC 360. Designing, executing, interpreting and documenting field studies. Project oriented.	1 To 10 Credits
	ENST 335L - The Environmental Vision Offered autumn. Provides background, overview, interpretations, and understanding of key concepts, themes, approaches, and forms in American nature and environmental nonfiction as well as that literature's response to and influence on environmental events, figures, and movements.	3 Credits
	ENST 367 - Envr Politics & Policies Offered autumn. Foundation in public lands history, bedrock environmental laws, policy processes and institutions. Research and analysis of current environmental and natural resource policy issues. Focus is domestic illustrated by case studies.	3 Credits

	ENST 373A - Nature Works Offered spring. Writing workshop for the creation, critique, and revision of essays about the environment to include natural history, personal narrative, science interpretation, advocacy/editorial, place-based essay, and others. Examination of concepts, forms, and approaches to writing about environmental concerns, awareness and sensitivity. Reading and responding to published work, primarily from the perspective of technique and approach.	3 Credits
	ENST 382 - Environmental Law Offered spring. Introduction to the history, law and theory of environmental regulation in the United States using public and private land regulation mechanisms as case studies. Basic principles of constitutional and administrative law relevant to environmental regulation, substantive public and private land use law and the history of environmental problems and their regulation.	3 Credits
	ENST 391 - Special Topics/Exp Courses (R-12) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, of new courses, or one-time offerings of current topics.	1 To 12 Credits
	ENST 395 - Field Studies: Env. Studies (R-12) Offered every term. Via extended backcountry travel, experiential examination of cultural history and public lands management, and how those affect ecosystem integrity. Investigation of personal roles in and relationships with human and ecological communities. Offered by the Wild Rockies Field Institute and Northwest Connections.	2 To 3 Credits
	ENST 396 - Supervised Internship (PEAS) (R-10) Offered Fall (2 cr.), Spring (2 cr.); Summer intensive, (6 cr.). Students learn small scale sustainable vegetable farming in a hands-on work environment at the PEAS farm (15 minute bike ride from campus). Lectures, readings and reflection inform the work. Summer students also visit local farms on once-a-week field trips. PEAS is repeatable, as the curriculum changes across the season, and students can attend any semester, though the 6 credit summer intensive course is the heart of the program.	0 To 10 Credits
	ENST 398 - Cooperative Education/Intern Offered autumn and spring. Consent of instructor required. Practical application of classroom learning through internship with governments, organizations or industry. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	ENST 420 - US Environmental Movement Offered Intermittently. Study of the environmental movement as a social movement. Examination of different approaches to environmental protection and restoration in view of the movement's historical roots and contemporary debates.	3 Credits

	ENST 427 - Social Issues:The Mekong Delta The course focuses on the history, culture, economy and environment of Vietnam, with particular emphasis on the Mekong Delta region. This is achieved through lectures from local professors at Can Tho University, active participation in field trips, the home stay, course readings, and synthesis through questions sets and discussions provided by University of Montana instructor. The goal of this half of the Vietnam study abroad program is to provide an understanding of the unique environments and the socio-economy of the Mekong Delta region to facilitate learning about the effects of climate change on these complex natural and anthropogenic systems. Co-convenes with ENST 514.	3 Credits
	ENST 430 - Culture & Agriculture Offered spring, from start of semester to mid-April. Surveys treatment of farmers and farming in the humanities. Course covers specific agricultural crops and their effect on social and environmental history, artistic commentary on agricultural life and farmer philosophy. Themes range from agriculturally influenced historical events to Wendell Berry's poetry to Albert Borgmann's philosophy.	3 Credits
	ENST 437 - Climate Change: Mekong Delta This course focuses on the threats posed by climate change in Vietnam, with particular emphasis on the Mekong Delta region. This is achieved through lectures from Can Tho University professors, active participation in field trips, the homestay, course readings, and synthesis through questions sets and discussions provided by University of Montana instructor. The goal of this half of the Vietnam study abroad program is to provide an understanding of the potential impacts of climate change on the ecosystems and people of the Mekong Delta, and explore opportunities for people to adapt to and mitigate these impacts. Co-convenes with ENST 516.	3 Credits
	ENST 472 - Gen Sci: Conserv Ed Offered autumn and spring. A study of the foundations of environmental science and conservation education with applications to community service and teaching.	3 Credits
	ENST 476 - Environmental Citizenship Offered spring. Prereq., open to juniors and seniors only or by consent of instructor. Same as CCS 476. Develops leadership and environmental citizenship skills, values and virtues through student-initiated projects informed by principles of organizing and sustainable behavior change theories of social marketing.	3 Credits
	ENST 480 - Food, Agriculture, Environment Offered spring. Exploration of the premise that agricultural sustainability requires practices, policies, and social arrangements that balance concerns of environmental soundness, economic viability, and social justice among all sectors of society.	3 Credits

	ENST 487 - Globalization, Justice & Envir Offered autumn. Study of current trends in economic globalization and its effects on efforts to work for social justice and environmental sustainability, particularly in the Global South. Examination of different models and theories of globalization, analysis of ethical issues raised, and assessment of alternatives proposed.	3 Credits
	ENST 489S - Env. Justice Iss & Solut Offered autumn. Examination of evidence, causes and consequences of social inequality in the distribution of environmental risks and in access to natural resources and environmental amenities. Community, government and industry responses and service approaches for addressing environmental inequities.	3 Credits
	ENST 491 - Special Topics/Exper Courses (R-12) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. Experimental offerings of visiting professors, of new courses, or one-time offerings of current topics.	1 To 12 Credits
	ENST 492 - Independent Study (R-6) Offered autumn and spring. Consent of instructor required. Course material appropriate to the needs and objectives of the individual student.	1 To 6 Credits
	ENST 493 - Study Abroad: Envir Justice LA Offered intermittently. Two week travel seminar to one or more Latin American countries to examine Latin American perspectives on environmental justice and efforts toward sustainable development within the context of the global economy and U. S. foreign policy. Required one-credit seminar offered spring semester to provide background readings.	3 Credits
	ENST 494 - Seminar/Workshop (R-6) Offered intermittently. May be restricted to EVST majors. May require consent of instructor. A seminar on a current environmental topic.	1 To 3 Credits
	ENST 499 - Senior Thesis/Capstone Offered intermittently. Prereq., senior standing in EVST. For seniors who want to design and perform a significant capstone project involving research and/or service. Students have responsibility for designing their projects which are subject to faculty approval. A final report and public presentation are required. Honors credit available.	3 Credits
	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits

	PHL 323 - Ethics of Climate Change This course examines some of the fundamental issues raised by global climate change and considers how environmental ethics might help to address these issues. Students will become acquainted with the essential elements of climate change science and be provided with an introduction to contemporary approaches to environmental ethics that have developed out of the primary ethical traditions of western thought: deontological (Kantian) ethics, utilitarian ethics, and virtue ethics. In addition, the course examines alternative understandings of the appropriate relationship between humans and the natural world including: “Deep Ecology” and Native American perspectives.	3 Credits
Minimum Required Grade: C-		13 Total Credits Required

Ecology

Rule: Must complete 1 of the following

	Course	Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	ENSC 360 - Applied Ecology Offered autumn. Prereq or coreq ENST 201. To succeed in this course, students also need college level courses in general biology, chemistry & statistics. Principles and concepts of ecology and how they can be applied to inform real life decisions about human interactions with the environment. Emphasizes the science of sustainability and the conservation of watersheds and biodiversity.	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

East Asian Studies

East Asian Studies B.A.

Bachelor of Arts - East Asian Studies

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 44
Required Cumulative GPA: 2.0

Lower DIvision Core Courses

Rule: Complete the following subcategories

6 Total Credits Required

Fundamentals

Rule: Must complete the following course

Note: On occasion the Modern and Classical Languages department offers an alternative Introduction to East Asian Studies course which could fulfill this requirement. Check with the advisor.

	Course	Credits
	HSTR 240 - East Asian Civilizations (WRLD) An interdisciplinary, pluralist, and exploratory introduction to civilizations of East Asia. Primary focus on China, Japan, and Korea, the relations among them and their patterns of interaction with the outside world in pre-modern and modern periods.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Culture and Civilization

Rule: Must complete 1 of the following courses

	Course	Credits
	CHIN 211H - Chinese Culture and Civiliz Offered intermittently. Same as AS and LS 211H. An introduction to the historical, intellectual, political, literary and social developments of China from early times to the present.	3 Credits

	JPNS 150H - Japanese Cult & Civiliz Offered intermittently. Same as AS and LS 210H. The historical, religious, artistic, literary and social developments in Japan from earliest times to the present.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core Courses

Rule: Must complete the following subcategories

18 Total Credits Required

Chinese Studies

Rule: Must complete 2 courses of Chinese Studies

Japanese Studies

Rule: Must complete 2 courses of Japanese Studies

East Asian Studies

Rule: Must complete 2 courses of Japanese, Chinese, Viet Nam, pan-East Asia, or Buddhism
Note: Student may select from courses as they are available.

Language

Rule: Must complete one of the following subcategories

20 Total Credits Required

Chinese Language

Rule: May select the following language sequence

	Course	**Credits**
	CHIN 101 - Elementary Chinese I Offered autumn. Emphasis on speaking, reading and writing elementary Mandarin.	5 Credits
	CHIN 102 - Elementary Chinese II Prereq., CHIN 101. Offered spring. Continuation of 101.	5 Credits
	CHIN 201 - Intermediate Chinese I Offered autumn. Prereq., CHIN 102 or equiv. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading and writing.	5 Credits
	CHIN 202 - Intermediate Chinese II Offered spring. Prereq., CHIN 201 or equiv. Continuation of 201.	5 Credits
Minimum Required Grade: C-		20 Total Credits Required

Japanese Language

Rule: May select the following language sequence

	Course	Credits
	JPNS 101 - Elementary Japanese I Offered autumn. Understanding of grammar and basic sentence structures are taught as a foundation for oral comprehension. The students will learn Hiragana and Katakana, two syllabic writing systems, and approximately 400 Kanji ideographs.	5 Credits
	JPNS 102 - Elementary Japanese II Offered spring. Prereq., JPNS 101. Continuation of 101.	5 Credits
	JPNS 201 - Intermediate Japanese I Offered autumn. Prereq., JPNS 102 or equiv. Reading and writing kanji; building oral/aural fluency.	5 Credits
	JPNS 202 - Intermediate Japanese II Offered spring. Prereq., JPNS 201 or equiv. Continuation of JPNS 201.	5 Credits
Minimum Required Grade: C-		20 Total Credits Required

Economics Department

Jeff Bookwalter, Chairperson

The department considers its teaching goals to be three-fold: (1) To present students with the basic theoretical tools of economic analysis, relevant facts and institutional material, which will assist them as civic leaders. (2) To introduce students majoring in economics to the various special fields of study within economics. This training, along with extensive work in the other liberal arts and sciences, is intended to instill breadth of intellectual interest, critical habits of thought, a problem-solving attitude and facility of expression. (3) To help meet, through graduate work, the increasing demands for competent professional economists in industry, commerce, government and education.

Courses cover general economic theory, environmental economics, monetary theory, international economics, public finance, labor economics, economic development, comparative economic systems, econometrics, and industrial organization.

Students major in economics leading to a Bachelor of Arts degree. Graduate work leads to a Master of Arts degree in economics (see Graduate School catalog).

Department Faculty

Professor

Douglas Dalenberg, Professor

Associate Professor

Jeff Bookwalter, Associate Professor, Chair
Amanda Dawsey, Associate Professor, Graduate Advisor
Derek Kellenberg, Professor
Helen Naughton, Associate Professor

Assistant Professor

Katrina Mullan, Assistant Professor
Ranjan Shrestha, Assistant Professor

Matthew Taylor, Assistant Professor

Adjunct

Jennifer Muser, Adjunct Instructor

Affiliates

Richard Erb, Faculty Affiliate
Joanna Shelton, Faculty Affiliate

Emeritus

Thomas M. Power, Research Professor
Kay Unger, Emeritus

Economics

Back to Top

- ECNS 101S - Economic Way of Thinking
  Credits: 3. Offered autumn and spring. A critical examination of the market mechanism as a social decision-making device to guide the use of a nation's resources. The limitations of these processes in light of current economic problems such as the rise of the large corporation, monopoly, environmental degradation, economic discrimination and the increasing role of the government. Course Attributes: Social Sciences Course (S)
- ECNS 191 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- ECNS 201S - Principles of Microeconomics
  Credits: 3. Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics. Course Attributes: Social Sciences Course (S)
- ECNS 202S - Principles of Macroeconomics
  Credits: 3. Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy. Course Attributes: Social Sciences Course (S)
- ECNS 217X - Issues in Economic Development
  Credits: 3. Offered intermittently. Prereq., ECNS 201S. Study of the processes of economic growth and development in the less developed world. Course Attributes: Cultural Intl Diversity (X)
- ECNS 301 - Intermediate Micro with Calc
  Credits: 3. Offered spring and autumn. Prereq., ECNS 201S and M 162 or equiv. Analysis of consumer behavior, production, factor pricing, externalities and public goods.
- ECNS 302 - Intermediate Macroeconomics
  Credits: 3. Offered autumn and spring. Prereq., ECNS 202S. Analysis of national income determination, unemployment, and inflation with emphasis on the role of fiscal and monetary policy.
- ECNS 310 - Intro Health Economics
  Credits: 3. Offered intermittently. Prereq., economics course. Survey of market forces that govern the production and consumption of medical care in the U.S. market; uncertainty, asymmetric information, and concentrations of market power resulting in inefficient outcomes. Topics include cost escalations, role of medical insurance, and problems of an aging population.
- ECNS 312 - Labor Economics
  Credits: 3. Offered intermittently. Prereq., ECNS 201S. Economic analysis of labor markets. Theories of wage determination, discrimination and poverty with implications for manpower policy.

- ECNS 313 - Money and Banking

  Credits: 3. Offered intermittently. Prereq., ECNS 202S. Definition and role of money; banks and other financial institutions as suppliers of money; the federal reserve system as a regulator of money; monetary theories, history, and policy.

- ECNS 320 - Public Finance

  Credits: 3. Offered intermittently. Prereq., ECNS 201S. Rationale for governmental expenditure; public goods; public choice. Analysis of expenditure policy. Intergovernmental relations.

- ECNS 391 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ECNS 392 - Independent Study

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., six credits in economics and consent of instr. Course material appropriate to the needs and objectives of the individual student.

- ECNS 398 - Internship

  Credits: 1 TO 6. (R-6) Offered intermittently. Extended classroom experience that provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. The department will determine the number of credits to be earned for the experience based upon the activities outlined in the learning agreement. Prior approval must be obtained from the faculty supervisor and the Internship Services office. The department has determined that credit for this course cannot count in the 36 credit minimum requirement for the major. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- ECNS 403 - Introduction to Econometrics

  Credits: 4. Offered autumn. Prereq., an introductory statistics course. Quantitative methods in economics with emphasis on regression analysis.

- ECNS 405 - Game Theory

  Credits: 3. Offered every other autumn. Prereq., ECNS 201S. An introduction to the tools of game theory and how they are applied. In many real-world economic situations, outcomes are jointly determined where one agent's choices will affect another's welfare, and vice versa. Game theory provides a method of analyzing these economic situations where decisions are interrelated, and each agent recognizes this fact and thus makes decisions strategically.

- ECNS 406 - Industrial Organization

  Credits: 3. Offered intermittently. Prereq., ECNS 201S. The theoretical basis for public policy solutions to market power. Emphasis on case studies in matters of antitrust, regulation of public utilities, and public ownership of business enterprises.

- ECNS 431 - International Trade

  Credits: 3. Offered intermittently. Prereq., ECNS 201 or consent of instr. International trade: theory, policy, institutions, and issues. Analysis of comparative advantage and trade restrictions, negotiations, and agreements.

- ECNS 433 - Economics of the Environment

  Credits: 3. Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440. Course Attributes: Writing Course-Intermediate

- ECNS 445 - Int Env Econ & Clim Change

  Credits: 3. Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.

- ECNS 450 - Adv. Topics in Economic Dev.

  Credits: 3. Offered intermittently. Prereq., ECNS 201S and ECNS 202S, or consent of instructor. Advanced treatment of the processes of economic growth and development in the less developed world.

- ECNS 451 - Behavioral and Experimental Economics

  Credits: 3. Prereq., ECNS 201. An overview of experimental economics and behavioral economics. Outlines methods and instruments frequently used in economics experiments. Experimental design and assessment. Risk aversion, prospect theory, preference stability, and altruism.

- ECNS 488 - Res Meth & Thesis Design

  Credits: 2. Offered autumn. Prereq., senior standing, economics major. Development of senior thesis proposal; presentation of research topics and methods by economics faculty and seminar participants. Course Attributes: Writing Course-Advanced

- ECNS 491 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ECNS 492 - Independent Study

  Credits: 1 TO 15. (R-15) Offered intermittently. Prereq., 12 credits in economics and consent of instr.

- ECNS 494 - Senior Seminar

  Credits: 2. Offered spring. Prereq., senior standing, economics major. Capstone course for economics majors. Advanced topics in economic methodology, theory and/or public affairs.

- ECNS 499 - Senior Thesis/Capstone

  Credits: 2. Offered spring. Prereq., senior standing, economics major. Completion of senior thesis; presentation of results by seminar participants. Course Attributes: Writing Course-Advanced

- ECNS 501 - Graduate Research

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate

- ECNS 511 - Microeconomic Theory

  Credits: 3. Offered autumn. Prereq., ECNS 301. Advanced theoretical treatment of consumer and producer behavior. Level: Graduate

- ECNS 513 - Macroeconomic Theory

  Credits: 3. Offered spring. Prereq., ECNS 302. Advanced theoretical treatment of national income determination, unemployment and inflation. Level: Graduate

- ECNS 560 - Advanced Econometrics

  Credits: 4. Offered spring. Prereq., ECNS 403. Advanced quantitative methods in econometrics. Coverage of probit-logit regression models, simultaneous equation system, and other specialized techniques. Level: Graduate

- ECNS 569 - Empirical Research Design

  Credits: 1 TO 3. (R-6) Offered every term. Role and scope of empirical research. Planning and conduct of a research project. Level: Graduate

- ECNS 595 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate Course Attributes: Internships/Practicums

- ECNS 596 - Independent Study

  Credits: 1 TO 9. (R-9) Offered intermittently. Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course Attributes: Independent Study

- ECNS 598 - Internship

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Level: Graduate Course Attributes: Internships/Practicums

- ECNS 599 - Thesis

  Credits: 1 TO 12. (R-9) Offered every term. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

Economics B.A.

Bachelor of Arts - Economics

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.0

Note: Refer to graduation requirements listed previously in the catalog. See index.

Economics - Lower-division Core

Rule: All courses are required.

Note: Within the 36 credits the student must include ECNS 201S, 202S. Three credits of ECNS 101S may be counted toward the additional fourteen credits of upper-division economics courses if taken before attaining junior status.

	Course	Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Economics - Upper-division Core

Rule: All courses are required.

Note: Within the 36 credits the student must include ECNS 301, 302, 403, 488, 494, 499 and fourteen economics elective credits numbered 300 or above. ECNS 398 credits do not count toward the 36-credit requirement. The Upper-division Writing Expectation must be met by successfully completing the Senior Economics Thesis, ECNS 488 and 499.

	Course	Credits
	ECNS 301 - Intermediate Micro with Calc Offered spring and autumn. Prereq., ECNS 201S and M 162 or equiv. Analysis of consumer behavior, production, factor pricing, externalities and public goods.	3 Credits
	ECNS 302 - Intermediate Macroeconomics Offered autumn and spring. Prereq., ECNS 202S. Analysis of national income determination, unemployment, and inflation with emphasis on the role of fiscal and monetary policy.	3 Credits

	ECNS 403 - Introduction to Econometrics Offered autumn. Prereq., an introductory statistics course. Quantitative methods in economics with emphasis on regression analysis.	4 Credits
	ECNS 488 - Res Meth & Thesis Design Offered autumn. Prereq., senior standing, economics major. Development of senior thesis proposal; presentation of research topics and methods by economics faculty and seminar participants.	2 Credits
	ECNS 494 - Senior Seminar Offered spring. Prereq., senior standing, economics major. Capstone course for economics majors. Advanced topics in economic methodology, theory and/or public affairs.	2 Credits
	ECNS 499 - Senior Thesis/Capstone Offered spring. Prereq., senior standing, economics major. Completion of senior thesis; presentation of results by seminar participants.	2 Credits
Minimum Required Grade: C-		16 Total Credits Required

Upper-division Electives

Rule: A minimum of fourteen credits of upper-division Economics electives is required; more credits may be taken.

Note: A minimum of fourteen credits of upper-division Economics electives is needed to satisfy the economics degree. ECNS 101S may be counted toward these additional 14 credits if taken before attaining junior status (60+ credits). ECNS 398 does NOT count toward the 36-credit requirement; however, the following may count as upper-division economics electives: GPHY 323S, PSCI 365, FORS 320 and NRSM 425.

	Course	**Credits**
	ECNS 310 - Intro Health Economics Offered intermittently. Prereq., economics course. Survey of market forces that govern the production and consumption of medical care in the U.S. market; uncertainty, asymmetric information, and concentrations of market power resulting in inefficient outcomes. Topics include cost escalations, role of medical insurance, and problems of an aging population.	3 Credits
	ECNS 312 - Labor Economics Offered intermittently. Prereq., ECNS 201S. Economic analysis of labor markets. Theories of wage determination, discrimination and poverty with implications for manpower policy.	3 Credits
	ECNS 313 - Money and Banking Offered intermittently. Prereq., ECNS 202S. Definition and role of money; banks and other financial institutions as suppliers of money; the federal reserve system as a regulator of money; monetary theories, history, and policy.	3 Credits
	ECNS 320 - Public Finance Offered intermittently. Prereq., ECNS 201S. Rationale for governmental expenditure; public goods; public choice. Analysis of expenditure policy. Intergovernmental relations.	3 Credits

	ECNS 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	ECNS 405 - Game Theory Offered every other autumn. Prereq., ECNS 201S. An introduction to the tools of game theory and how they are applied. In many real-world economic situations, outcomes are jointly determined where one agent's choices will affect another's welfare, and vice versa. Game theory provides a method of analyzing these economic situations where decisions are interrelated, and each agent recognizes this fact and thus makes decisions strategically.	3 Credits
	ECNS 406 - Industrial Organization Offered intermittently. Prereq., ECNS 201S. The theoretical basis for public policy solutions to market power. Emphasis on case studies in matters of antitrust, regulation of public utilities, and public ownership of business enterprises.	3 Credits
	ECNS 431 - International Trade Offered intermittently. Prereq., ECNS 201 or consent of instr. International trade: theory, policy, institutions, and issues. Analysis of comparative advantage and trade restrictions, negotiations, and agreements.	3 Credits
	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	ECNS 445 - Int Env Econ & Clim Change Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.	3 Credits
	ECNS 450 - Adv. Topics in Economic Dev. Offered intermittently. Prereq., ECNS 201S and ECNS 202S, or consent of instructor. Advanced treatment of the processes of economic growth and development in the less developed world.	3 Credits
	ECNS 491 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits

	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits
	NRSM 425 - Nat Res & Envir Economics Offered alternate spring. Prereq., ENSC 201S or FORS 320; and M 115, M 121, M 122, M 151, M 162, M 171, or 172. Introduction to analytical approaches for economic analysis of management of non-renewable resources, fisheries, forests, threatened and endangered species, and the atmosphere.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
Minimum Required Grade: C-		14 Total Credits Required

Non-economics Required Courses

Rule: All courses are required.

Note: Non-economics courses required for the undergraduate degree are: M 115, M 162 and STAT 216 or equivalent. M 162 must be taken before ECNS 301. STAT 216 must be taken before ECNS 403. Students may prefer to take the two-course sequence M 171 and M 172 instead of M 162. Students planning graduate study in economics should take M 171 and M 172 and consider M 221, M 307 and ECNS 511, 513 and 560.

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		11 Total Credits Required

Teaching Economics

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course

requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Teacher Preparation in Economics

Students who want to be licensed to teach economics at the high-school level must complete the BA degree requirements in economics. They also must complete a teaching major or minor in a second field of their choice and the professional licensure program in the College of Education. Students may also earn a teaching minor in economics. See the Department of Curriculum & Instruction for information about admission to the Teacher Education Program and completion of these licensure programs.

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Bachelor of Arts - Economics; Track: Teaching Economics

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.0

Note: This major does not qualify as a single field endorsement. Individuals must complete a second teaching major or minor in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major GPA of 2.75 is required to be eligible for student teaching.

Economics - Lower-division Core

Rule: All courses are required.

Note: Within the 36 credits the student must include ECNS 201S, 202S. Three credits of ECNS 101S may be counted toward the additional fourteen credits of upper-division economics courses if taken before attaining junior status.

	Course	Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Economics - Upper-division Core

Rule: All courses are required.

Note: Within the 36 credits the student must include ECNS 301, 302, 403, 488, 494, 499 and fourteen economics elective credits numbered 300 or above. ECNS 398 credits do not count toward the 36-credit requirement. The Upper-division Writing Expectation must be met by successfully completing the Senior Economics Thesis, ECNS 488 and 499.

	Course	Credits
	ECNS 301 - Intermediate Micro with Calc Offered spring and autumn. Prereq., ECNS 201S and M 162 or equiv. Analysis of consumer behavior, production, factor pricing, externalities and public goods.	3 Credits
	ECNS 302 - Intermediate Macroeconomics Offered autumn and spring. Prereq., ECNS 202S. Analysis of national income determination, unemployment, and inflation with emphasis on the role of fiscal and monetary policy.	3 Credits
	ECNS 403 - Introduction to Econometrics Offered autumn. Prereq., an introductory statistics course. Quantitative methods in economics with emphasis on regression analysis.	4 Credits
	ECNS 488 - Res Meth & Thesis Design Offered autumn. Prereq., senior standing, economics major. Development of senior thesis proposal; presentation of research topics and methods by economics faculty and seminar participants.	2 Credits
	ECNS 494 - Senior Seminar Offered spring. Prereq., senior standing, economics major. Capstone course for economics majors. Advanced topics in economic methodology, theory and/or public affairs.	2 Credits
	ECNS 499 - Senior Thesis/Capstone Offered spring. Prereq., senior standing, economics major. Completion of senior thesis; presentation of results by seminar participants.	2 Credits
Minimum Required Grade: C-		16 Total Credits Required

Upper-division Electives

Rule: Fourteen additional credits from the following upper-division courses are required.

Note: A minimum of fourteen credits of upper-division Economics electives are needed to satisfy the economics degree. ECNS 101S may be counted toward these additional 14 credits if taken before attaining junior status (60+ credits). ECNS 398 does NOT toward the 36-credit requirement; however, the following may count as upper-division economics electives: GPHY 323S, PSCI 365, FORS 320 and NRSM 425.

	Course	Credits
	ECNS 310 - Intro Health Economics Offered intermittently. Prereq., economics course. Survey of market forces that govern the production and consumption of medical care in the U.S. market; uncertainty, asymmetric information, and concentrations of market power resulting in inefficient outcomes. Topics include cost escalations, role of medical insurance, and problems of an aging population.	3 Credits

	ECNS 312 - Labor Economics Offered intermittently. Prereq., ECNS 201S. Economic analysis of labor markets. Theories of wage determination, discrimination and poverty with implications for manpower policy.	3 Credits
	ECNS 313 - Money and Banking Offered intermittently. Prereq., ECNS 202S. Definition and role of money; banks and other financial institutions as suppliers of money; the federal reserve system as a regulator of money; monetary theories, history, and policy.	3 Credits
	ECNS 320 - Public Finance Offered intermittently. Prereq., ECNS 201S. Rationale for governmental expenditure; public goods; public choice. Analysis of expenditure policy. Intergovernmental relations.	3 Credits
	ECNS 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	ECNS 405 - Game Theory Offered every other autumn. Prereq., ECNS 201S. An introduction to the tools of game theory and how they are applied. In many real-world economic situations, outcomes are jointly determined where one agent's choices will affect another's welfare, and vice versa. Game theory provides a method of analyzing these economic situations where decisions are interrelated, and each agent recognizes this fact and thus makes decisions strategically.	3 Credits
	ECNS 406 - Industrial Organization Offered intermittently. Prereq., ECNS 201S. The theoretical basis for public policy solutions to market power. Emphasis on case studies in matters of antitrust, regulation of public utilities, and public ownership of business enterprises.	3 Credits
	ECNS 431 - International Trade Offered intermittently. Prereq., ECNS 201 or consent of instr. International trade: theory, policy, institutions, and issues. Analysis of comparative advantage and trade restrictions, negotiations, and agreements.	3 Credits
	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	ECNS 445 - Int Env Econ & Clim Change Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.	3 Credits

	ECNS 450 - Adv. Topics in Economic Dev. Offered intermittently. Prereq., ECNS 201S and ECNS 202S, or consent of instructor. Advanced treatment of the processes of economic growth and development in the less developed world.	3 Credits
	ECNS 491 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits
	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits
	NRSM 425 - Nat Res & Envir Economics Offered alternate spring. Prereq., ENSC 201S or FORS 320; and M 115, M 121, M 122, M 151, M 162, M 171, or 172. Introduction to analytical approaches for economic analysis of management of non-renewable resources, fisheries, forests, threatened and endangered species, and the atmosphere.	3 Credits
	PSCI 365 - Pub Policy Issues and Analysis Examines a variety of public policy issues including economic, social welfare, health care, environmental and criminal justice policy. Emphasis is placed on substantive policies and policy analysis.	3 Credits
Minimum Required Grade: C-		14 Total Credits Required

Non-economics Required Courses

Rule: All courses are required.

Note: Non-economics courses required for the undergraduate degree are: M 115, M 162 and STAT 216 or equivalent. M 162 must be taken before ECNS 301. Stat 216 must be taken before ECNS 403. Students may prefer to take the two-sequence M 171 and M 172 instead of M 162. Students planning graduate study in economics should take M 171 and 172 and consider M 221, M 307 and ECNS 511, 513 and 560.

Languages: Students graduating in Economics may substitute STAT 216 and either M 162 or M 171 or M 172 in place of the Modern and Classical Language requirement.

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		11 Total Credits Required

Teaching Track

Rule: Must complete the following course

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Social Studies.

	Course	**Credits**

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Economics Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

The term 'minor' for this teaching option refers to courses that need to be completed. To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a minor form for graduation or the minor section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - Economics (Minor); Track: Teaching Economics

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 21

Required Cumulative GPA: 2.0

Economics - Lower-division Core

Rule: All courses are required.

	Course	Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Economics - Upper-division Core

Rule: All courses are required.

Note: M 115 and M 162 should be taken before enrolling in ECNS 301.

	Course	Credits
	ECNS 301 - Intermediate Micro with Calc Offered spring and autumn. Prereq., ECNS 201S and M 162 or equiv. Analysis of consumer behavior, production, factor pricing, externalities and public goods.	3 Credits

	ECNS 302 - Intermediate Macroeconomics Offered autumn and spring. Prereq., ECNS 202S. Analysis of national income determination, unemployment, and inflation with emphasis on the role of fiscal and monetary policy.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Economics - Upper-division Electives

Rule: Six additional credits of economics classes numbered 300 or above

Note: Students are required to complete STAT 216, Intro to Statistics (or equivalent) with a C- or better before enrolling in ECNS 403, Introduction to Econometrics.

	Course	Credits
	ECNS 310 - Intro Health Economics Offered intermittently. Prereq., economics course. Survey of market forces that govern the production and consumption of medical care in the U.S. market; uncertainty, asymmetric information, and concentrations of market power resulting in inefficient outcomes. Topics include cost escalations, role of medical insurance, and problems of an aging population.	3 Credits
	ECNS 312 - Labor Economics Offered intermittently. Prereq., ECNS 201S. Economic analysis of labor markets. Theories of wage determination, discrimination and poverty with implications for manpower policy.	3 Credits
	ECNS 313 - Money and Banking Offered intermittently. Prereq., ECNS 202S. Definition and role of money; banks and other financial institutions as suppliers of money; the federal reserve system as a regulator of money; monetary theories, history, and policy.	3 Credits
	ECNS 320 - Public Finance Offered intermittently. Prereq., ECNS 201S. Rationale for governmental expenditure; public goods; public choice. Analysis of expenditure policy. Intergovernmental relations.	3 Credits
	ECNS 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	ECNS 403 - Introduction to Econometrics Offered autumn. Prereq., an introductory statistics course. Quantitative methods in economics with emphasis on regression analysis.	4 Credits
	ECNS 405 - Game Theory Offered every other autumn. Prereq., ECNS 201S. An introduction to the tools of game theory and how they are applied. In many real-world economic situations, outcomes are jointly determined where one agent's choices will affect another's welfare, and vice versa. Game theory provides a method of analyzing these economic situations where decisions are interrelated, and each agent recognizes this fact and thus makes decisions strategically.	3 Credits

	ECNS 406 - Industrial Organization Offered intermittently. Prereq., ECNS 201S. The theoretical basis for public policy solutions to market power. Emphasis on case studies in matters of antitrust, regulation of public utilities, and public ownership of business enterprises.	3 Credits
	ECNS 431 - International Trade Offered intermittently. Prereq., ECNS 201 or consent of instr. International trade: theory, policy, institutions, and issues. Analysis of comparative advantage and trade restrictions, negotiations, and agreements.	3 Credits
	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	ECNS 445 - Int Env Econ & Clim Change Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.	3 Credits
	ECNS 450 - Adv. Topics in Economic Dev. Offered intermittently. Prereq., ECNS 201S and ECNS 202S, or consent of instructor. Advanced treatment of the processes of economic growth and development in the less developed world.	3 Credits
	ECNS 491 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		6 Total Credits Required

Teaching Licensure Requirements

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Non-economics Required Courses

Rule: All courses are required.

Note: M 115 (or equivalent) and M 162 should be taken before enrolling in ECNS 301.

	Course	**Credits**

	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		7 Total Credits Required

Teaching Methods Course

Rule: Complete the following course

Note: The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Social Studies.

	Course	**Credits**

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Minor - Economics (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18
Required Cumulative GPA: 2.0

Economics - Lower-division Core

Rule: All courses are required.

	Course	Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Economics - Upper-division Core

Rule: All courses are required.
Note: M 115 and M 162 should be taken before enrolling in ECNS 301.

	Course	Credits
	ECNS 301 - Intermediate Micro with Calc Offered spring and autumn. Prereq., ECNS 201S and M 162 or equiv. Analysis of consumer behavior, production, factor pricing, externalities and public goods.	3 Credits
	ECNS 302 - Intermediate Macroeconomics Offered autumn and spring. Prereq., ECNS 202S. Analysis of national income determination, unemployment, and inflation with emphasis on the role of fiscal and monetary policy.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Economics - Upper-division Electives

Rule: Six additional credits of economics classes numbered 300 or above

Note: Students are required to complete STAT 216, Intro to Statistics (or equivalent) with a C- or better before enrolling in ECNS 403, Introduction to Econometrics.

	Course	Credits
	ECNS 310 - Intro Health Economics Offered intermittently. Prereq., economics course. Survey of market forces that govern the production and consumption of medical care in the U.S. market; uncertainty, asymmetric information, and concentrations of market power resulting in inefficient outcomes. Topics include cost escalations, role of medical insurance, and problems of an aging population.	3 Credits
	ECNS 312 - Labor Economics Offered intermittently. Prereq., ECNS 201S. Economic analysis of labor markets. Theories of wage determination, discrimination and poverty with implications for manpower policy.	3 Credits
	ECNS 313 - Money and Banking Offered intermittently. Prereq., ECNS 202S. Definition and role of money; banks and other financial institutions as suppliers of money; the federal reserve system as a regulator of money; monetary theories, history, and policy.	3 Credits
	ECNS 320 - Public Finance Offered intermittently. Prereq., ECNS 201S. Rationale for governmental expenditure; public goods; public choice. Analysis of expenditure policy. Intergovernmental relations.	3 Credits
	ECNS 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	ECNS 403 - Introduction to Econometrics Offered autumn. Prereq., an introductory statistics course. Quantitative methods in economics with emphasis on regression analysis.	4 Credits
	ECNS 405 - Game Theory Offered every other autumn. Prereq., ECNS 201S. An introduction to the tools of game theory and how they are applied. In many real-world economic situations, outcomes are jointly determined where one agent's choices will affect another's welfare, and vice versa. Game theory provides a method of analyzing these economic situations where decisions are interrelated, and each agent recognizes this fact and thus makes decisions strategically.	3 Credits
	ECNS 406 - Industrial Organization Offered intermittently. Prereq., ECNS 201S. The theoretical basis for public policy solutions to market power. Emphasis on case studies in matters of antitrust, regulation of public utilities, and public ownership of business enterprises.	3 Credits
	ECNS 431 - International Trade Offered intermittently. Prereq., ECNS 201 or consent of instr. International trade: theory, policy, institutions, and issues. Analysis of comparative advantage and trade restrictions, negotiations, and agreements.	3 Credits

	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	ECNS 445 - Int Env Econ & Clim Change Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.	3 Credits
	ECNS 450 - Adv. Topics in Economic Dev. Offered intermittently. Prereq., ECNS 201S and ECNS 202S, or consent of instructor. Advanced treatment of the processes of economic growth and development in the less developed world.	3 Credits
	ECNS 491 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		6 Total Credits Required

Non-economics Required Courses

Rule: All courses are required.

Note: M 115 (or equivalent) and M 162 should be taken before enrolling in ECNS 301.

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		7 Total Credits Required

The Bachelor of Applied Science (B.A.S.) degree at the University of Montana (UM) is designed for individuals who have completed an Associate of Applied Science (AAS) degree with a 2.50 grade point average at a regionally accredited institution. (The Missoula College section of the University of Montana-Missoula catalog identifies Associate of Applied Science degree programs offered at The University of Montana.) Individuals pursuing the B.A.S. are those who are seeking additional education to strengthen their planned or previous training and improve career advancement opportunities.

As part of the B.A.S. curriculum, students must develop a degree plan tailored to their academic and professional goals. Due to the nature of the B.A.S., many plans are interdisciplinary in nature (i.e. consist of courses from multiple disciplines). Students initially meet with a B.A.S. advisor at Missoula College for assistance in developing their degree plan curriculum. After drafting their plan, students create a degree plan committee that consists of faculty members from disciplines represented in the plan. This committee provides final approval of the plan.

Bachelor of Applied Science students must meet all the University of Montana requirements for graduation. Up to 50 technical credits from an accredited A.A.S. program will count toward the 127 total credits required for graduation.

Any courses taken as part of the A.A.S. that can count towards UM General Education Requirements (e.g. certain writing, psychology, math, and communication courses) *are not* considered technical and, hence, are not included in this 50 technical credit maximum.

It is important to understand that the B.A.S. degree does not identify a specific discipline major. Even though some plans may consist of courses from one sole discipline, the student is NOT a major in that discipline. Hence, the B.A.S. student's transcript and diploma will not indicate a specific major or concentration area.

Although students submit their application for admission to and are initially advised through Missoula College, B.A.S. students are enrolled through the mountain campus and, as such, are assessed UM-Missoula tuition rates.

Students interested in pursuing the B.A.S. degree should review the Missoula College Academic Advising Center's B.A.S. webpage for informational resources and to learn how to request an initial advising appointment.

Bachelor of Applied Science - Applied Science

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 127

Required Cumulative GPA: 2.0

Note: null

Writing Skills

Rule: Both WRIT 101 AND an Approved Writing Course are required.

Note: NOTE: Students who place into and successfully complete WRIT 201 are considered to have satisfied both the WRIT 101 and the Lower-Division Approved Writing Course General Education Requirements.

Minimum Required Grade: C-

6 Total Credits Required

WRIT 101

Rule: Take 1 of the courses below.

Note: Appropriate placement into WRIT 101/201 required. Prerequisites may apply.

	Course	Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
	WRIT 201 - College Writing II Offered autumn and spring. Prereq., placement or C or better in WRIT 101. MUSWA at or above 5.5, SAT/ACT essay at or above 11, a SAT writing section score at or above 700 or a Combined English/Writing portion of the ACT at or above 32. Designed for first year students with advanced writing ability and students who seek a lower-division writing course. Offers instruction in rhetorical reading and writing, particularly the study and practice of written argumentation in different academic and civic contexts.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Lower-Division Approved Writing Course

Rule: Any course designated as an Approved Writing Course during semester it's taken.

Perspectives

Rule: A minimum of 3 credits towards each Perspective Category is required, except Natural Sciences.

Note: Some courses satisfy multiple Perspectives or GER Categories. Some courses included in your specific degree plan may overlap with Perspective or other GER categories; visit with your advisor for more information.

Minimum Required Grade: C-

27 Total Credits Required

Expressive Arts (A)

Rule: A minimum of three credits is required.

Literary & Artistic Studies (L)

Rule: A minimum of three credits is required.

Historical & Cultural Studies (H)

Rule: A minimum of three credits is required.

Social Sciences (S)

Rule: A minimum of three credits is required.

Ethical & Human Values (E)

Rule: A minimum of three credits is required.

American & European Perspectives (Y)

Rule: A minimum of three credits is required.

Indigenous & Global Perspectives (X)

Rule: A minimum of three credits is required.

Natural Sciences (N)

Rule: A minimum of six credits is required. At least one course must have a laboratory component.

Symbolic System/Foreign Language

Rule: Students must complete either a Symbolic System OR a Foreign Language.
Minimum Required Grade: C-
3-10 Total Credits Required

Symbolic Systems

Rule: Successful completion of 1 course from the list below.

Note: Prerequisites apply for all courses listed below; some courses from this list are major-restricted. Other baccalaureate major-specific Symbolic Systems may be used in lieu of course list above; speak with your advisor for more information.

	Course	Credits
	M 133 - Geom & Meas for K-8 Teachers Offered autumn and spring. Prereq., M 132. The study of geometry and geometric measurement for prospective elementary and middle school teachers, including synthetic, transformational, and coordinate geometry, constructions, congruence and similarity, 2-dimensional and 3-dimensional measurement, and problem solving.	3 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits

	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Foreign Language

Rule: Successful completion of first-year sequence of a Modern and Classical Language (MCLL).

Note: A first-year sequence usually consists of courses numbered 101 & 102 (5 credits each) for most catalog-approved languages, though some exceptions to this course numbering and sequencing apply. Depending on the language, students may take a placement test to demonstrate proficiency to receive non-credit exemption from this requirement. Refer to the General Education Requirements section of this catalog and speak with your advisor for more information.

Mathematics

Rule: Any Mathematics course level 104 or higher (excluding M 111 Technical Mathematics).

Note: Appropriate placement into mathematics courses required. Prerequisites may apply. If a student successfully places into and completes a mathematics (either "M" or "STAT") course that is also considered a Symbolic System, that course may be used to count towards both the Mathematics and Symbolic Systems General Education Requirements.

Minimum Required Grade: C-

3-4 Total Credits Required

Upper-Division Credit Requirement

Rule: 39 upper-division courses required for UM GERs. At least 30 of the 39 upper-division credits must be from the degree plan.

39 Total Credits Required

Upper-Division Writing

Rule: At least one upper-division writing course is required for UM GERs.

Note: This course may be included as part of the student's degree plan or total Upper-Division Credits.

3 Total Credits Required

AAS Degree Credits

Rule: Up to 50 technical credits earned from AAS may be counted towards the 127 required for the BAS.

Minimum Required Grade: C-

38-50 Total Credits Required

Applied Science

English Department

Beverly Chin, Chair

The Department of English is among the oldest and most prestigious units at the University. As one of the campus's original departments, it offered some of the University's inaugural courses, including literature classes taught by UM's first president, Oscar J. Craig. In 1919, Rhodes Scholar H.G. Merriam inaugurated one of the first creative writing programs in the country. Now, more than a century old, this department offers a B.A. with options in Literature, Creative Writing, Teaching, Film Studies, and Linguistics, and graduate degrees in Creative Writing (M.F.A.), Literature (M.A.), and Teaching (M.A.). Our Composition program serves the entire University by offering the first-year composition requirement, as well as courses in advanced composition and graduate seminars in the teaching of writing. We have a relatively new minor in Irish Studies.

Admission Requirements

To be admitted to any option of the undergraduate English major, a student must satisfy the following requirements:

1. Completion of 24 credits overall with a minimum cumulative GPA of 2.5 or a GPA of 2.5 in the previous two terms.
2. Completion of at least nine credits in English, excluding WRIT (composition) courses, with a minimum GPA of 2.5 and no grade lower than a C (2.00) in those courses.

Students who intend to major in English but who have not yet met the above requirements are admitted to the program as pre-English majors. Pre-English majors will be assigned to the English department Academic Advisor. Before a student can graduate with a major in English, she or he must meet the requirements to become an English major and declare a specific option within the program.

Department Faculty

Professor

Robert Baker, Professor | Director of Literature
Judy Blunt, Professor
Kevin Canty, Professor
Casey Charles, Professor
Beverly Chin, Professor and English Chair
Nancy Cook, Professor
Debra Earling, Professor | Director of Creative Writing
Louise Economides, Professor | Director of Graduate Studies
Ann Emmons, Visiting Professor
John Glendening, Professor
Brady Harrison, Professor
John Hunt, Professor
Ashby Kinch, Professor (English)
Joanna Klink, Professor
Christopher J. Knight, Professor
Deirdre McNamer, Professor
Carla Mettling, Visiting Professor
David L. Moore, Professor
Prageeta Sharma, Professor
Karen Volkman, Professor

Associate Professor

David Gates, Associate Professor
Quan Manh Ha, Associate Professor
Kathleen Kane, Associate Professor
Eric Reimer, Associate Professor

Assistant Professor

Erin Wecker, Assistant Professor, Director of Composition

Adjunct

Tobin Addington, Adjunct Assistant Professor - Media Arts; Film Studies
Brian Buckbee, Instructor
Joe Campana, Online Instructor
Leanne Deschamps, Adjunct, English Teaching
Henrietta Goodman, Adjunct

Natalie Peeterse, Adjunct, Composition

Lecturer

Rob Browning, Visiting Assistant Professor
David Gilcrest, Lecturer | Director of Literature and the Environment
Sean O'Brien, Director of Film Studies
Traolach O'Riordain, Director of Irish Studies
Amy Ratto Parks, Assistant Director of Composition
Erin Saldin, Lecturer
Robert Stubblefield, Lecturer

Affiliates

Michael Murphy, Professor
Michel Valentin, Professor

Emeritus

Jill Bergman, Professor Emeritus
Phil Fandozzi, Professor
Greg Pape, Professor

Creative Writing

Back to Top

- **CRWR 115L - Montana Writers Live**
  Credits: 3. (R-6) Offered autumn. Open to all majors. An introduction to Montana's practicing creative writers and their work through reading, live performances and discussion. Regional poets and prose writers will read from their work and lead class discussion. Students prepare questions developed from readings and criticism. Course Attributes: English Course Lit & Artistic Studies (L)
- **CRWR 191 - Special Topics**
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: English Course
- **CRWR 212A - Intro Nonfiction Workshop**
  Credits: 3. A study of the art of nonfiction through reading and responding to contemporary nonfiction and the writing of original nonfiction works. Focus is on creative expression, writing technique and nonfiction forms. Students begin with writing exercises and brief essays, advancing to longer forms as the semester progresses. Course Attributes: Expressive Arts Course (A)
- **CRWR 234 - The Oval: Literary Mag**
  Credits: 3. This course is open to undergraduates who have completed at least one semester of creative writing. Students focus on the editing, design, layout and marketing of The Oval, University of Montana's undergraduate literary magazine. Students will read, discuss and develop responses to to recongnized literary works, as well as developing criteria for each volume's content and design. The class will include the evaluation and selection of fiction, nonfiction, poetry and visual art submissions to The Oval. Students are required to keep a reading journal, and compile a portfolio of writing exercises, responses to texts and critiques of published works.
- **CRWR 291 - Special Topics**
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- **CRWR 310 - Intermediate Fiction Workshop**
  Credits: 3. (R-9) Offered autumn and spring. Prereq., completion of CRWR 210A with a "B" average or better. An intermediate fiction writing workshop. Students will be expected to finish 3 or 4 substantial stories for the course. Although some outside material will be considered, the primary emphasis will be analysis and discussion of student work. Course Attributes: English Course

- CRWR 311 - Intermediate Poetry Workshop

  Credits: 3. (R-9) Offered autumn and spring. Prereq., Completion of CRWR 211A with a "B" average or better. An intermediate workshop involving critical analysis of students' work-in-progress as well as reading and discussion of poems in an anthology. Numerous directed writing assignments, experiments, exercises focused on technical considerations like diction, rhythm, rhyme, and imagery. Course Attributes: English Course

- CRWR 312A - Interm Nonfiction Workshop

  Credits: 3. (R-9) Prereq., completion of CRWR 212A or CRWR 210A with a "B" average or better. An intermediate nonfiction workshop. Students read and respond to model essays, in addition to creating and revising original essays for workshop review. Assignments and exercises focus on writing craft and research techniques. Course Attributes: English Course
  Expressive Arts Course (A)

- CRWR 320 - The Art and Craft of Revision

  Credits: 3. (R-6) Offered spring. Prereq., CRWR 210A or consent of instr. An intermediate writing course focused on revision of prose works-in-progress and study of narrative, plot, and editing at the language level. Materials include craft manuals, contemporary and classic examples, and student manuscripts.

- CRWR 322 - Techniques of Modern Essay

  Credits: 3. Offered intermittently. Prereq., consent of instr. Study of various forms of nonfiction essay, such as memoir, personal essay, travel and nature writing, profile and literary journalism. Assignments and exercises focus on writing craft and research techniques.

- CRWR 391 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: English Course

- CRWR 398 - Internship

  Credits: 1 TO 3. (R-9) Offered intermittently. Prereq., consent of faculty supervisor, department chair, and the Internship Services Office. Course Attributes: Internships/Practicums
  English Course

- CRWR 410 - Advanced Fiction Workshop

  Credits: 2 TO 3. (R-6) Offered autumn and spring. Prereq., consent of instr. An advanced writing workshop in which student manuscripts are read and critiqued. Rewriting of work already begun (in CRWR 310 classes) will be encouraged. Course Attributes: English Course

- CRWR 411 - Advanced Poetry Workshop

  Credits: 2 TO 3. (R-6) Offered autumn and spring. Prereq., consent of instr. An advanced writing workshop involving critical analysis of students' work-in-progress, as well as reading and discussion of poems by established poets. Discussions will focus on structure and stylistic refinement, with emphasis on revision. Different techniques, schools and poetic voices will be encouraged. Frequent individual conferences. Course Attributes: English Course

- CRWR 412 - Advanced Nonfiction Workshop

  Credits: 3. (R-6) Offered autumn and spring. Prereq., consent of instr. An advanced creative writing workshop focused primarily on reading and writing nonfiction; some classes may focus on personal essay, narrative nonfiction or short forms. Students complete two substantial essays. Course Attributes: English Course

- CRWR 425 - Storytelling

  Credits: 3. This course is open to both undergraduate and graduate students, and is not limited to English majors. In-class exercises and out-of-class assignments are designed to help students identify, develop, and demonstrate effective narrative practices in their chosen fields. Students learn to recognize and identify unifying themes, motifs, and ideas in literature and oral stories. Students will read, write, edit and present stories to the class, as well as providing a critique of their peers' work.

- CRWR 491 - Special Topics

  Credits: 1 TO 6. (R-6) Offered Intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: English Course

- CRWR 492 - Independent Study
  Credits: 1 TO 3. (R-9) Offered every term. Prereq., consent of instr. and department chair, and junior or senior standing. Special projects in creative writing. Only one 492 may be taken per semester. Course Attributes: English Course
- CRWR 496 - Service Learning
  Credits: 1 TO 3. (R-9) Offered every term. Prereq., consent of instr. and department chair, and junior or senior standing. Special projects in creative writing. Only one 496 may be taken per semester. Course Attributes: Service Learning/Volunteer English Course
- CRWR 510 - Fiction Workshop
  Credits: 1 TO 15. (R-15) Offered autumn and spring. Prereq., consent of instr. Level: Graduate Course Attributes: English Course
- CRWR 511 - Poetry Workshop
  Credits: 1 TO 15. (R-15) Offered autumn and spring. Prereq., consent of instr. Level: Graduate Course Attributes: English Course
- CRWR 512 - Nonfiction Workshop
  Credits: 1 TO 15. (R-15) Offered autumn and spring. Prereq., consent of instr. A creative writing workshop focused primarily on personal essay and narrative nonfiction. Attention given to writing and publishing professional magazine essays. Students complete two substantial essays. Level: Graduate Course Attributes: English Course
- CRWR 513 - Techniques of Nonfiction
  Credits: 1 TO 6. (R-6) Offered once every 2 years. Prereq., consent of instr. Study of form, technique and style in contemporary nonfiction. Level: Graduate
- CRWR 514 - Techniques of Modern Fiction
  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Intensive reading of contemporary prose writers. Level: Graduate Course Attributes: English Course
- CRWR 515 - Traditional Prosody
  Credits: 3. Offered intermittently. Prereq., consent of instr. Intensive practice and readings in prosodic and other poetic techniques. Level: Graduate Course Attributes: English Course
- CRWR 516 - Topics in Creative Writing
  Credits: 3. (R-9) Offered intermittently. Creative Writing faculty explore readings in their genres of specialty. Each professor chooses the focus, reading list, and assignments for the course. Level: Graduate Course Attributes: English Course
- CRWR 595 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate Course Attributes: English Course
- CRWR 596 - Graduate Independent Study
  Credits: 1 TO 9. (R-9) Offered every term. Prereq., consent of instr. and Associate Chair. Special projects in creative writing. Only one 596 permitted per semester. Level: Graduate Course Attributes: Independent Study English Course
- CRWR 598 - Internship
  Credits: 1 TO 6. (R-+) Offered intermittently. Prereq., consent of faculty supervisor, department chair, and the Internship Services Office. Level: Gradaute
- CRWR 599 - Thesis
  Credits: 1 TO 12. (R-12) Offered every term. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate Course Attributes: English Course

English - Linguistics

Back to Top

- ENLI 465 - Structure of Eng for Tchrs

Credits: 3. Offered intermittently. Same as LING 465. The development of the English language from a historical perspective contrasted with the phonological and grammatical structure of English from a modern linguistic point of view, specifically designed for teachers. Course Attributes: English Course

English as a Second Language

Back to Top

- ENSL 195 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: English Course

English - English Teaching

Back to Top

- ENT 296 - Independent Study
  Credits: 1 TO 3. (R-9) Offered intermittently. Prereq., consent of instr. and department chair. Special projects in English teaching. Only one 296 may be taken per semester. Course Attributes: English Course.
- ENT 395 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: English Course
- ENT 398 - Internship
  Credits: 1 TO 3. Offered intermittently. Prereq., consent of faculty supervisor, department chair, and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: English Course Internship graduation limit 6
- ENT 439 - Studies in Young Adult Lit
  Credits: 3. Offered autumn. Reading of representative texts covering the history, genres, authors, and themes of literature for students in middle school and high school. Course Attributes: English Course
- ENT 440 - Teaching Writing
  Credits: 3. Offered autumn and spring. Prereq. or coreq., EDU 202. Emphasis on teaching writing in grades 5-12. Research about development and maturity of writers, overview of schools of writing/history of writing instruction, strategies for teaching writing as a process, elements of writing craft, criteria for assessing and responding to writing, peer-coaching methods, writing/reading workshops, the role of grammar in improving writing, writing/reading connections, assignment characteristics, and grading practices. Required of students pursuing secondary English major and minor teaching licenses. Course Attributes: English Course
- ENT 441 - Tchg Rdng & Literature
  Credits: 3. Offered spring. Prereq. or Coreq., ENT 439, EDU 395. Emphasis on various approaches to teaching reading and literature in grades 5-12. Research about the development and maturity of readers, strategies for teaching reading comprehension and vocabulary, strategies for diagnosing reading abilities and criteria for reading assessment, reading workshops/literature circles. Emphasis on various approaches to teaching literature: genre, inquiry, thematic, chronological and interdisciplinary. Includes techniques for developing responses to fiction, nonfiction, prose, poetry, film and other media. Focus on the design of lesson plans and curriculum using traditional/classic, contemporary, young adult, and multicultural literature in grades 5-12. Required of students pursuing secondary English major and minor teaching licenses. Course Attributes: English Course
- ENT 442 - Tchg Oral Lang & Media Lit
  Credits: 3. Offered autumn and spring. Prereq. or coreq.., LING 465, EDU 395. Emphasis on preparation, implementation, and evaluation of teaching strategies and materials in grades 5-12.

Includes learning objectives, teaching and learning styles, unit plans, print and non-print media, and creative drama. Explores student-centered curriculum, with emphasis on developmental abilities in speaking, listening and viewing, and multigenre/multimodal communication. Required of students pursuing secondary English major and minor teaching licenses. Course Attributes: English Course

- ENT 495 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: English Course

- ENT 496 - Independent Study

  Credits: 1 TO 3. (R-9) Offered every term. Prereq., consent of instr. and department chair, and junior or senior standing. Special projects in English teaching. Only one 496 may be taken per semester. Course Attributes: English Course

- ENT 542 - Theor/Pedagog of Rhet/Comp

  Credits: 3. Offered intermittently. Exploration of contemporary theories and practical strategies for teaching rhetoric and composition grades 5-16. Level: Graduate Course Attributes: English Course

- ENT 543 - Adv Tchg Strat Yng Adv Lit

  Credits: 3. Offered intermittently. Selecting, reading, teaching, and evaluating young adult literature. Design of thematic units with emphasis on students' responses to literature. Presentation of multicultural literature, gender inquiry, social justice, censorship, and media issues. Level: Graduate Course Attributes: English Course

- ENT 544 - Creative Drama English Class

  Credits: 3. Offered intermittently. Designing, teaching and evaluating creative drama in the English language arts classroom. Emphasis on using creative drama as a learning strategy to teach literature and all the language arts. Level: Graduate Course Attributes: English Course

- ENT 545 - Theor/Pedagog of Literacy

  Credits: 3. Offered intermittently. Exploration of contemporary theories and practical strategies for teaching reading, literacy grades 5-16. Level: Graduate Course Attributes: English Course

- ENT 546 - Literary Crit for Teachers

  Credits: 3. Offered intermittently. Emphasis on a variety of theories which focus on reader responses. Application of theories to different genres. Level: Graduate Course Attributes: English Course

- ENT 547 - Adv Tchg Strat Wrtg & Rdg

  Credits: 3. Offered intermittently. Current research and best practices in teaching writing and reading in all content areas. Emphasis on writing and reading processes, workshops, conferences and portfolios. National and state standards, curriculum, and assessments in writing and reading are addressed. Level: Graduate Course Attributes: English Course

- ENT 548 - Portfolios and Assessment

  Credits: 3. Offered intermittently. Selecting, designing, and evaluating informal and formal assessments in English Language Arts. Exploration of portfolios as assessment strategies that align standards curriculum and instruction. Focus on content and performance standards, evaluation criteria and rubrics, and role of reflection in teaching and learning. Level: Graduate Course Attributes: English Course

- ENT 550 - Montana Writing Project

  Credits: 9. Offered summer. Prereq., special application and consent of director. Intensive program designed to increase the effectiveness of the teaching and learning of writing in all levels of education in Montana. For graduate students, preK-120 teachers in all content areas and university level educators. Level: Graduate Course Attributes: English Course

- ENT 552 - MWP Leadership Training

  Credits: 7. Offered intermittently. Prereq., special application, and consent of director. Intensive leadership training for Montana Writing Project teacher-consultants to organize professional development institutes and to developing curriculum and providing mentorship through MWP. For graduate students, preK-20 teachers in all content disciplines and university level educators. Level: Graduate Course Attributes: English Course

- ENT 553 - Native Voices & Writing

  Credits: 7. Offered summer at Blackfeet Community College. Focus is on writing across the curriculum in the context of participants' teaching assignments alongside the essential component of Niitsitapi (Blackfeet) culture and ways of knowing. Participants develop a theoretical articulation of what it means to write in their disciplinary area(s) of endorsement and with predominantly Blackfeet students. Participants design and critique writing curriculum and instruction in their disciplines with attention to theory and research on writing in the content areas and Blackfeet ways of knowing. Level: Graduate Course Attributes: English Course

- ENT 556 - IEFA & Writing

  Credits: 3. Offered intermittently in partnership with Montana Writing Project and local school districts. Prereq., consent of instr. This course assumes that writing is an ideal vehicle for moving forward with implementation of Montana law Indian Education for All (IEFA) in K-12 schools. The primary goal of this course is to help teachers of all grade levels and content areas develop the knowledge, resources, and confidence to enable them to integrate IEFA smoothly into their existing literacy curriculum. Level: Graduate Course Attributes: English Course

- ENT 557 - The Holocaust and IEFA

  Credits: 3. Prereq., special application and Consent of Instr. This course, intended for K-12 and college/university educators, is a collaboration between Montana Writing Project and the Holocaust Educators' Memorial to examine curricula and pedagogies for linking Holocaust Education and Indian Education for All through writing and literacy education. Level: Graduate Course Attributes: English Course

- ENT 593 - Professional Paper

  Credits: 1 TO 4. (R-4) Offered every term. Prereq., consent of instr. Pedagogical paper for the Master of Arts in English (Teacher Option). Credit not allowed toward any other degree. Level: Graduate Course Attributes: English Course

- ENT 595 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate Course Attributes: English Course

- ENT 596 - Graduate Independent Study

  Credits: 1 TO 9. (R-9) Offered every term. Prereq., consent of instr. and department chair. Special projects in English teaching. Only one independent study permitted per semester. Level: Graduate Course Attributes: English Course

- ENT 598 - Internship

  Credits: 1 TO 3. (R-9) Offered intermittently. Prereq., consent of faculty supervisor, department chair, and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus. Level: Graduate Course Attributes: English Course

Film

Back to Top

- FILM 103L - Introduction to Film

  Credits: 3. Offered every term. The history and development of the film medium. Emphasis on critical analysis of selected classic or significant films. Course Attributes: Lit & Artistic Studies (L)

- FILM 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- FILM 291 - Special Topics

  Credits: 1 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- FILM 300 - History of Film

  Credits: 3. Offered every year. Prereq., FILM 103L, LIT 270L. Survey of film history.

- FILM 320 - Shakespeare and Film

Credits: 3. Same as LIT 327. Offered once a year. Prereq., LIT 300 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities in relation to film. Course Attributes: Writing Course-Intermediate

- FILM 327 - Film Genres

  Credits: 3. (R-9) Offered every other year. Prereq. FILM 103L. Intensive study of central works within one major film genre.

- FILM 363 - The French Cinema

  Credits: 3. Offered intermittently. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realism, Nouvelle Vogue, etc.) with an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.

- FILM 365 - Latin Amer Civ Thru Lit & Film

  Credits: 3. Offered in autumn odd-numbered years. The development of the traditional society of Latin American civilization through the interaction of European, Indian and African elements.

- FILM 381 - Studies in the Film

  Credits: 3. (R-9) Offered autumn and spring. Prereq., FILM 103L or consent of instr. Studies in genres, directors, movements, problems, etc.

- FILM 391 - Special Topics

  Credits: 1 TO 9. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- FILM 392 - Independent Study

  Credits: 1 TO 6. (R-6) Offered Intermittently. Consent of Instructor Required.

- FILM 447 - Film Theory

  Credits: 3. Offered yearly. This course examines key approaches to film theory and criticism, and the theoretical roots of each. Classic and contemporary films will be assessed in the light of the theories covered.

- FILM 481 - Advanced Studies in Film

  Credits: 3. (R-9) Offered every other year. Studies in film aesthetics, politics of film, international cinema and comparative film analyses.

- FILM 484 - Film Directors

  Credits: 3. (R-9) Offered every year. Prereq. FILM 103L. Intensive study of the life and work of one major film director.

- FILM 491 - Special Topics

  Credits: 1 TO 9. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics

- FILM 492 - Independent Study

  Credits: 1 TO 9. (R-9) Offered every term. Pereq., consent of instr. and department chair, and junior or senior standing. Special Projects in film. Only one 492 may be taken per semester.

- FILM 495 - Practicum

  Credits: 1 TO 6. R-6

- FILM 596 - Independent Study

  Credits: 1 TO 9. (R-9) Offered every term. Prereq., consent of instr. and department chair. Special projects in film. Level: Graduate

Irish

Back to Top

- IRSH 101 - Elementary Irish/Gaelic

  Credits: 3. Offered autumn or spring. Same as ENIR 101. This course represents an introduction to modern Irish in both its spoken and written forms: basic principles of grammar and sentence structure are covered. Emphasis is placed on the application of these principles in every-day

situations. This course is housed in the English Department. The GenEd Foreign Language requirement can be fulfilled by successful completion of 101, 102 and 103.

- IRSH 102 - Elementary Irish II

  Credits: 3. Offered autumn or spring. Same as ENIR 102. The primary objective of this course is to build on the foundations laid in Elementary Irish I. Students will expand their vocabulary with a special focus on verbs; they will also engage new themes that demand a corresponding increase in their store of nouns, adjectives, idioms and expressions. This course is housed in the English Department. The GenEd Foreign Language requirement can be fulfilled by successful completion of 101, 102 and 103.

- IRSH 103 - Elementary Irish III

  Credits: 3. Offered autumn or spring. Same as IRSH 103. The primary objective of this course is to build on the foundations laid in Beginning Irish I. Students will expand their vocabulary with a special focus on verbs; they will also engage new themes that demand a corresponding increase in their store of nouns, adjectives, idioms and expressions. The GenEd Foreign Language requirement can be fulfilled by successful completion of 101, 102 and 103.

- IRSH 201 - Intermediate Irish I

  Credits: 3. Offered spring semester. Prereq. ENIR 101, 102, and 103 or their equivalent from another university. Students will continue their study of the verbs; engage more complex syntax and grammatical constructions; and consult the prose and poetry of the written and oral literary traditions. For proficiency equal to the 202-level, students must take the five semester sequence (101, 102, 103, 201, & 202) of Irish language study.

- IRSH 202 - Intermediate Irish II

  Credits: 3. Offered fall semester. Prereq. IRSH 201 or its equivalent from another university. Students will expand their knowledge of Irish language verbs: they will study the five declensions of the nouns; and acquire the vocabulary and language necessary to engage more abstract ideas and topical issues on an intellectual level. For proficiency equal to the 202-level, students must take the five semester sequence (101, 102, 103, 201, & 202) of Irish language study.

- IRSH 345L - Literature in the Irish Lang

  Credits: 3. Offered intermittently. This course acknowledges Irish as the oldest documented vernacular in Europe and its literature as a voice that is over 1500 years old. Examines the literary response of Gaelic Ireland to invasion, conquest, and colonization as articulated by its literature. Course Attributes: Lit & Artistic Studies (L)

- IRSH 360 - Irish/N Irish Literature

  Credits: 3. Offered intermittently. Examines (in English) selection of fiction, poetry, drama, film, and music from the Irish and/or Northern Irish literary traditions. Students will seek to understand how artists respond to the burdens of history, identity, and political conflict, and how they articulate the possibilities afforded by Ireland's changing position in the world.

- IRSH 380 - Topics in Irish Studies

  Credits: 3. Offered intermittently. A rotating variety of special topics in Irish Studies, including Irish and Irish-American cinema, major Irish/N. Irish authors, Irish cultural studies, and transatlantic and comparative studies. Course Attributes: Writing Course-Intermediate

- IRSH 391 - Special topics

  Credits: 1 TO 6. (R-9) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics;

- IRSH 492 - Independent Study

  Credits: 1 TO 3. (R-9) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics;

English - Literature

Back to Top

- LIT 110L - Intro to Lit

  Credits: 3. Offered every term. Study of how readers make meaning of texts and how texts influence readers. Emphasis on interpreting literary texts: close reading, critical analysis and effective writing. Course Attributes: English Course Lit & Artistic Studies (L) Writing Course-Intermediate

- LIT 120L - Poetry

  Credits: 3. Offered every term. An introduction to the techniques of reading and writing about poetry with emphasis on the lyric and other shorter forms. Course Attributes: English Course Lit & Artistic Studies (L) Writing Course-Intermediate

- LIT 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: English Course

- LIT 201 - Intro to Literary Studies

  Credits: 3. Offered every term. Introduction to the field of literary studies, to the conventions of literary analysis, and to the literature option for English majors. Reading, writing, and research skills will be stressed, along with interpretative approaches to major genres within the field.

- LIT 202L - The Environmental Imagination

  Credits: 3. Course is designed to introduce students to the many discourses of nature. In this course we will approach "natural history" as a complex literary genre grounded in personal experience of the "more-than-human" world (in David Abram's now ubiquitous phrase). While the study of natural history writing has historically focused on authors like Gilbert White, Henry David Thoreau, John Muir, and John Burroughs (as prominent practitioners of the personal narrative essay that explores the natural world), a more thorough understanding of the genre requires consideration of the role race, class, and gender play in shaping discourses of nature. Further, consideration of non-Anglo-American traditions (including, for example, a range of Native American and Asian "literary" practices) expands our understanding of those traditions as it allows us to see the Anglo-American tradition in useful perspective. Course Attributes: Lit & Artistic Studies (L) Writing Course-Intermediate

- LIT 210L - American Lit I

  Credits: 3. Offered every term. Representative texts from the pre-colonial period through the Civil War. Course Attributes: English Course Lit & Artistic Studies (L) Writing Course-Intermediate

- LIT 211L - American Lit II

  Credits: 3. Offered every term. Representative texts from the Civil War to the present. Course Attributes: English Course Lit & Artistic Studies (L) Writing Course-Intermediate

- LIT 220L - Brit Lit: Med to Renaissance

  Credits: 3. Offered every term. Representative texts from the Anglo-Saxon period through the Renaissance. Course Attributes: Literary & Artistic Stds Crse Writing Course-Intermediate

- LIT 221L - Brit Lit: Enlightenment to Rom

  Credits: 3. Offered every term. Representative texts from the seventeenth through the eighteenth century. Course Attributes: Lit & Artistic Studies (L) Writing Course-Intermediate

- LIT 222L - Brit Lit: Victorian to Contemp

  Credits: 3. Offered every term. Representative texts from the early nineteenth century to the present. Course Attributes: Lit & Artistic Studies (L) Writing Course-Intermediate Democracy and Citizenship (Y)

- LIT 270L - Film & Lit

  Credits: 3. (R-6) Offered intermittently. Studies of the relationship between film and literature. Topics vary. Course Attributes: English Course Lit & Artistic Studies (L)

- LIT 280L - Ecology of Literature

  Credits: 3. Literary study of nature writing and other genres introducing an ecocritical perspective, with revolving Anglophone texts. Course Attributes: Lit & Artistic Studies (L)

- LIT 291 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- LIT 300 - Literary Criticism

  Credits: 3. Offered every term. Prereq. or coreq., 12 credits of lower-division English courses. Study of various literary theories and their application to literary texts. Course Attributes: English Course Writing Course-Advanced

- LIT 301 - Studies in Literary Forms

  Credits: 3. (R-9) Offered intermittently. Prereq., LIT 300 or consent of instr. Reading of various authors from different literary periods and cultures working in the same mode of composition (courses offered under this rubric may include Literature of Place, Modern Drama, 19th Century Fiction, 20th Century Fiction, Lyric Poetry, Science Fiction, Autobiography; less frequently, Travel Literature, Popular Fiction, Epic, Tragedy, Satire, Romance, Comedy). Course Attributes: English Course

- LIT 304 - U.S. Writers of Color

  Credits: 3. Offered intermittently. Prereq., LIT 300 or consent of instr. Selected readings from African American, Asian American, Chicano/a, Latino/a, and Native American literatures. Course Attributes: Writing Course-Advanced

- LIT 305 - Lit by & About Native Amer

  Credits: 3. Offered autumn. Prereq., three credits of lower-division LIT courses and NASX 105H or 235X. Same as NASX 340. Selected readings from Native American literature with special emphasis on the literature of writers from the Rocky Mountain west. Course Attributes: English Course

- LIT 314 - The American Novel

  Credits: 3. Offered intermittently. Prereq., LIT 210L or 211L and prereq. or co-req., LIT 300. Examination of a selection of American novels in their historical, cultural, and literary contexts. Exploration of literary movements such as realism, naturalism, modernism, and postmodernism. Discussion of critical theories and application to the texts. Course Attributes: English Course Writing Course-Advanced

- LIT 315 - Voices of the Am Renaissance

  Credits: 3. Offered intermittently. Prereq., LIT 210L or 211L and LIT 300 or consent of instr. Perspectives on antebellum Native American, African American, and gender issues. Study of the poetry of Walt Whitman and Emily Dickinson in light of these three perspectives. Course Attributes: English Course

- LIT 316 - Topics in Postcolonial Lit

  Credits: 3. Offered intermittently. Prereq., LIT 210L or 211L and LIT 300. Course Attributes: English Course Writing Course-Advanced

- LIT 327 - Shakespeare

  Credits: 3. Offered autumn and spring. Prereq., LIT 300 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities. Course Attributes: English Course Writing Course-Advanced

- LIT 331 - Major Author/s

  Credits: 3. (R-9) Offered intermittently. Prereq., LIT 300 or consent of instr. Intensive study of the life and works of one author writing in English (courses offered under this rubric have included Chaucer, Milton, Faulkner, Joyce, Twain; less frequently, Conrad, Hemingway, Blake, Woolf, D.H. Lawrence, Welty). Course Attributes: English Course

- LIT 332 - Topics in Modernism

  Credits: 3. Offered intermittently. Prereq., LIT 300 or consent of instr. An introductory study of European and American modernism. Detailed exploration of major modernist novels and/or poems in relation to broader cultural and social contexts. Course Attributes: English Course

- LIT 342 - Montana Writers

  Credits: 3. Offered intermittently. Prereq., LIT 210L or 211L. Examination of poems, stories, and novels by or about Montanans and the treatment and representation of race, place, class, gender, sexuality, and identity in Montana. Exploration of the myths and realities of Montana and the American West. Course Attributes: Writing Course-Advanced

- LIT 343 - African American Lit

  Credits: 3. Offered intermittently. Prereq., LIT 300 or consent of instr. Selected works by African-American authors. Course may define a narrowed focus such as poetry, women writers, etc. Course Attributes: English Course Writing Course-Advanced

- LIT 344 - Asian American Literature

  Credits: 3. This course introduces both a variety of writings by Asian North American authors and major critical issues concerning the production and reception of Asian American texts, with an

emphasis on the relation between literary forms and the Asian American socio-historical context, and on the historical formation of Asian American identities.

- LIT 349L - Medieval Lit

  Credits: 3. Offered alternate years. Prereq., LIT 300 or consent of instr. Exploration of literature from the medieval period, focusing on the major cultural and intellectual influences on the emergence of vernacular writing. Topics will vary, but will regularly include Anglo-Saxon literature and Middle English literature (excluding Chaucer). Course Attributes: English Course Lit & Artistic Studies (L)

- LIT 350L - Chaucer

  Credits: 3. Offered alternate years. Critical reading of Chaucer's masterpiece, the Canterbury Tales, with attention to Chaucerian irony, the author's place in literary history, and issues in Chaucer studies. Course Attributes: English Course Lit & Artistic Studies (L)

- LIT 351 - Donne & His Followers

  Credits: 3. Offered alternate years. Prereq., LIT 300 or consent of instr. Close study of John Donne and other early 17th century religious poets within the context of Renaissance intellectual history. Course Attributes: English Course

- LIT 353L - Milton

  Credits: 3. Offered alternate years. Prereq., LIT 300 or consent of instr. Selected study of poetry and prose of Milton. Course Attributes: Lit & Artistic Studies (L) Writing Course-Advanced

- LIT 355 - British Romanticism

  Credits: 3. Offered alternate years. Prereq. or co-req., LIT 300. Introduction to the major texts, themes, and authors of British literature from 1790-1815, focusing on poets such as Blake, Barbauld, Wordsworth, Coleridge, and P.B. Shelley but attending also to prose writers from Austen to Mary Shelley. Course Attributes: English Course

- LIT 363 - Modern Poetry

  Credits: 3. Offered alternate years. Prereq., LIT 300 or consent of instr. Survey of modern poetry in English beginning with Emily Dickinson and Walt Whitman and moving toward the present, centering on modernist poets. Course Attributes: English Course

- LIT 369 - Short Fiction

  Credits: 3. Offered intermittently. Prereq., LIT 300 or consent of instructor. Study of selected short stories and novellas from mid-19th century to the present.

- LIT 370 - Science Fiction

  Credits: 3. Offered intermittently. Prereq., LIT 300 or consent of instr. Study of the science fiction genre from its pulp magazine beginnings in the 1920s to the present. Course Attributes: English Course

- LIT 373 - Lit & Environment

  Credits: 3. Offered autumn. Prereq., LIT 210L or 211L (ENLT 224L or 225L) and LIT 300 (ENLT 301) or consent of instr. Study of major texts and issues in American nature writing. Course Attributes: English Course

- LIT 375 - Literary History

  Credits: 3. (R-9) Offered intermittently. Prereq., LIT 300 or consent of instr. Study of influences on and innovations in the works of various authors within a particular literary historical period in England or America (e.g. British Renaissance, 18th century, Victorian, British Modern, American Puritanism, American Realism and Naturalism; 17th century). Course Attributes: English Course

- LIT 376 - Lit & Oth Disciplines

  Credits: 3. (R-9) Offered intermittently. Prereq., nine credits in LIT or LSH or consent of instr. Selected works of literature studied in conjunction with works of art, music, religion, philosophy, or another discipline (e.g. Film and Literature, Modernism, Literature and Science, Bible as Literature, Song). Course Attributes: English Course Writing Course-Advanced

- LIT 378L - Gay and Lesbian Studies

  Credits: 3. Offered alternate years. Prereq., LIT 300 or consent of instr. Review of the history of the gay and lesbian movement in the twentieth century as a basis for understanding the political, social, and sexual issues that influenced homoerotic cultural representation in plays, films, and

novels. Course Attributes: English Course Lit & Artistic Studies (L) Writing Course-Upper-Division

- LIT 379L - Gender & Sexuality in Eng. Fic

  Credits: 3. Offered alternate years. Same as LSH 327L. Major 20th century novels and short stories written in English in different parts of the world and how these texts explore changing concepts of gender and sexuality. Course Attributes: English Course Literary & Artistic Stds Crse

- LIT 380 - Literary Approaches to Drama

  Credits: 3. This course introduces students to dramatic literature, with an emphasis on dramatic elements and devices, and the continuity in the history/tradition of drama. Topics vary, determined by the instructor's special interests, and might focus on either US, British, or global drama.

- LIT 391 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: English Course

- LIT 398 - Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of faculty supervisor, department chair, and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- LIT 402 - Literature in Place

  Credits: 3. This course gives students a set of advanced learning opportunities to engage with Anglophone texts on the general theme of nature and culture, applying an ecocritical lens to extended literary analysis. Drawing from various periods and from various trans-Atlantic national literatures, the course is designed to focus on the emerging critique of nature and culture that questions foundational structures of epistemology and economy, animate and inanimate, civilization and wilderness.

- LIT 420 - Critical Theory

  Credits: 3. (R-9) Offered autumn or spring. Prereq., LIT 300 and six credits in literature courses numbered 300 or higher or consent of instr. Study and application of one or more theoretical approaches to interpreting texts (e.g., aesthetic post-structural, new historicist, classical, Renaissance, Romantic, narrative, psychoanalytic, formalist, neo-Marxist, feminist, gender, cultural studies and reader-response theory). Course Attributes: English Course

- LIT 421 - History of Criticism & Theory

  Credits: 3. Offered autumn or spring. Prereq., LIT 300 and six credits in literature courses numbered 300 or higher or consent of instr. Survey of the historical development of critical theories which shaped ways of reading and writing from Plato and Aristotle to the present. Course Attributes: English Course

- LIT 422 - Ecocritical Theory & Practice

  Credits: 3. Prereq., or coreq., LIT 300. This course surveys the developing field of ecocriticism, introducing students to the major issues and methodologies entailed in the study of literature and the environment.

- LIT 430 - Studies in Comparative Lit

  Credits: 3. (R-9) Offered intermittently. Prereq., consent of instr. Same as LSH 342. The study of important literary ideas, genres, trends and movements. Credit not allowed for the same topic in more than one course numbered 430, LSH 342. Course Attributes: English Course

- LIT 491 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: English Course

- LIT 492 - Independent Study

  Credits: 1 TO 3. (R-9) Offered every term. Prereq., consent of instr. and department chair, and junior or senior standing. Special projects in literature. Only one independent study may be taken per semester. Consent must be obtained prior to enrollment. Course Attributes: English Course

- LIT 494 - Seminar: Lit Capstone

  Credits: 3. (R 9) Offered autumn and spring. Prereq., LIT 300 and nine credits in literature courses numbered higher than 300. Required for completing the English literature option, this seminar will allow students to conduct advanced studies in literary figures and topics chosen by faculty to engage a broad range of interests. A long research paper is required. Course Attributes: English Course Writing Course-Advanced

- LIT 499 - Thesis/capstone: Honors

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of chair. Preparation of a thesis or manuscript based on research for presentation and/or publication. Course Attributes: English Course

- LIT 500 - Intro to Graduate Studies

  Credits: 3. Offered autumn. Instruction in advanced literary and cultural theory, library and research skills, and academic genres. Level: Graduate Course Attributes: English Course

- LIT 502 - Topics in Ecocriticism

  Credits: 3. This course is a central requirement for the English Department's graduate option in Ecocriticism. The course will vary by topic, but will link introductions to ecocritical theory with practice as it models how to apply ecocritical theory to the study of literature. Each offering will explore the interconnections between nature and culture, through the cultural artifacts language and literature. Although changing with the topic, in most cases the course considers the role race, class, and gender play in shaping discourses of nature. Further, consideration of non-Anglo-American traditions will be featured for many offerings. Level: Graduate

- LIT 520 - Sem in British Lit

  Credits: 3. (R-9) Offered every autumn and spring. Prereq., graduate status or consent of instructor. Topics will vary. Level: Graduate Course Attributes: English Course

- LIT 521 - Sem American Lit

  Credits: 3. (R-9) Offered autumn and spring. Prereq., graduate status or consent of instr. Topics will vary. Level: Graduate Course Attributes: English Course

- LIT 522 - Sem Comparative Lit

  Credits: 3. (R-9) Offered intermittently. Same as MCLG 522. Prereq., graduate status or consent of instructor. Topics will vary. Level: Graduate Course Attributes: English Course

- LIT 524 - Nature, Language and Politics

  Credits: 3. Offered intermittently. Investigation of environmental, social and political thought from the perspective of contemporary language theory. Level: Graduate Course Attributes: English Course

- LIT 595 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate Course Attributes: Internships/Practicums

- LIT 596 - Graduate Independent Study

  Credits: 1 TO 9. (R-9) Offered every term. Prereq., consent of instr. and chair. Special projects in literature. Only one 596 permitted per semester. Consent must be obtained prior to enrollment. Level: Graduate Course Attributes: Independent Study

- LIT 598 - Internship

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of faculty supervisor, department chair, and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus. Level: Graduate Course Attributes: Internships/Practicums

- LIT 599 - Thesis

  Credits: 1 TO 6. (R-6) Offered every term. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate Course Attributes: English Course

Writing

Back to Top

- WRIT 101 - College Writing I

  Credits: 3. UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit). Course Attributes: Writing Course-Introductory

- WRIT 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: English Course

- WRIT 198 - Coop Education Experience

  Credits: 1 TO 12. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- WRIT 201 - College Writing II

  Credits: 3. Offered autumn and spring. Prereq., placement or C or better in WRIT 101. MUSWA at or above 5.5, SAT/ACT essay at or above 11, a SAT writing section score at or above 700 or a Combined English/Writing portion of the ACT at or above 32. Designed for first year students with advanced writing ability and students who seek a lower-division writing course. Offers instruction in rhetorical reading and writing, particularly the study and practice of written argumentation in different academic and civic contexts. Course Attributes: Writing Course-Intermediate Writing Course-Introductory

- WRIT 391 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: English Course

- WRIT 398 - Coop Education Experience

  Credits: 1 TO 12. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- WRIT 491 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: English Course

- WRIT 492 - Independent Study

  Credits: 1 TO 3. (R-9) Offered every term. Prereq., consent of instr. and chair, and junior or senior standing. Special projects in expository writing. Only one 496 may be taken per semester. Course Attributes: English Course

- WRIT 540 - Tchg Coll Levl Composition

  Credits: 3. Offered autumn. Restricted to graduate students teaching expository writing at The University of Montana. Theory and pedagogy of teaching college composition are emphasized. Level: Graduate Course Attributes: English Course

- WRIT 595 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate

Course Attributes: Internships/Practicums

- WRIT 596 - Grad Independent Study
  Credits: 1 TO 3. (R-9) Offered every term. Prereq., consent of instr. and chair. Special projects in expository writing. Only one 596 may be taken per semester. Level: Graduate Course Attributes: Independent Study

Creative Writing

The Creative Writing program is predicated on the model of the workshop, and focuses on three areas of study: poetry, fiction, and nonfiction. Undergraduates who select the creative writing option fulfill some of the same requirements as those in literature, while also participating in a series of small writing workshops, gaining the techniques needed to craft poetry and/or prose that work towards artistic excellence. Graduate students pursuing an M.F.A. degree complete a series of writing workshops and seminars designed to develop their creative work and expand their understanding of literary technique. The Creative Writing faculty is augmented each year by visiting Hugo and Kittredge fellows. The program sponsors the graduate literary magazine, *CutBank*, now in its fourth decade of publishing works of poetry, prose and art. Additionally, undergraduate students have the opportunity to contribute to and edit their own literary magazine, *The Oval*.

Bachelor of Arts - English; Creative Writing Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 42

Required Cumulative GPA: 2.0

Note: Upon successful completion of the Pre-English requirements, students must declare the English major and choose a degree option. English majors with the option in Creative Writing must earn 42-60 of their total credits in Department of English courses.

Pre-English Core Courses

Rule: Complete six courses (18 credits) including an introductory Literature course, an introductory Creative Writing course, and British and American Literature surveys.

Note: Recommended English elective: another 200-level CRWR course, CRWR 115, 295, 320, or 491.

Minimum Required Grade: C

18 Total Credits Required

Introductory Literature course

Rule: Complete one course (3 credits).

	Course	Credits
	LIT 110L - Intro to Lit Offered every term. Study of how readers make meaning of texts and how texts influence readers. Emphasis on interpreting literary texts: close reading, critical analysis and effective writing.	3 Credits
	LIT 120L - Poetry Offered every term. An introduction to the techniques of reading and writing about poetry with emphasis on the lyric and other shorter forms.	3 Credits

	LIT 201 - Intro to Literary Studies Offered every term. Introduction to the field of literary studies, to the conventions of literary analysis, and to the literature option for English majors. Reading, writing, and research skills will be stressed, along with interpretative approaches to major genres within the field.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

British and American Literature surveys

Rule: Complete three courses (9 credits).

	Course	Credits
	LIT 210L - American Lit I Offered every term. Representative texts from the pre-colonial period through the Civil War.	3 Credits
	LIT 211L - American Lit II Offered every term. Representative texts from the Civil War to the present.	3 Credits
	LIT 220L - Brit Lit: Med to Renaissance Offered every term. Representative texts from the Anglo-Saxon period through the Renaissance.	3 Credits
	LIT 221L - Brit Lit: Enlightenment to Rom Offered every term. Representative texts from the seventeenth through the eighteenth century.	3 Credits
	LIT 222L - Brit Lit: Victorian to Contemp Offered every term. Representative texts from the early nineteenth century to the present.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Introductory Creative Writing course

Rule: Complete one course (3 credits).

Note: Students must earn a grade of "B" or higher in CRWR 210, 211, or 212 in order to progress to the corresponding upper-division CRWR workshop (CRWR 310, 311, and 312).

	Course	Credits
	CRWR 210A - Intro Fiction Workshop Offered intermittently. This beginning writing workshop emphasizes the reading, discussion, and revision of students' short fiction. Students will be introduced to the technical elements of writing fiction. No prior experience in writing short fiction required.	3 Credits

	CRWR 211A - Intro Poetry Workshop Offered intermittently. This beginning writing workshop focuses on the reading, discussion, and revision of students' poems. Students will study and use models of poetic techniques. No prior experience in writing poetry required.	3 Credits
	CRWR 212A - Intro Nonfiction Workshop A study of the art of nonfiction through reading and responding to contemporary nonfiction and the writing of original nonfiction works. Focus is on creative expression, writing technique and nonfiction forms. Students begin with writing exercises and brief essays, advancing to longer forms as the semester progresses.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

English elective course

Rule: Complete one course (3 credits).

Note: Select any course (3 credits) from the course prefixes CRWR, ENIR (aside from 101-202), ENLI, FILM, LING, or LIT.

Upper Division Requirements

Rule: Complete three courses (9 credits).

Note: Please be aware of 300- and 400-level workshop pre-requisites: CRWR 310 - grade of "B" or higher in CRWR 210; CRWR 311 - grade of "B" or higher in CRWR 211; CRWR 312 - grade of "B" or higher in CRWR 210 or 212; CRWR 410, 411, and 412 - completion of 300-level workshop in the same genre and writing submission/consent of instructor. CRWR 310, 311, 312, 410, 411, and 412 each carry a repeatibility of 6 credits.

	Course	Credits
	CRWR 310 - Intermediate Fiction Workshop (R-9) Offered autumn and spring. Prereq., completion of CRWR 210A with a "B" average or better. An intermediate fiction writing workshop. Students will be expected to finish 3 or 4 substantial stories for the course. Although some outside material will be considered, the primary emphasis will be analysis and discussion of student work.	3 Credits
	CRWR 311 - Intermediate Poetry Workshop (R-9) Offered autumn and spring. Prereq., Completion of CRWR 211A with a "B" average or better. An intermediate workshop involving critical analysis of students' work-in-progress as well as reading and discussion of poems in an anthology. Numerous directed writing assignments, experiments, exercises focused on technical considerations like diction, rhythm, rhyme, and imagery.	3 Credits
	CRWR 312A - Interm Nonfiction Workshop (R-9) Prereq., completion of CRWR 212A or CRWR 210A with a "B" average or better. An intermediate nonfiction workshop. Students read and respond to model essays, in addition to creating and revising original essays for workshop review. Assignments and exercises focus on writing craft and research techniques.	3 Credits

	CRWR 410 - Advanced Fiction Workshop (R-6) Offered autumn and spring. Prereq., consent of instr. An advanced writing workshop in which student manuscripts are read and critiqued. Rewriting of work already begun (in CRWR 310 classes) will be encouraged.	2 To 3 Credits
	CRWR 411 - Advanced Poetry Workshop (R-6) Offered autumn and spring. Prereq., consent of instr. An advanced writing workshop involving critical analysis of students' work-in-progress, as well as reading and discussion of poems by established poets. Discussions will focus on structure and stylistic refinement, with emphasis on revision. Different techniques, schools and poetic voices will be encouraged. Frequent individual conferences.	2 To 3 Credits
	CRWR 412 - Advanced Nonfiction Workshop (R-6) Offered autumn and spring. Prereq., consent of instr. An advanced creative writing workshop focused primarily on reading and writing nonfiction; some classes may focus on personal essay, narrative nonfiction or short forms. Students complete two substantial essays.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Upper Division English Electives

Rule: Complete three courses (9 credits) of 300- or 400-level English electives.

Note: Please note that most of these courses carry pre-requisites.

Note: Select any three courses (9 credits) from the course prefixes FILM or LIT. All courses must be 300- or 400-level.

Minimum Required Grade: C-

9 Total Credits Required

Upper Division Writing Courses

Rule: Complete two courses (6 credits).

Note: LIT 300 is open only to English majors who have completed the Pre-English curriculum and have declared a major option.

Note: LIT 300 is the pre-requisite for most other 300- and 400-level LIT courses, including LIT 327. FILM 320 Shakespeare and Film substitutes for LIT 327 Shakespeare.

	Course	**Credits**
	LIT 300 - Literary Criticism Offered every term. Prereq. or coreq., 12 credits of lower-division English courses. Study of various literary theories and their application to literary texts.	3 Credits
	LIT 327 - Shakespeare Offered autumn and spring. Prereq., LIT 300 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Modern or Classical Language major requirement

Rule: Complete the 202-level proficiency in either a modern or classical language other than English

Note: Students may either take four sequential semesters (101, 102, 201, 202) of a modern or classical language or exemplify proficiency through examination (available through the Modern and Classical Languages and Literature Department).

Minimum Required Grade: Pass

4-18 Total Credits Required

Teaching English

The English Teaching program provides content knowledge, pedagogy, and professional experiences required for teaching literacy in a democratic society. Based on current research and best practices, the English Teaching program integrates the study of language, literature, and media, creating learning communities and supporting teachers as critical thinkers, creative problem solvers, and reflective practitioners. Students who successfully complete this option and the requirements from the College of Education receive both a B.A. in English teaching and a secondary teaching license (grades 5-12) in English. At the graduate level, the English Teaching program offers advanced theory and pedagogy courses, culminating in an M.A. in teaching. The English Teaching Program is also the home of the Montana Writing Project, which is dedicated to improving the teaching and learning of writing at all grade levels and offers a special focus on meeting the state-mandated Indian Education for All.

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Bachelor of Arts - English; English Teaching Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 45

Required Cumulative GPA: 2.0

Note: Upon successful completion of the Pre-English requirements, students must declare the English major and choose a degree option. English majors with the option in English Teaching must earn 45 of their total credits in Department of English courses and 120 credits overall. English Teaching students must also complete Secondary Licensure Requirements. Please refer to the Teaching Licensure Degree Level for requirements. A major GPA of 2.75 is required to be eligible for student teaching.

Pre-English Core Courses

Rule: Complete four courses (12 credits) including a poetry emphasis and British and American Literature surveys.

Minimum Required Grade: C

12 Total Credits Required

Poetry emphasis

Rule: Complete one course (3 credits).

	Course	Credits

	CRWR 211A - Intro Poetry Workshop Offered intermittently. This beginning writing workshop focuses on the reading, discussion, and revision of students' poems. Students will study and use models of poetic techniques. No prior experience in writing poetry required.	3 Credits
	LIT 120L - Poetry Offered every term. An introduction to the techniques of reading and writing about poetry with emphasis on the lyric and other shorter forms.	3 Credits
	LIT 201 - Intro to Literary Studies Offered every term. Introduction to the field of literary studies, to the conventions of literary analysis, and to the literature option for English majors. Reading, writing, and research skills will be stressed, along with interpretative approaches to major genres within the field.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Early British Literature survey

Rule: Complete one course (3 credits).

	Course	Credits
	LIT 220L - Brit Lit: Med to Renaissance Offered every term. Representative texts from the Anglo-Saxon period through the Renaissance.	3 Credits
	LIT 221L - Brit Lit: Enlightenment to Rom Offered every term. Representative texts from the seventeenth through the eighteenth century.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Late British Literature and American Literature survey

Rule: Complete two courses (6 credits).

	Course	Credits
	LIT 210L - American Lit I Offered every term. Representative texts from the pre-colonial period through the Civil War.	3 Credits
	LIT 211L - American Lit II Offered every term. Representative texts from the Civil War to the present.	3 Credits
	LIT 222L - Brit Lit: Victorian to Contemp Offered every term. Representative texts from the early nineteenth century to the present.	3 Credits

Minimum Required Grade: C	6 Total Credits Required

Upper Division Requirements

Rule: Complete two courses (6 credits).

Note: ENLI/LING 465 and ENT 439 do not carry pre-requisites.

	Course	Credits
	ENLI 465 - Structure of Eng for Tchrs Offered intermittently. Same as LING 465. The development of the English language from a historical perspective contrasted with the phonological and grammatical structure of English from a modern linguistic point of view, specifically designed for teachers.	3 Credits
	ENT 439 - Studies in Young Adult Lit Offered autumn. Reading of representative texts covering the history, genres, authors, and themes of literature for students in middle school and high school.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

English Teaching methods courses

Rule: Complete three courses (9 credits).

Note: Students must be admitted to the Teacher Education program prior to enrolling in ENT 440, 441, and 442. Other EDU pre-/co-requisites also apply to ENT 440, 441, and 442.

	Course	Credits
	ENT 440 - Teaching Writing Offered autumn and spring. Prereq. or coreq., EDU 202. Emphasis on teaching writing in grades 5-12. Research about development and maturity of writers, overview of schools of writing/history of writing instruction, strategies for teaching writing as a process, elements of writing craft, criteria for assessing and responding to writing, peer-coaching methods, writing/reading workshops, the role of grammar in improving writing, writing/reading connections, assignment characteristics, and grading practices. Required of students pursuing secondary English major and minor teaching licenses.	3 Credits
	ENT 441 - Tchg Rdng & Literature Offered spring. Prereq. or Coreq., ENT 439, EDU 395. Emphasis on various approaches to teaching reading and literature in grades 5-12. Research about the development and maturity of readers, strategies for teaching reading comprehension and vocabulary, strategies for diagnosing reading abilities and criteria for reading assessment, reading workshops/literature circles. Emphasis on various approaches to teaching literature: genre, inquiry, thematic, chronological and interdisciplinary. Includes techniques for developing responses to fiction, nonfiction, prose, poetry, film and other media. Focus on the design of lesson plans and curriculum using traditional/classic, contemporary, young adult, and multicultural literature in grades 5-12. Required of students pursuing secondary English major and minor teaching licenses.	3 Credits

	ENT 442 - Tchg Oral Lang & Media Lit Offered autumn and spring. Prereq. or coreq.., LING 465, EDU 395. Emphasis on preparation, implementation, and evaluation of teaching strategies and materials in grades 5-12. Includes learning objectives, teaching and learning styles, unit plans, print and non-print media, and creative drama. Explores student-centered curriculum, with emphasis on developmental abilities in speaking, listening and viewing, and multigenre/multimodal communication. Required of students pursuing secondary English major and minor teaching licenses.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

English electives

Rule: Complete two additional English courses

Note: Students may choose electives from ENIR (200-level or above), WRIT (above 101-level), LING (100-level or above), LIT (100-level or above), CRWR (100-level or above), or FILM (100-level or above).

Minimum Required Grade: C-

6 Total Credits Required

Upper Division Literature Electives

Rule: Complete two courses (6 credits)

Note: Please note that most of these courses carry pre-requisites.

Minimum Required Grade: C-

6 Total Credits Required

D Designation: Diversity

Rule: Complete one course (3 credits)

	Course	Credits
	LIT 304 - U.S. Writers of Color Offered intermittently. Prereq., LIT 300 or consent of instr. Selected readings from African American, Asian American, Chicano/a, Latino/a, and Native American literatures.	3 Credits
	LIT 305 - Lit by & About Native Amer Offered autumn. Prereq., three credits of lower-division LIT courses and NASX 105H or 235X. Same as NASX 340. Selected readings from Native American literature with special emphasis on the literature of writers from the Rocky Mountain west.	3 Credits
	LIT 343 - African American Lit Offered intermittently. Prereq., LIT 300 or consent of instr. Selected works by African-American authors. Course may define a narrowed focus such as poetry, women writers, etc.	3 Credits
	LIT 378L - Gay and Lesbian Studies Offered alternate years. Prereq., LIT 300 or consent of instr. Review of the history of the gay and lesbian movement in the twentieth century as a basis for understanding the political, social, and sexual issues that influenced homoerotic cultural representation in plays, films, and novels.	3 Credits

	LIT 379L - Gender & Sexuality in Eng. Fic Offered alternate years. Same as LSH 327L. Major 20th century novels and short stories written in English in different parts of the world and how these texts explore changing concepts of gender and sexuality.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

American literature focus

Rule: Complete one course (3 credits)

	Course	Credits
	LIT 304 - U.S. Writers of Color Offered intermittently. Prereq., LIT 300 or consent of instr. Selected readings from African American, Asian American, Chicano/a, Latino/a, and Native American literatures.	3 Credits
	LIT 305 - Lit by & About Native Amer Offered autumn. Prereq., three credits of lower-division LIT courses and NASX 105H or 235X. Same as NASX 340. Selected readings from Native American literature with special emphasis on the literature of writers from the Rocky Mountain west.	3 Credits
	LIT 314 - The American Novel Offered intermittently. Prereq., LIT 210L or 211L and prereq. or co-req., LIT 300. Examination of a selection of American novels in their historical, cultural, and literary contexts. Exploration of literary movements such as realism, naturalism, modernism, and postmodernism. Discussion of critical theories and application to the texts.	3 Credits
	LIT 315 - Voices of the Am Renaissance Offered intermittently. Prereq., LIT 210L or 211L and LIT 300 or consent of instr. Perspectives on antebellum Native American, African American, and gender issues. Study of the poetry of Walt Whitman and Emily Dickinson in light of these three perspectives.	3 Credits
	LIT 342 - Montana Writers Offered intermittently. Prereq., LIT 210L or 211L. Examination of poems, stories, and novels by or about Montanans and the treatment and representation of race, place, class, gender, sexuality, and identity in Montana. Exploration of the myths and realities of Montana and the American West.	3 Credits
	LIT 343 - African American Lit Offered intermittently. Prereq., LIT 300 or consent of instr. Selected works by African-American authors. Course may define a narrowed focus such as poetry, women writers, etc.	3 Credits
	LIT 363 - Modern Poetry Offered alternate years. Prereq., LIT 300 or consent of instr. Survey of modern poetry in English beginning with Emily Dickinson and Walt Whitman and moving toward the present, centering on modernist poets.	3 Credits

	LIT 373 - Lit & Environment Offered autumn. Prereq., LIT 210L or 211L (ENLT 224L or 225L) and LIT 300 (ENLT 301) or consent of instr. Study of major texts and issues in American nature writing.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing Courses

Rule: Complete two courses (6 credits).

Note: LIT 300 is open only to English majors who have completed the Pre-English curriculum and have declared a major option.

Note: LIT 300 is the pre-requisite for most other 300- and 400-level LIT courses, including LIT 327. FILM 320 Shakespeare and Film substitutes for LIT 327 Shakespeare.

	Course	Credits
	LIT 300 - Literary Criticism Offered every term. Prereq. or coreq., 12 credits of lower-division English courses. Study of various literary theories and their application to literary texts.	3 Credits
	LIT 327 - Shakespeare Offered autumn and spring. Prereq., LIT 300 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum and Instruction in the College of Education and Human Sciences for more information.

Film Studies

In Film Studies, students receive a thorough introduction to the many facets of moving image culture, including a background in film history, theory, and aesthetics. In this interdisciplinary program, students are exposed to a broad array of national and international films, as well as filmic translations of well-known works of literature. Students analyze film from a variety of theoretical perspectives and become critical viewers of what is now one of the most predominant forms of cultural representation. Film Studies currently offers a minor for those students who wish to learn more in this discipline without committing fully to the degree program.

Bachelor of Arts - English; Film Studies Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 45

Required Cumulative GPA: 2.0

Note: Upon successful completion of the Pre-English requirements, students must declare the English major and choose a degree option. English majors with the option in Film Studies must earn 45-60 of their total credits in Department of English courses.

Foundational courses

Rule: Complete two courses (6 credits).

	Course	Credits
	FILM 103L - Introduction to Film Offered every term. The history and development of the film medium. Emphasis on critical analysis of selected classic or significant films.	3 Credits
	LIT 270L - Film & Lit (R-6) Offered intermittently. Studies of the relationship between film and literature. Topics vary.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Focus courses

Rule: Complete two courses (6 credits).

	Course	Credits
	FILM 300 - History of Film Offered every year. Prereq., FILM 103L, LIT 270L. Survey of film history.	3 Credits
	FILM 447 - Film Theory Offered yearly. This course examines key approaches to film theory and criticism, and the theoretical roots of each. Classic and contemporary films will be assessed in the light of the theories covered.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Film electives

Rule: Complete 9 courses (27 credits) from the following list.

Note: Special topics courses (FILM 191, 291, 391, 491) have a repeatability of 6 credits for each level; e.g. although the course prefix and number may be the same, different course titles will count toward major requirements and graduation requirements for up to six credits at each course number level (6 credits of FILM 191, 6 credits of FILM 291, etc.).

Film Genres (FILM 327), Studies in Film (FILM 381), Advanced Studies in Film (FILM 481), Film Directors (FILM 484), and Independent Study (FILM 492) have a repeatability of 9 credits.

PHL 427 Topics in Philosophy of Art can count toward the Film Studies major when the topic specifically includes film.

	Course	Credits

	ENT 442 - Tchg Oral Lang & Media Lit Offered autumn and spring. Prereq. or coreq.., LING 465, EDU 395. Emphasis on preparation, implementation, and evaluation of teaching strategies and materials in grades 5-12. Includes learning objectives, teaching and learning styles, unit plans, print and non-print media, and creative drama. Explores student-centered curriculum, with emphasis on developmental abilities in speaking, listening and viewing, and multigenre/multimodal communication. Required of students pursuing secondary English major and minor teaching licenses.	3 Credits
	FILM 191 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	FILM 262L - German Cinema Offered intermittently. The development of the German film from its beginnings in 1895 through the contemporary New German Cinema. Topics include Expressionism, New Objectivity, the Nazi film, the German contribution to Hollywood, the post-war film in East and West Germany, and film in unified Germany. Credit not allowed for LS 282L or MCLG 222L and 322L GRMN.	3 Credits
	FILM 291 - Special Topics (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	FILM 308 - Russian Cinema and Culture Offered intermittently. Topically arranged introduction to the cinema of Russia and the former Soviet Union, with particular emphasis on contemporary Russian cinema. Screening preceded by brief cultural and historical background lectures and followed by group and paired discussion. All films screened with English subtitles. No knowledge of Russian is necessary.	3 Credits
	FILM 327 - Film Genres (R-9) Offered every other year. Prereq. FILM 103L. Intensive study of central works within one major film genre.	3 Credits
	FILM 363 - The French Cinema Offered intermittently. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realism, Nouvelle Vogue, etc.) with an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.	3 Credits
	FILM 365 - Latin Amer Civ Thru Lit & Film Offered in autumn odd-numbered years. The development of the traditional society of Latin American civilization through the interaction of European, Indian and African elements.	3 Credits
	FILM 381 - Studies in the Film (R-9) Offered autumn and spring. Prereq., FILM 103L or consent of instr. Studies in genres, directors, movements, problems, etc.	3 Credits
	FILM 391 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits

	FILM 448 - Documentary: Thry and Practice Offered yearly. Same as MAR 443. Designed to bring together Film Studies students (theorists) and Media Arts students (filmmakers) so they may draw from their respective fields to collaborate on the production of documentaries. After exposure to both documentary history and criticism, students will work with a team of producers in learning the basic skills involved in documentary production.	3 Credits
	FILM 481 - Advanced Studies in Film (R-9) Offered every other year. Studies in film aesthetics, politics of film, international cinema and comparative film analyses.	3 Credits
	FILM 484 - Film Directors (R-9) Offered every year. Prereq. FILM 103L. Intensive study of the life and work of one major film director.	3 Credits
	FILM 491 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics	1 To 9 Credits
	FILM 492 - Independent Study (R-9) Offered every term. Pereq., consent of instr. and department chair, and junior or senior standing. Special Projects in film. Only one 492 may be taken per semester.	1 To 9 Credits
	FILM 495 - Practicum R-6	1 To 6 Credits
	MAR 101L - Intro to Media Arts Offered every term. Overview of the media arts and their interaction, integration and development in the creation of story beginning with the early years of photography and movie-making through the introduction of radio and television up to the digital revolution.	3 Credits
	MCLG 339 - Surv African Cinema A diachronic survey of primarily Francophone African cinema accompanied by interpretation and evaluation of films through filmic critical theory. Students taking the course for French credit must read and write in French.	3 Credits
	NASX 360 - Native Amer and Cinema Offered Autumn or Spring. Same as ENFM 344. Surveys the image of Native Americans in American film with an emphasis on "revisionist," or "breakthrough" films. Ultimate focus will be on films featuring Native American writers, directors and actors.	3 Credits
	PHL 102 - Topical Intro to Philosophy (R-9) Offered yearly. An introduction to philosophy through examination of a selected topic (such as existentialism, philosophy of film, technology and the good life, science and society, philosophy of religion).	1 To 4 Credits
	PHL 427 - Topics in Philosophy of Art (R-9) Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Examination of philosophical problems related to particular arts and discussion of the nature of the arts. Topics considered may include music, visual arts, literature, and film.	1 To 4 Credits

	SPNS 359 - Span Amer Civ Lit & Film Offered spring in odd-numbered years. Prereq., at least one upper–division class in Spanish and SPNS 301. Same as MCLG and LS 358. The development of the traditional society of Spanish American civilization through the interaction of European, Indian, and African elements. Credit not allowed for both LS/MCLG 358 and SPAN 359.	3 Credits
Minimum Required Grade: C-		27 Total Credits Required

Upper Division Writing Courses

Rule: Complete two courses (6 credits).

Note: LIT 300 is open only to English majors who have completed the Pre-English curriculum and have declared a major option.

Note: LIT 300 is the pre-requisite for most other 300- and 400-level LIT courses, including FILM 320.

	Course	**Credits**
	FILM 320 - Shakespeare and Film Same as LIT 327. Offered once a year. Prereq., LIT 300 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities in relation to film.	3 Credits
	LIT 300 - Literary Criticism Offered every term. Prereq. or coreq., 12 credits of lower-division English courses. Study of various literary theories and their application to literary texts.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Modern or Classical Language major requirement

Rule: Complete the 202-level proficiency in either a modern or classical language other than English

Note: Students may either take four sequential semesters (101, 102, 201, 202) of a modern or classical language or exemplify proficiency through examination (available through the Modern and Classical Languages and Literature Department).

Minimum Required Grade: Pass

4-18 Total Credits Required

General Linguistics

In conjunction with the Linguistics Program, English also offers an option in English Linguistics which provides a background in both literature. Students interested in Teaching English as a Second Language, which prepares students for the particular concerns of second-language acquisition and pedagogy, may pursue the Teaching English as a Second Language Certificate Program through the Anthropology Department. Please note that the Teaching English as a Second Language (ESL) Certficiate Program is not a stand-alone route to licensure. For licensure requirements, refer to the College of Education section in this catalog.

Bachelor of Arts - English; Linguistics Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 45

Required Cumulative GPA: 2.0

Note: Upon successful completion of the Pre-English requirements, students must declare the English major and choose a degree option. English majors with the option in Linguistics must earn 45-60 of their total credits in Department of English courses.

Pre-English Core Courses

Rule: Complete three courses (9 credits).

Minimum Required Grade: C

9 Total Credits Required

Early British Literature survey

Rule: Complete one course (3 credits).

	Course	Credits
	LIT 220L - Brit Lit: Med to Renaissance Offered every term. Representative texts from the Anglo-Saxon period through the Renaissance.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

British Literature and American Literature surveys

Rule: Complete two courses (6 credits).

	Course	Credits
	LIT 210L - American Lit I Offered every term. Representative texts from the pre-colonial period through the Civil War.	3 Credits
	LIT 211L - American Lit II Offered every term. Representative texts from the Civil War to the present.	3 Credits
	LIT 221L - Brit Lit: Enlightenment to Rom Offered every term. Representative texts from the seventeenth through the eighteenth century.	3 Credits
	LIT 222L - Brit Lit: Victorian to Contemp Offered every term. Representative texts from the early nineteenth century to the present.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Upper Division Requirements

Rule: Complete nine courses (27 credits).

Note: ENLI/LING 465 and LING 470 do not carry pre-requisites. LING 470 is a pre-requisite for all other LING courses above 470 (e.g. 471+).

	Course	Credits

	-	
	ENLI 465 - Structure of Eng for Tchrs Offered intermittently. Same as LING 465. The development of the English language from a historical perspective contrasted with the phonological and grammatical structure of English from a modern linguistic point of view, specifically designed for teachers.	3 Credits
	LING 470 - Linguistic Analysis Offered autumn. An in-depth examination of the formal properties of language, concentrating on the core areas of linguistic analysis (phonetics, phonology, morphology, syntax and semantics).	3 Credits
	LING 471 - Phonetics and Phonology Offered autumn. Prereq., LING 470. A study of phonetic and phonological systems from as many as 20 languages, most of them non–Indo–European; training in how to do linguistic analysis as well as linguistic theory. This course co-convenes with LING 571.	3 Credits
	LING 472 - Generative Syntax Offered autumn. Prereq., LING 470. A study of the human language sentence–formation system, the means for expressing semantic information as propositional content. Emphasis on the abstraction of utterances in the form of mathematical objects. This course co-convenes with LING 572.	3 Credits
	LING 474 - Historical Linguistics Offered spring even-numbered years. Prereq., LING 470. An introduction to the study of language change over time. Topics include: methods for studying language change (the comparative method and internal reconstruction); types of language change (sound change, borrowing, analogical change, lexical, syntactic, and semantic change); and explanations for language change. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change. This course co-convenes with LING 574.	3 Credits
	LING 475 - Linguistic Field Methods Offered spring odd-numbered years. Prereq., LING 470. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a less commonly taught language. This course co-convenes with LING 575.	3 Credits
	LING 477 - Bilingualism Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.	3 Credits
	LING 478 - Learner Language Offered spring. Prereq., LING 270S or equivalent. Observing/describing language learners' behaviors and, to a degree, advances toward proficiency (i.e., fluency plus accuracy); the presence of error as conditioned by a priori knowledge of language and implications for child and adult development; and applying typical methods of linguistic analysis to the (non-) systematic variants in language form characterizing developmental processes as a way of trying to explain variable behavior.	3 Credits
	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits

Minimum Required Grade: C-	27 Total Credits Required

Upper Division English Electives

Rule: Complete one course

Note: Please note that these courses carry pre-requisites.

	Course	Credits
	LIT 349L - Medieval Lit Offered alternate years. Prereq., LIT 300 or consent of instr. Exploration of literature from the medieval period, focusing on the major cultural and intellectual influences on the emergence of vernacular writing. Topics will vary, but will regularly include Anglo-Saxon literature and Middle English literature (excluding Chaucer).	3 Credits
	LIT 350L - Chaucer Offered alternate years. Critical reading of Chaucer's masterpiece, the Canterbury Tales, with attention to Chaucerian irony, the author's place in literary history, and issues in Chaucer studies.	3 Credits
Minimum Required Grade: C-		

Upper Division Writing Courses

Rule: Complete two courses (6 credits).

Note: LIT 300 is open only to English majors who have completed the Pre-English curriculum and have declared a major option.

Note: LIT 300 is the pre-requisite for most other 300- and 400-level LIT courses, including LIT 327. FILM 320 Shakespeare and Film substitutes for LIT 327 Shakespeare.

	Course	Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LIT 327 - Shakespeare Offered autumn and spring. Prereq., LIT 300 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Modern or Classical Language major requirement

Rule: Complete the 202-level proficiency in either a modern or classical language other than English

Note: Students may either take four sequential semesters (101, 102, 201, 202) of a modern or classical language or exemplify proficiency through examination (available through the Modern and Classical Languages and Literature Department).

Minimum Required Grade: Pass

4-18 Total Credits Required

Literature

Under the Literature option, students ground their study in the reading and examination of works through a series of historically based surveys as well as other core courses, covering the techniques of literary analysis, the application of literary theory, and finally the development of a research project in a senior capstone. Students complement these core courses with a selection of electives that engage specific genres, authors, and periods, as well as different disciplines (e.g. Literature and the Environment) and literatures of diversity (e.g. Native American Literature). M.A. students select graduate seminars in American, British, and comparative literatures as well as other disciplines, their course work culminating in a research thesis or a portfolio of seminar papers revised in collaboration with a committee. The literature emphasis imparts an understanding of not only the aesthetic richness of canonical and emerging literatures but also the historical and cultural forces that have contributed to their making. The classes are of a size that makes discussion very much a part of a student's experience.

Bachelor of Arts - English; Literature Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 42

Required Cumulative GPA: 2.0

Note: Upon successful completion of the Pre-English requirements, students must declare the English major and choose a degree option. English majors with the option in Literature must earn 42-60 of their total credits in Department of English courses.

Pre-English Core Courses

Rule: Complete four courses (12 credits) including LIT 201, British, and American Literature surveys.

	Course	Credits
	LIT 201 - Intro to Literary Studies Offered every term. Introduction to the field of literary studies, to the conventions of literary analysis, and to the literature option for English majors. Reading, writing, and research skills will be stressed, along with interpretative approaches to major genres within the field.	3 Credits
Minimum Required Grade: C		12 Total Credits Required

Early British Literature survey

Rule: Complete one course (3 credits).

Note: LIT 220 satisfies the "A" designation. Students who elect to take LIT 220 need not take another "A" designated-course at the 300-level (see Upper Division Core requirements). LIT 221 satisfies the "B" designation. Students who elect to take LIT 221 need not take another "B" designated-course at the 300-level (see Upper Division Core requirements).

	Course	Credits
	LIT 220L - Brit Lit: Med to Renaissance Offered every term. Representative texts from the Anglo-Saxon period through the Renaissance.	3 Credits
	LIT 221L - Brit Lit: Enlightenment to Rom Offered every term. Representative texts from the seventeenth through the eighteenth century.	3 Credits

Minimum Required Grade: C	3 Total Credits Required

Late British Literature and American Literature survey

Rule: Complete two courses (6 credits).

Note: LIT 210 satisfies the "B" designation. Students who elect to take LIT 210 need not take another "B" designated-course at the 300-level (see Upper Division Core requirements).

	Course	Credits
	LIT 210L - American Lit I Offered every term. Representative texts from the pre-colonial period through the Civil War.	3 Credits
	LIT 211L - American Lit II Offered every term. Representative texts from the Civil War to the present.	3 Credits
	LIT 222L - Brit Lit: Victorian to Contemp Offered every term. Representative texts from the early nineteenth century to the present.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Upper Division Requirements

Rule: Complete four courses (12 credits).

Note: LIT 220 satisfies the "A" designation. Students who elect to take LIT 220 need not take another "A" designated-course at the 300-level, but must substitute another 300-level LIT elective.

LIT 221 and LIT 210 satisfy the "B" designation. Students who elect to take LIT 221 or 210 need not take another "B" designated-course at the 300-level, but must substitute another 300-level LIT elective.

Minimum Required Grade: C-

12 Total Credits Required

A Designation: Medieval through early modern British Literature

Rule: Complete one course (3 credits).

	Course	Credits
	LIT 349L - Medieval Lit Offered alternate years. Prereq., LIT 300 or consent of instr. Exploration of literature from the medieval period, focusing on the major cultural and intellectual influences on the emergence of vernacular writing. Topics will vary, but will regularly include Anglo-Saxon literature and Middle English literature (excluding Chaucer).	3 Credits
	LIT 350L - Chaucer Offered alternate years. Critical reading of Chaucer's masterpiece, the Canterbury Tales, with attention to Chaucerian irony, the author's place in literary history, and issues in Chaucer studies.	3 Credits

	LIT 351 - Donne & His Followers Offered alternate years. Prereq., LIT 300 or consent of instr. Close study of John Donne and other early 17th century religious poets within the context of Renaissance intellectual history.	3 Credits
	LIT 353 - Milton Offered alternate years. Prereq., LIT 300 or consent of instr. Selected study of poetry and prose of Milton.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

B Designation: Enlightenment through Romantic British Literature or pre-1865 American Literature

Rule: Complete one course (3 credits).

	Course	Credits
	LIT 353 - Milton Offered alternate years. Prereq., LIT 300 or consent of instr. Selected study of poetry and prose of Milton.	3 Credits
	LIT 355 - British Romanticism Offered alternate years. Prereq. or co-req., LIT 300. Introduction to the major texts, themes, and authors of British literature from 1790-1815, focusing on poets such as Blake, Barbauld, Wordsworth, Coleridge, and P.B. Shelley but attending also to prose writers from Austen to Mary Shelley.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

C Designation: 400-level theory

Rule: Complete one course (3 credits).

	Course	Credits
	LIT 420 - Critical Theory (R-9) Offered autumn or spring. Prereq., LIT 300 and six credits in literature courses numbered 300 or higher or consent of instr. Study and application of one or more theoretical approaches to interpreting texts (e.g., aesthetic post-structural, new historicist, classical, Renaissance, Romantic, narrative, psychoanalytic, formalist, neo-Marxist, feminist, gender, cultural studies and reader-response theory).	3 Credits
	LIT 421 - History of Criticism & Theory Offered autumn or spring. Prereq., LIT 300 and six credits in literature courses numbered 300 or higher or consent of instr. Survey of the historical development of critical theories which shaped ways of reading and writing from Plato and Aristotle to the present.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

D Designation: Diversity

Rule: Complete one course (3 credits)

	Course	Credits
	LIT 304 - U.S. Writers of Color Offered intermittently. Prereq., LIT 300 or consent of instr. Selected readings from African American, Asian American, Chicano/a, Latino/a, and Native American literatures.	3 Credits
	LIT 305 - Lit by & About Native Amer Offered autumn. Prereq., three credits of lower-division LIT courses and NASX 105H or 235X. Same as NASX 340. Selected readings from Native American literature with special emphasis on the literature of writers from the Rocky Mountain west.	3 Credits
	LIT 314 - The American Novel Offered intermittently. Prereq., LIT 210L or 211L and prereq. or co-req., LIT 300. Examination of a selection of American novels in their historical, cultural, and literary contexts. Exploration of literary movements such as realism, naturalism, modernism, and postmodernism. Discussion of critical theories and application to the texts.	3 Credits
	LIT 315 - Voices of the Am Renaissance Offered intermittently. Prereq., LIT 210L or 211L and LIT 300 or consent of instr. Perspectives on antebellum Native American, African American, and gender issues. Study of the poetry of Walt Whitman and Emily Dickinson in light of these three perspectives.	3 Credits
	LIT 343 - African American Lit Offered intermittently. Prereq., LIT 300 or consent of instr. Selected works by African-American authors. Course may define a narrowed focus such as poetry, women writers, etc.	3 Credits
	LIT 363 - Modern Poetry Offered alternate years. Prereq., LIT 300 or consent of instr. Survey of modern poetry in English beginning with Emily Dickinson and Walt Whitman and moving toward the present, centering on modernist poets.	3 Credits
	LIT 378L - Gay and Lesbian Studies Offered alternate years. Prereq., LIT 300 or consent of instr. Review of the history of the gay and lesbian movement in the twentieth century as a basis for understanding the political, social, and sexual issues that influenced homoerotic cultural representation in plays, films, and novels.	3 Credits
	LIT 379L - Gender & Sexuality in Eng. Fic Offered alternate years. Same as LSH 327L. Major 20th century novels and short stories written in English in different parts of the world and how these texts explore changing concepts of gender and sexuality.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Upper Division English Electives

Rule: Complete three courses (9 credits) of 300- or 400-level English electives.

Note: Please note that most of these courses carry pre-requisites.

Note: Select any three courses (9 credits) from the course prefixes CRWR, ENIR, ENLI, FILM, LING, or LIT. All courses must be 300- or 400-level.

Minimum Required Grade: C-

9 Total Credits Required

Literature Seminar Capstone

Rule: Complete one course (3 credits).

Note: Students must complete the capstone requirement at UM, ideally during their last two semesters of undergraduate study.

	Course	Credits
	LIT 494 - Seminar: Lit Capstone (R 9) Offered autumn and spring. Prereq., LIT 300 and nine credits in literature courses numbered higher than 300. Required for completing the English literature option, this seminar will allow students to conduct advanced studies in literary figures and topics chosen by faculty to engage a broad range of interests. A long research paper is required.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing Courses

Rule: Complete two courses (6 credits).

Note: LIT 300 is open only to English majors who have completed the Pre-English curriculum and have declared a major option.

Note: LIT 300 is the pre-requisite for most other 300- and 400-level LIT courses, including LIT 327. FILM 320 Shakespeare and Film substitutes for LIT 327 Shakespeare.

	Course	Credits
	LIT 300 - Literary Criticism Offered every term. Prereq. or coreq., 12 credits of lower-division English courses. Study of various literary theories and their application to literary texts.	3 Credits
	LIT 327 - Shakespeare Offered autumn and spring. Prereq., LIT 300 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Modern or Classical Language major requirement

Rule: Complete the 202-level proficiency in either a modern or classical language other than English

Note: Students may either take four sequential semesters (101, 102, 201, 202) of a modern or classical language or exemplify proficiency through examination (available through the Modern and Classical Languages and Literature Department).

Minimum Required Grade: Pass

4-18 Total Credits Required

English Minor

Minor - English (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18

Required Cumulative GPA: 2.0

Note: English minors must earn at least 18 credits within the English Department (excluding WRIT courses).

Foundational courses

Rule: Complete any two 200-level courses with LIT or CRWR prefixes

Minimum Required Grade: C-

6 Total Credits Required

Focus courses

Rule: Complete any four upper-division English elective courses (12 credits).

Note: Students must complete four upper-division English elective courses. Any 300+level courses with the prefixes LIT, ENIR, FILM, and CRWR qualify. Some of these upper-division courses carry pre-requisites, so students should select lower- and upper-division courses carefully to ensure meeting those pre-requisites.

Students wishing to enroll in 300- or 400-level CRWR workshops (CRWR 310/311/312/410/411/412) must complete the 200-level CRWR pre-requisite. CRWR 410/411/412 also require a writing submission for consent of instructor.

Students wishing to enroll in upper-division LIT courses need to take 6 credits of LIT at the 200-level, LIT 300, and/or receive consent of instructor.

Minimum Required Grade: C-

12 Total Credits Required

Teaching English Minor

A teaching minor is an academic minor which may contain different course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete a teaching major in a content area plus the teacher preparation program through the Department of Curriculum and Instruction. Additional teaching areas can be added through completion of either a teaching major or a teaching minor in that content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

The English Teaching program provides content knowledge, pedagogy, and professional experiences required for teaching literacy in a democratic society. Based on current research and best practices, the English Teaching program integrates the study of language, literature, and media, creating learning communities and supporting teachers as critical thinkers, creative problem solvers, and reflective practitioners. Students who successfully complete this option and the requirements from the College of Education receive both a B.A. in English teaching and a secondary teaching license (grades 5-12) in English. At the graduate level, the English Teaching program offers advanced theory and pedagogy courses, culminating in an M.A. in English (Teaching). The English Teaching Program is also the home of the Montana Writing Project, which is dedicated to improving the teaching and learning of writing at all grade levels and offers a special focus on meeting the state-mandated Indian Education for All.

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major /teaching track within that degree program which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Minor - English (Minor); Track: Teaching English

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.0

Note: English Teaching minors must earn 36 credits within the English Department. Individuals completing a teaching minor must also complete a teaching major in another content area. A minor GPA of 2.75 is required to be eligible for student teaching.

Foundational courses

Rule: Complete three courses (9 credits).

Minimum Required Grade: C-

9 Total Credits Required

Early British Literature survey

Rule: Complete one course (3 credits).

	Course	Credits
	LIT 220L - Brit Lit: Med to Renaissance Offered every term. Representative texts from the Anglo-Saxon period through the Renaissance.	3 Credits
	LIT 221L - Brit Lit: Enlightenment to Rom Offered every term. Representative texts from the seventeenth through the eighteenth century.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Late British Literature and American Literature surveys

Rule: Complete two courses (6 credits).

	Course	Credits
	LIT 210L - American Lit I Offered every term. Representative texts from the pre-colonial period through the Civil War.	3 Credits

	LIT 211L - American Lit II Offered every term. Representative texts from the Civil War to the present.	3 Credits
	LIT 222L - Brit Lit: Victorian to Contemp Offered every term. Representative texts from the early nineteenth century to the present.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Requirements

Rule: Complete two courses (6 credits).

Note: ENLI/LING 465 and ENT 439 do not carry pre-requisites.

	Course	Credits
	ENLI 465 - Structure of Eng for Tchrs Offered intermittently. Same as LING 465. The development of the English language from a historical perspective contrasted with the phonological and grammatical structure of English from a modern linguistic point of view, specifically designed for teachers.	3 Credits
	ENT 439 - Studies in Young Adult Lit Offered autumn. Reading of representative texts covering the history, genres, authors, and themes of literature for students in middle school and high school.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

English Teaching methods courses

Rule: Complete three courses (9 credits).

Note: Students must be admitted to the Teacher Education Program prior to enrolling in ENT 440, 441, and 442. Other EDU pre-/co-requisites also apply to ENT 440, 441, and 442.

	Course	Credits
	ENT 440 - Teaching Writing Offered autumn and spring. Prereq. or coreq., EDU 202. Emphasis on teaching writing in grades 5-12. Research about development and maturity of writers, overview of schools of writing/history of writing instruction, strategies for teaching writing as a process, elements of writing craft, criteria for assessing and responding to writing, peer-coaching methods, writing/reading workshops, the role of grammar in improving writing, writing/reading connections, assignment characteristics, and grading practices. Required of students pursuing secondary English major and minor teaching licenses.	3 Credits

	ENT 441 - Tchg Rdng & Literature Offered spring. Prereq. or Coreq., ENT 439, EDU 395. Emphasis on various approaches to teaching reading and literature in grades 5-12. Research about the development and maturity of readers, strategies for teaching reading comprehension and vocabulary, strategies for diagnosing reading abilities and criteria for reading assessment, reading workshops/literature circles. Emphasis on various approaches to teaching literature: genre, inquiry, thematic, chronological and interdisciplinary. Includes techniques for developing responses to fiction, nonfiction, prose, poetry, film and other media. Focus on the design of lesson plans and curriculum using traditional/classic, contemporary, young adult, and multicultural literature in grades 5-12. Required of students pursuing secondary English major and minor teaching licenses.	3 Credits
	ENT 442 - Tchg Oral Lang & Media Lit Offered autumn and spring. Prereq. or coreq.., LING 465, EDU 395. Emphasis on preparation, implementation, and evaluation of teaching strategies and materials in grades 5-12. Includes learning objectives, teaching and learning styles, unit plans, print and non-print media, and creative drama. Explores student-centered curriculum, with emphasis on developmental abilities in speaking, listening and viewing, and multigenre/multimodal communication. Required of students pursuing secondary English major and minor teaching licenses.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Upper Division Literature Electives

Rule: Complete two courses (6 credits).
Note: Please note that most of these courses carry pre-requisites.
Minimum Required Grade: C-
6 Total Credits Required

D Designation: Diversity

Rule: Complete one course (3 credits).

	Course	Credits
	LIT 304 - U.S. Writers of Color Offered intermittently. Prereq., LIT 300 or consent of instr. Selected readings from African American, Asian American, Chicano/a, Latino/a, and Native American literatures.	3 Credits
	LIT 305 - Lit by & About Native Amer Offered autumn. Prereq., three credits of lower-division LIT courses and NASX 105H or 235X. Same as NASX 340. Selected readings from Native American literature with special emphasis on the literature of writers from the Rocky Mountain west.	3 Credits
	LIT 343 - African American Lit Offered intermittently. Prereq., LIT 300 or consent of instr. Selected works by African-American authors. Course may define a narrowed focus such as poetry, women writers, etc.	3 Credits

	LIT 378L - Gay and Lesbian Studies Offered alternate years. Prereq., LIT 300 or consent of instr. Review of the history of the gay and lesbian movement in the twentieth century as a basis for understanding the political, social, and sexual issues that influenced homoerotic cultural representation in plays, films, and novels.	3 Credits
	LIT 379L - Gender & Sexuality in Eng. Fic Offered alternate years. Same as LSH 327L. Major 20th century novels and short stories written in English in different parts of the world and how these texts explore changing concepts of gender and sexuality.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

American literature focus

Rule: Complete one course (3 credits).

	Course	Credits
	LIT 304 - U.S. Writers of Color Offered intermittently. Prereq., LIT 300 or consent of instr. Selected readings from African American, Asian American, Chicano/a, Latino/a, and Native American literatures.	3 Credits
	LIT 305 - Lit by & About Native Amer Offered autumn. Prereq., three credits of lower-division LIT courses and NASX 105H or 235X. Same as NASX 340. Selected readings from Native American literature with special emphasis on the literature of writers from the Rocky Mountain west.	3 Credits
	LIT 314 - The American Novel Offered intermittently. Prereq., LIT 210L or 211L and prereq. or co-req., LIT 300. Examination of a selection of American novels in their historical, cultural, and literary contexts. Exploration of literary movements such as realism, naturalism, modernism, and postmodernism. Discussion of critical theories and application to the texts.	3 Credits
	LIT 315 - Voices of the Am Renaissance Offered intermittently. Prereq., LIT 210L or 211L and LIT 300 or consent of instr. Perspectives on antebellum Native American, African American, and gender issues. Study of the poetry of Walt Whitman and Emily Dickinson in light of these three perspectives.	3 Credits
	LIT 342 - Montana Writers Offered intermittently. Prereq., LIT 210L or 211L. Examination of poems, stories, and novels by or about Montanans and the treatment and representation of race, place, class, gender, sexuality, and identity in Montana. Exploration of the myths and realities of Montana and the American West.	3 Credits

	LIT 343 - African American Lit Offered intermittently. Prereq., LIT 300 or consent of instr. Selected works by African-American authors. Course may define a narrowed focus such as poetry, women writers, etc.	3 Credits
	LIT 373L - Lit & Environment Offered alternate years. Prereq., LIT 210L or 211L and LIT 300 or consent of instr. Study of major texts and issues in American nature writing.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper-division Writing Courses

Rule: Complete two courses (6 credits).

Note: English Teaching students may substitute FILM 320 Shakespeare and Film for LIT 327.

	Course	Credits
	LIT 300 - Literary Criticism Offered every term. Prereq. or coreq., 12 credits of lower-division English courses. Study of various literary theories and their application to literary texts.	3 Credits
	LIT 327 - Shakespeare Offered autumn and spring. Prereq., LIT 300 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Teaching licensure requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum and Instruction in the College of Education and Human Sciences for more information.

Film Studies Minor

Minor - Film Studies (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 27

Required Cumulative GPA: 2.0

Note: Students minoring in Film Studies must earn 27 total credits.

Foundational courses

Rule: Complete two courses (6 credits).

	Course	Credits
	FILM 103L - Introduction to Film Offered every term. The history and development of the film medium. Emphasis on critical analysis of selected classic or significant films.	3 Credits
	LIT 270L - Film & Lit (R-6) Offered intermittently. Studies of the relationship between film and literature. Topics vary.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Focus courses

Rule: Complete two courses (6 credits).

	Course	Credits
	FILM 300 - History of Film Offered every year. Prereq., FILM 103L, LIT 270L. Survey of film history.	3 Credits
	FILM 447 - Film Theory Offered yearly. This course examines key approaches to film theory and criticism, and the theoretical roots of each. Classic and contemporary films will be assessed in the light of the theories covered.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Film electives

Rule: Complete 5 courses (15 credits) from the following list.

Note: Special topics courses (FILM 191, 291, 391, 491) have a repeatability of 6 credits for each level; e.g. although the course prefix and number may be the same, different course titles will count toward major requirements and graduation requirements for up to six credits at each course number level (6 credits of FILM 191, 6 credits of FILM 291, etc.).

Film Genres (FILM 327), Studies in Film (FILM 381), Advanced Studies in Film (FILM 481), Film Directors (FILM 484), and Independent Study (FILM 492) have a repeatability of 9 credits.

PHL 427 Topics of Philosophy of Art can count toward the Film Studies minor when the topic specifically includes film.

	Course	Credits
	ENT 442 - Tchg Oral Lang & Media Lit Offered autumn and spring. Prereq. or coreq.., LING 465, EDU 395. Emphasis on preparation, implementation, and evaluation of teaching strategies and materials in grades 5-12. Includes learning objectives, teaching and learning styles, unit plans, print and non-print media, and creative drama. Explores student-centered curriculum, with emphasis on developmental abilities in speaking, listening and viewing, and multigenre/multimodal communication. Required of students pursuing secondary English major and minor teaching licenses.	3 Credits

	FILM 191 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	FILM 262L - German Cinema Offered intermittently. The development of the German film from its beginnings in 1895 through the contemporary New German Cinema. Topics include Expressionism, New Objectivity, the Nazi film, the German contribution to Hollywood, the post-war film in East and West Germany, and film in unified Germany. Credit not allowed for LS 282L or MCLG 222L and 322L GRMN.	3 Credits
	FILM 291 - Special Topics (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	FILM 308 - Russian Cinema and Culture Offered intermittently. Topically arranged introduction to the cinema of Russia and the former Soviet Union, with particular emphasis on contemporary Russian cinema. Screening preceded by brief cultural and historical background lectures and followed by group and paired discussion. All films screened with English subtitles. No knowledge of Russian is necessary.	3 Credits
	FILM 320 - Shakespeare and Film Same as LIT 327. Offered once a year. Prereq., LIT 300 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities in relation to film.	3 Credits
	FILM 327 - Film Genres (R-9) Offered every other year. Prereq. FILM 103L. Intensive study of central works within one major film genre.	3 Credits
	FILM 363 - The French Cinema Offered intermittently. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realism, Nouvelle Vogue, etc.) with an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.	3 Credits
	FILM 365 - Latin Amer Civ Thru Lit & Film Offered in autumn odd-numbered years. The development of the traditional society of Latin American civilization through the interaction of European, Indian and African elements.	3 Credits
	FILM 381 - Studies in the Film (R-9) Offered autumn and spring. Prereq., FILM 103L or consent of instr. Studies in genres, directors, movements, problems, etc.	3 Credits
	FILM 391 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits

	FILM 448 - Documentary: Thry and Practice Offered yearly. Same as MAR 443. Designed to bring together Film Studies students (theorists) and Media Arts students (filmmakers) so they may draw from their respective fields to collaborate on the production of documentaries. After exposure to both documentary history and criticism, students will work with a team of producers in learning the basic skills involved in documentary production.	3 Credits
	FILM 481 - Advanced Studies in Film (R-9) Offered every other year. Studies in film aesthetics, politics of film, international cinema and comparative film analyses.	3 Credits
	FILM 484 - Film Directors (R-9) Offered every year. Prereq. FILM 103L. Intensive study of the life and work of one major film director.	3 Credits
	FILM 491 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics	1 To 9 Credits
	FILM 492 - Independent Study (R-9) Offered every term. Pereq., consent of instr. and department chair, and junior or senior standing. Special Projects in film. Only one 492 may be taken per semester.	1 To 9 Credits
	FILM 495 - Practicum R-6	1 To 6 Credits
	MAR 101L - Intro to Media Arts Offered every term. Overview of the media arts and their interaction, integration and development in the creation of story beginning with the early years of photography and movie-making through the introduction of radio and television up to the digital revolution.	3 Credits
	MCLG 339 - Surv African Cinema A diachronic survey of primarily Francophone African cinema accompanied by interpretation and evaluation of films through filmic critical theory. Students taking the course for French credit must read and write in French.	3 Credits
	NASX 360 - Native Amer and Cinema Offered Autumn or Spring. Same as ENFM 344. Surveys the image of Native Americans in American film with an emphasis on "revisionist," or "breakthrough" films. Ultimate focus will be on films featuring Native American writers, directors and actors.	3 Credits
	PHL 102 - Topical Intro to Philosophy (R-9) Offered yearly. An introduction to philosophy through examination of a selected topic (such as existentialism, philosophy of film, technology and the good life, science and society, philosophy of religion).	1 To 4 Credits
	PHL 427 - Topics in Philosophy of Art (R-9) Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Examination of philosophical problems related to particular arts and discussion of the nature of the arts. Topics considered may include music, visual arts, literature, and film.	1 To 4 Credits

	SPNS 359 - Span Amer Civ Lit & Film Offered spring in odd-numbered years. Prereq., at least one upper–division class in Spanish and SPNS 301. Same as MCLG and LS 358. The development of the traditional society of Spanish American civilization through the interaction of European, Indian, and African elements. Credit not allowed for both LS/MCLG 358 and SPAN 359.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Students choosing the English/Film Studies option or pursuing the Film Studies minor will receive an excellent liberal arts education through the close examination of the many facets of moving image culture. We believe that a solid understanding of cinema entails a good grasp of history and the philosophical, psychological and political theory from which film theory draws. In this interdisciplinary program, students will also be exposed to a broad array of national and international films, as well as filmic translations of well-known works of literature. Students will analyze film from a variety of theoretical perspectives and become critical viewers of what is now one of the most predominant forms of cultural representation.

Irish Studies Minor

Minor - Irish Studies (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18

Required Cumulative GPA: 2.0

Note: Irish Studies students must earn at least 18 credits. These credits will include both the required coursework and electives.

Foundational courses

Rule: Complete 3 courses (9 credits).

Note: ENIR 249 is offered intermittently. Students may substitute ENIR 345 or ENIR 360 for ENIR 249.

	Course	**Credits**
	ENIR 101 - Elementary Irish I Offered autumn or spring. Same as IRSH 101. This course represents an introduction to modern Irish in both its spoken and written forms: basic principles of grammar and sentence structure are covered. Emphasis is placed on the application of these principles in every-day situations. The General Education Modern & Classical Languages requirement can be fulfilled by successful completion of 101, 102 and 103. For proficiency equal to the 202-level, students must take the five semester sequence (101, 102, 103, 201, & 202) of Irish language study.	3 Credits

	ENIR 102 - Elementary Irish II Offered autumn or spring. Same as IRSH 102. The primary objective of this course is to build on the foundations laid in Elementary Irish I. Students will expand their vocabulary with a special focus on verbs; they will also engage new themes that demand a corresponding increase in their store of nouns, adjectives, idioms and expressions. The General Education Modern & Classical Languages requirement can be fulfilled by successful completion of 101, 102 and 103. For proficiency equal to the 202-level, students must take the five semester sequence (101, 102, 103, 201, & 202) of Irish language study.	3 Credits
	ENIR 249 - The Irish Offered intermittently. Same as HSTR 250. Ireland, the Irish people, and the Irish diaspora, from first settlement to contemporary troubles.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Irish Literature Course

Rule: Complete 1 course (3 credits) from the following options

Note: LIT 331 Major Authors can count for the Irish Studies minor when the course focuses on an Irish author (e.g. James Joyce).

	Course	**Credits**
	ENIR 345 - Literature in the Irish Lang Offered intermittently. This course acknowledges Irish as the oldest documented vernacular in Europe and its literature as a voice that is over 1500 years old. Examines the literary response of Gaelic Ireland to invasion, conquest, and colonization as articulated by its literature.	3 Credits
	ENIR 360 - Irish/N Irish Literature Offered intermittently. Examines (in English) selection of fiction, poetry, drama, film, and music from the Irish and/or Northern Irish literary traditions. Students will seek to understand how artists respond to the burdens of history, identity, and political conflict, and how they articulate the possibilities afforded by Ireland's changing position in the world.	3 Credits
	ENIR 380 - Topics in Irish Studies Offered intermittently. A rotating variety of special topics in Irish Studies, including Irish and Irish-American cinema, major Irish/N. Irish authors, Irish cultural studies, and transatlantic and comparative studies.	3 Credits
	ENIR 395 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics;	1 To 6 Credits
	LIT 331 - Major Author/s (R-9) Offered intermittently. Prereq., LIT 300 or consent of instr. Intensive study of the life and works of one author writing in English (courses offered under this rubric have included Chaucer, Milton, Faulkner, Joyce, Twain; less frequently, Conrad, Hemingway, Blake, Woolf, D.H. Lawrence, Welty).	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Minor electives

Rule: Complete 2 courses (6 credits) from the following options.

Note: Irish Theater is offered intermittently through the School of Fine Arts as THTR 391.

Students who wish to continue with Irish language through the 202 level may do so, but only Irish language 103 and 201 can count for minor electives.

LIT 376 & LIT 391 may count toward the Irish Studies minor when the topics cover Irish themes, content, and literature.

	Course	Credits
	DANC 160A - Dance Forms: Irish (R-8) Offered autumn and spring. Introduction to basic Irish dance vocabulary and technique.	2 Credits
	ENIR 103 - Elementary Irish III Offered autumn or spring. Same as IRSH 103. The primary objective of this course is to build on the foundations laid in Elementary Irish I and II. Students will expand their vocabulary with a special focus on verbs; they will also engage new themes that demand a corresponding increase in their store of nouns, adjectives, idioms and expressions. The General Education Modern & Classical Languages requirement can be fulfilled by successful completion of 101, 102 and 103. For proficiency equal to the 202-level, students must take the five semester sequence (101, 102, 103, 201, & 202) of Irish language study.	3 Credits
	ENIR 201 - Intermediate Irish I Offered spring semester. Prereq. ENIR 101, 102, and 103 or their equivalent from another university. Students will continue their study of the verbs; engage more complex syntax and grammatical constructions; and consult the prose and poetry of the written and oral literary traditions. For proficiency equal to the 202-level, students must take the five semester sequence (101, 102, 103, 201, & 202) of Irish language study.	3 Credits
	ENIR 380 - Topics in Irish Studies Offered intermittently. A rotating variety of special topics in Irish Studies, including Irish and Irish-American cinema, major Irish/N. Irish authors, Irish cultural studies, and transatlantic and comparative studies.	3 Credits
	ENIR 395 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics;	1 To 6 Credits
	ENIR 496 - Independent Study (R-9) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics;	1 To 3 Credits

	LIT 376 - Lit & Oth Disciplines (R-9) Offered intermittently. Prereq., nine credits in LIT or LSH or consent of instr. Selected works of literature studied in conjunction with works of art, music, religion, philosophy, or another discipline (e.g. Film and Literature, Modernism, Literature and Science, Bible as Literature, Song).	3 Credits
	LIT 391 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	THTR 391 - Special Topics/Exprmtl Courses (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		6 Total Credits Required

The Department of English offers an interdisciplinary minor in Irish Studies which provides students access to instruction in Irish language, history, literature, and culture. This academic and artistic approach to Irish culture involves an interdisciplinary and inter-collegiate collaboration that brings together leading scholars in the humanities and the creative arts.

Literature and the Environment

- English; Literature & The Environment Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 45
Required Cumulative GPA: 2.0

Core Courses

Rule: Must complete 27 credits from the following:

	Course	**Credits**
	LIT 201 - Intro to Literary Studies Offered every term. Introduction to the field of literary studies, to the conventions of literary analysis, and to the literature option for English majors. Reading, writing, and research skills will be stressed, along with interpretative approaches to major genres within the field.	3 Credits

	LIT 202L - The Environmental Imagination Course is designed to introduce students to the many discourses of nature. In this course we will approach “natural history” as a complex literary genre grounded in personal experience of the “more-than-human” world (in David Abram’s now ubiquitous phrase). While the study of natural history writing has historically focused on authors like Gilbert White, Henry David Thoreau, John Muir, and John Burroughs (as prominent practitioners of the personal narrative essay that explores the natural world), a more thorough understanding of the genre requires consideration of the role race, class, and gender play in shaping discourses of nature. Further, consideration of non-Anglo-American traditions (including, for example, a range of Native American and Asian “literary” practices) expands our understanding of those traditions as it allows us to see the Anglo-American tradition in useful perspective.	3 Credits
	LIT 210L - American Lit I Offered every term. Representative texts from the pre-colonial period through the Civil War.	3 Credits
	LIT 221L - Brit Lit: Enlightenment to Rom Offered every term. Representative texts from the seventeenth through the eighteenth century.	3 Credits
	LIT 300 - Literary Criticism Offered every term. Prereq. or coreq., 12 credits of lower-division English courses. Study of various literary theories and their application to literary texts.	3 Credits
	LIT 327 - Shakespeare Offered autumn and spring. Prereq., LIT 300 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities.	3 Credits
	LIT 373 - Lit & Environment Offered autumn. Prereq., LIT 210L or 211L (ENLT 224L or 225L) and LIT 300 (ENLT 301) or consent of instr. Study of major texts and issues in American nature writing.	3 Credits
	LIT 402 - Literature in Place This course gives students a set of advanced learning opportunities to engage with Anglophone texts on the general theme of nature and culture, applying an ecocritical lens to extended literary analysis. Drawing from various periods and from various trans-Atlantic national literatures, the course is designed to focus on the emerging critique of nature and culture that questions foundational structures of epistemology and economy, animate and inanimate, civilization and wilderness.	3 Credits
	LIT 422 - Ecocritical Theory & Practice Prereq., or coreq., LIT 300. This course surveys the developing field of ecocriticism, introducing students to the major issues and methodologies entailed in the study of literature and the environment.	3 Credits
Minimum Required Grade: C-		27 Total Credits Required

Upper-Division English Elective Courses

Rule: Must complete three 300- or 400-level English courses

Note: Students must elect nine (9) credits, one course from each of the following designations: A (Medieval through early modern British Literature); B (Enlightenment through Romantic British Literature, or Pre-1865 American Literature); D (diversity).
Designations A and B can be satisfied fully or in part at the 200-level. When a student elects this option, he or she must select other 300+ level Literature electives to ensure completion of 42 credits and the requisite 12 upper-division LIT credits. Designations of course offerings for each semester will be posted in the English Department.

Minimum Required Grade: C-

9 Total Credits Required

Senior Seminar

	Course	Credits
	LIT 494 - Seminar: Lit Capstone (R 9) Offered autumn and spring. Prereq., LIT 300 and nine credits in literature courses numbered higher than 300. Required for completing the English literature option, this seminar will allow students to conduct advanced studies in literary figures and topics chosen by faculty to engage a broad range of interests. A long research paper is required.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Foreign Language

Note: Foreign Language: Two years of a SINGLE modern or classical language or the equivalent (200+ level) score on a competency exam is required.

An approved complementary course from a discipline other than English

Minimum Required Grade: C-

3 Total Credits Required

Biochemistry

Bruce E. Bowler, Program Director

The Biochemistry Program is a joint program between the Department of Chemistry and Biochemistry and the Division of Biological Sciences. Biochemistry is an interdisciplinary science that integrates chemistry and biology to understand the molecular basis of life. The program offers a B.S. in Biochemistry and M.S. and Ph.D. degrees in Biochemistry & Biophysics.

Undergraduate majors receive a solid foundation in both chemistry and biology. Biochemistry courses are usually taken in the junior year allowing majors to become involved in research with faculty and to take electives in their senior year. The major also introduces students to computer science and bioinformatics, essential tools in modern biochemistry. The B.S. in Biochemistry prepares students for advanced degrees in biochemistry or biophysics, for medical, dental or veterinary schools and for careers in the pharmaceutical and biotechnology industries. A Health Professions option is also offered within the B.S. in Biochemistry for students whose career goals are in fields related to biochemistry. This option allows more flexibility in upper division electives, permitting students to tailor the degree to their needs. Students desiring a basic grounding in biochemistry to complement their primary major can choose to pursue a minor in Biochemistry.

The graduate degrees in Biochemistry & Biophysics prepare students to be independent researchers in academic laboratories or in the biotechnology and pharmaceutical industries. Through coursework and independent research, graduate students in this program will become adept at the physical and structural methods necessary to probe important problems in the life sciences at the molecular level. In collaboration with the Center for Biomolecular Structure & Dynamics, the Biochemistry Program provides state-of-the-art facilities for research in biochemistry, biophysics and structural biology.

Prospective students desiring further information on these degrees should contact the Program Director by visiting the Biochemistry Program web site.

High School Preparation: In addition to the general University admission requirements, it is strongly recommended that a student take four years of mathematics, four years of science, and a foreign language.

Department Faculty

Professor

Bruce Bowler, Professor and Director, Biochemistry Program
J. Stephen Lodmell, Professor
J.B. Alexander (Sandy) Ross, Professor of Chemistry and Biochemistry
D. Scott Samuels, Professor
Stephen Sprang, Professor, DBS & Director, CBSD
Kent Sugden, Professor of Chemistry and Biochemistry

Associate Professor

Klara Briknarova, Associate Professor
Bradley Layton, Energy Technology Program Director/Associate Professor

Assistant Professor

Kasper Hansen, Assistant Professor
Brent Ryckman, Associate Professor
Ekaterina Voronina, Assistant Professor
Travis Wheeler, Assistant Professor, Assistant Chair of Computer Science

Emeritus

Walter Hill, Professor Emeritus
Travis Hughes, Assistant Professor

Biochemistry

Back to Top

- BCH 110 - Intro Biology for Biochemists

  Credits: 3. Offered spring. Prereq. CHMY 141N or equivalent. Prereq. or Coreq., CHMY 143N. Coreq., BCH 111. An introductory course that explores biomolecules and their roles in life processes. Provides a foundation for Cellular and Molecular Biology (BIOB 260), Genetics and Evolution (BIOB 272), Introductory Biochemistry Seminar (BCH 294), and many other advanced science courses.

- BCH 111 - Intro Biol for Biochemists Lab

  Credits: 1. Offered spring. Prereq., CHMY 141N or equivalent. Prereq., or Coreq., CHMY 143N. Coreq., BCH 110. Introduction to the experimental techniques used to study biomolecules and their roles in life processes. Provides a foundation for other advanced level laboratory courses in chemistry and biochemistry.

- BCH 294 - Seminar/Workshop

  Credits: 1. Offered spring. Prereq., BCH 110/111 or equivalent. An introduction to important advances in biochemistry through readings from the primary literature and discussion of this literature. Faculty members will also make presentations on their research. Graded credit/no credit.

- BCH 380 - Biochemistry

  Credits: 4. Offered autumn and spring. Prereq., CHMY 223 or BIOB 260. Fundamental biochemistry; chemistry and metabolism of biomolecules, energy relationships in metabolism; storage, transmission, and expression of genetic information. Credit not allowed for both BCH 380 and 480-482.

- BCH 480 - Advanced Biochemistry I

Credits: 3. Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.

- BCH 482 - Advanced Biochemistry II

  Credits: 3. Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.

- BCH 486 - Biochemistry Research Lab

  Credits: 3. Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.

- BCH 490 - Undergraduate Research

  Credits: 1 TO 10. (R-10) Offered every term. Consent of instr. Independent research under the direction of a faculty member. Course Attributes: Research & Creative Schlrshp

- BCH 491 - Special Topics

  Credits: 1 TO 10. (R-10) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BCH 499 - Senior Thesis/Capstone

  Credits: 3 TO 6. (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Undergraduate Research Symposium or a scientific meeting.

- BCH 547 - Exptl Mol/Cell/Chem Biol

  Credits: 1. (R-8) Offered every term. Prereq., graduate standing or consent of instr. Same as BIOB 547. Focus on experimental design, methods, and presentation of experimental results for graduate students in laboratories with a molecular, cellular or chemical biological focus. Level: Graduate

- BCH 561 - RNA Structure & Function

  Credits: 1. (R-8) Offered every semester. Prereq., BCH 482, BIOB 260, and consent of instr. Exploration of current scientific literature and new data that focuses on RNA biochemistry. Emphasis on literature relevant to research on RNA viruses and ribosomes and protein synthesis. Level: Graduate

- BCH 570 - Intro to Research

  Credits: 1. (R-2) Offered autumn and spring. Prereq., graduate standing. Required course for Biochemistry and Biophysics graduate students. Students are acquainted with faculty research projects. Instruction in basic research techniques, research equipment. Introduction to relevant scientific research literature. Level: Graduate

- BCH 581 - Physical Biochemistry

  Credits: 3. Offered spring odd-numbered years. Prereq., CHMY 360 or CHMY 373 or CHMY 371; BCH 480. Techniques of physical chemistry used in studying biological structure and function of macromolecules. Emphasis is on spectroscopic methods, hydrodynamic methods and x-ray and other scattering and diffraction techniques. Level: Graduate

- BCH 582 - Proteins and Enzymes

  Credits: 3. Offered autumn even-numbered years. Prereq., BCH 482 or equivalent. An investigation into the structure/function relationship in proteins and a detailed exploration of enzyme kinetics, using examples from current literature. Level: Graduate

- BCH 584 - Nucleic Acids

  Credits: 3. Offered autumn odd-numbered years. Prereq., BCH 482 or equivalent. Emphasis on critical reading of current literature that investigates structure, chemistry, and function of nucleic acids. Level: Graduate

- BCH 595 - Special Topics

Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., graduate standing and consent of instr. Experimental offering of new courses by resident or visiting faculty. Level: Graduate

- BCH 597 - Research
  Credits: 1 TO 18. (R-18) Offered intermittently. Directed individual research and study appropriate to the background and objectives of the student. Level: Graduate
- BCH 599 - Thesis
  Credits: 1 TO 10. (R-10) Offered intermittently. Prereq., master's student in biochemistry and biophysics. Laboratory research for and preparation of a master's thesis. Level: Graduate
- BCH 600 - Cell Organization & Mechanisms
  Credits: 3. Offered spring even-numbered years. Prereq., BCH 480 or consent of instr. Same as BMED 600. Primary literature exploration of the regulation of structure, function, and dynamics of eukaryotic cells. Topics include membranes, cytoskeleton, transcription, translation, signal transduction, cell motility, cell proliferation, and programmed cell death. Level: Graduate
- BCH 694 - Biochemistry & Biophysics Sem.
  Credits: 1. (R-10) Credit/No credit only. Offered Autumn and Spring. Prereq., graduate standing or consent of instructor. Presentation of current research in Structural Biology, Biochemistry, Biophysics, or related fields by invited outside speakers, UM faculty, and senior graduate students. Level: Graduate
- BCH 699 - Dissertation
  Credits: 1 TO 20. (R-20) Offered intermittently. Prereq., doctoral student in biochemistry. Laboratory research for and preparation of a doctoral dissertation. Level: Graduate

Biochemistry B.S.

The Biochemistry Program is a joint program between the Department of Chemistry and Biochemistry and the Division of Biological Sciences. Biochemistry is an interdisciplinary science that integrates chemistry and biology to understand the molecular basis of life. The program offers a B.S. in Biochemistry and M.S. and Ph.D. degrees in Biochemistry & Biophysics.

Undergraduate majors receive a solid foundation in both chemistry and biology. Biochemistry courses are usually taken in the junior year allowing majors to become involved in research with faculty and to take electives in their senior year. The major also introduces students to computer science and bioinformatics, essential tools in modern biochemistry. The B.S. in Biochemistry prepares students for advanced degrees in biochemistry or biophysics, for medical, dental or veterinary schools and for careers in the pharmaceutical and biotechnology industries. A Health Professions option is also offered within the B.S. in Biochemistry for students whose career goals are in fields related to biochemistry. This option allows more flexibility in upper division electives, permitting students to tailor the degree to their needs.

The graduate degrees in Biochemistry & Biophysics prepare students to be independent researchers in academic laboratories or in the biotechnology and pharmaceutical industries. Through coursework and independent research, graduate students in this program will become adept at the physical and structural methods necessary to probe important problems in the life sciences at the molecular level. In collaboration with the Center for Biomolecular Structure & Dynamics, the Biochemistry Program provides state-of-the-art facilities for research in biochemistry, biophysics and structural biology.

Prospective students desiring further information on these degrees should contact the Program Director by visiting the Biochemistry Program web site: http://www.cas.umt.edu/chemistry/biochemistryProgram/.

Bachelor of Science - Biochemistry

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 96

Required Cumulative GPA: 2.0

Lower Division Core

Rule: Must complete the following subcategories

54 Total Credits Required

Biochemistry

Rule: All of the following courses are required

	Course	Credits
	BCH 110 - Intro Biology for Biochemists Offered spring. Prereq. CHMY 141N or equivalent. Prereq. or Coreq., CHMY 143N. Coreq., BCH 111. An introductory course that explores biomolecules and their roles in life processes. Provides a foundation for Cellular and Molecular Biology (BIOB 260), Genetics and Evolution (BIOB 272), Introductory Biochemistry Seminar (BCH 294), and many other advanced science courses.	3 Credits
	BCH 111 - Intro Biol for Biochemists Lab Offered spring. Prereq., CHMY 141N or equivalent. Prereq., or Coreq., CHMY 143N. Coreq., BCH 110. Introduction to the experimental techniques used to study biomolecules and their roles in life processes. Provides a foundation for other advanced level laboratory courses in chemistry and biochemistry.	1 Credits
	BCH 294 - Seminar/Workshop Offered spring. Prereq., BCH 110/111 or equivalent. An introduction to important advances in biochemistry through readings from the primary literature and discussion of this literature. Faculty members will also make presentations on their research. Graded credit/no credit.	1 Credits
Minimum Required Grade: C-		5 Total Credits Required

Biology

Rule: All of the following courses are required

	Course	Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits

Minimum Required Grade: C-	8 Total Credits Required

General and Organic Chemistry

Rule: All of the following courses are required

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		20 Total Credits Required

Physics

Rule: All of the following courses are required

	Course	Credits
	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits

	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Mathematics

Rule: All of the following courses are required

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Computer Science

Rule: The following course is required

Note: We advise that students take CSCI 250 in their third year after completing lower division biochemistry, biology, chemistry, mathematics and physics coursework.

	Course	Credits

	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core

Rule: Must complete the following subcategories

29 Total Credits Required

Biochemistry

Rule: All of the following courses are required

	Course	Credits
	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Biology

Rule: The following course is required

	Course	Credits

	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Analytical Chemistry

Rule: All of the following courses are required

	Course	Credits
	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
	CHMY 421 - Advanced Instrument Analysis Offered spring. Prereq., CHMY 311. Theory and use of instrumental methods in the study of analytical and physical chemistry.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Inorganic Chemistry

Rule: The following course is required

	Course	Credits
	CHMY 401 - Advanced Inorganic Chemistry Offered autumn. Prereq., CHMY 223 AND 360 OR 373 or consent of instr. Theory and principles of inorganic chemistry and a systematic coverage of descriptive inorganic chemistry in the context of the periodic table.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Chemistry

Rule: Choose 1 of the following courses

Note: Students planning to attend graduate school in biochemistry or biophysics are strongly advised to take the CHMY 373-371 sequence

	Course	Credits

	CHMY 360 - Applied Physical Chemistry Offered spring. Prereq., CHMY 123 OR 143 AND M 162. Basic thermodynamics and chemical kinetics with applications in the biological and environmental sciences. Credit not allowed for both 360 and 373.	3 Credits
	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Computer Science

Rule: The following course is required

	Course	Credits
	CSCI 451 - Computational Biology Offered Autumn. Designed for attendance by both computer scientists and biologists. The course will explore the interdisciplinary nature at the juncture of the two fields. Students will be introduced to bioinformatics (emphasis: computational genomics), with exposure to fundamental problems, algorithms, and tools in the field. This includes a basic introduction to genomics, along with in-depth coverage of algorithms and methods relevant to modern computational genomics, including: biological sequence alignment, sequence database homology search, and phylogeny inference. The programming expectations are limited for a 400-level computer science course, but at least one semester of a programming-intensive course is required. Credit not allowed for CSCI 558 and this course	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Advanced Electives

Rule: Choose 13 credits from the courses listed

Note: No more than 3 credits combined of BIOB 490, CHMY 490, CHMY 498 and BCH 490. No more than 3 credits combined of CHMY 397 and CHMY 494.

	Course	Credits
	BCH 490 - Undergraduate Research (R-10) Offered every term. Consent of instr. Independent research under the direction of a faculty member.	1 To 10 Credits
	BIOB 301 - Developmental Biology Offered autumn. Prereq., BIOB 260; BIOB 272 recommended. An analysis of the origin and development of form and patterns in organisms, stressing the processes of growth and differentiation in plants and animals. Graded traditional letter grade only.	3 Credits

	BIOB 375 - General Genetics Offered spring. Prereq., BIOB 260 and 272. This course will focus on the molecular genetics of eukaryotes, with special emphasis on transmission genetics and gene structure and regulation.	3 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 440 - Biological Electron Microscopy Offered spring. Prereq., senior standing or consent of instr. Theory of electron microscopy, recent developments in transmission and scanning electron microscopy. Limited experience with the instruments.	2 Credits
	BIOB 486 - Genomics Offered autumn. Prereq., BIOB 272. Principles and mechanisms of genome biology of animals and microbes, including genome function, evolution, and basic molecular and computational methodology used in genome biology.	3 Credits
	BIOB 490 - Adv Undergrad Research (R-10) Offered every term. Prereq., junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit.	1 To 10 Credits
	BIOH 360 - Intro Neuroscience Offered autumn. Prereq., introductory chemistry and biology. Same as BMED 347. The molecular and cellular physiology of the human nervous system. Topics range from the basis of electrical and chemical signaling in neurons to the organization of the nervous system and its functions in generating behavior.	3 Credits
	BIOH 365 - Human AP I for Health Profsns Offered autumn. Prereq., CHMY 121N or CHMY 141N; BIOB 160N or BIOH 112 or 113. Introduction to basic cellular structure and function. The fundamental facts and concepts of the anatomy and physiology of cells and tissues, the integumentary, musculoskeletal, nervous and special senses with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	4 Credits
	BIOH 370 - Human AP II for Health Profsns Offered spring. Prereq., BIOH 365. The fundamental facts and concepts of the anatomy and physiology of the endocrine, circulatory, respiratory, digestive, urinary and reproductive systems with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	4 Credits
	BIOH 405 - Hematology Offered autumn. Prereq., junior level or consent of instr., BIOM 360. Study of blood and diseases of the circulatory system. Blood banking and serology.	3 Credits

	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits
	BIOM 361 - Gen Microbiolgy Lb (equiv 261) Offered autumn. Prereq. or coreq., BIOM 360. Basic microbiology procedures and techniques.	2 Credits
	BIOM 400 - Medical Microbiology Offered autumn. Microbial structure and functions, pathogenic microorganisms, virology, immunology. Credit not allowed toward a major in microbiology.	3 Credits
	BIOM 410 - Microbial Genetics Offered spring. Prereq., BIOM 360 and 361. The molecular genetics of prokaryotic organisms including: structure and replication of the prokaryotic chromosome; gene expression; mutagenesis and DNA repair; plasmids and other tools of genetic engineering; transmission of genetic material and recombination in prokaryotes; regulation of gene expression in prokaryotes; recombinant DNA and biotechnology.	3 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 427 - General Parasitology Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.	2 Credits
	BIOM 428 - General Parasitology Lab Offered autumn. Coreq., BIOM 427. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.	2 Credits
	BIOM 435 - Virology Offered spring. Prereq., BIOB 260, and either BIOM 360 or BIOM 400. The general nature of viruses, with emphasis on the molecular biology of animal and human viruses. Co-convenes with BIOM 535.	3 Credits
	CHMY 371 - Phys Chem-Qntm Chm & Spctrscpy Offered spring. Prereq., CHMY 373. Systematic treatment of the laws and theories relating to chemical phenomena.	4 Credits
	CHMY 397 - Teaching Chemistry Offered every term. Prereq., CHMY 141N-143N with B or better and consent of instr. Methods of peer-led team learning as applied to general chemistry instruction. Review of concepts from general chemistry. Student leaders mentor a team of general chemistry students in working toward constructing chemistry knowledge and developing problem-solving skills.	1 Credits

	CHMY 402 - Advanced Inorganic Chem Lab Offered spring. Prereq., CHMY 224 AND 360 or 373 and consent of instr. Preparation of inorganic and coordination compounds. Isolation and characterization by ion exchange, column chromatography, IR, UV-VIS, derivatives, MP, and BP.	2 Credits
	CHMY 403 - Descriptive Inorganic Chem Offered spring. Prereq., CHMY 221-222, 360 or 373-371, and 401. A survey of the chemistry of the elements including transition metal reaction mechanisms, redox chemistry, organometallic chemistry, bioinorganic chemistry.	3 Credits
	CHMY 442 - Aquatic Chemistry Offered autumn odd-numbered years. Prereq., CHMY 311 or consent of instr. Application of chemical equilibria theory for understanding and modeling chemical processes in natural waters with an emphasis on spreadsheet computations. In depth examination of concepts such as pH, alkalinity, buffering, and solubility as they apply to natural waters.	3 Credits
	CHMY 465 - Organic Spectroscopy Offered intermittently. Prereq., CHMY 360 or 373 and one year of organic chemistry or consent of instr. Theory and interpretation of the NMR, IR, UV, and mass spectra of organic compounds with the goal of structure identification.	3 Credits
	CHMY 466 - FT-NMR Optn for Undrgrd Rsrch Offered intermittently. Prereq., CHMY 221-222; research project using NMR; consent of instr. Operation of the FT-NMR spectrometer and brief background of NMR spectroscopy.	1 Credits
	CHMY 485 - Laboratory Safety Offered autumn. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.	1 Credits
	CHMY 490 - Undergraduate Research Undergraduate Research Variable cr (R-9). Offered autumn, spring, and summer. Prereq., consent of instr. Laboratory investigations and research in the laboratory of a faculty member.	1 To 9 Credits
	CHMY 494 - Seminar/Workshop (R-9) Offered autumn and spring. Prereq., consent of instr. Laboratory investigations and research in the laboratory of a faculty member.	1 To 9 Credits
	CHMY 498 - Internship/Cooperative Educ Prereq., consent of department. Extended non-classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	PHAR 421 - Medicinal Chem I Offered autumn. The chemistry of organic compounds used medicinally and their biochemical mechanisms of action.	3 Credits

	PHAR 422 - Medicinal Chem II Offered spring. Prereq., BMED 421. Continuation of 421.	3 Credits
Minimum Required Grade: C-		13 Total Credits Required

Biochemistry Health Professions

The B.S. in Biochemistry prepares students for advanced degrees in biochemistry or biophysics, for medical, dental or veterinary schools and for careers in the pharmaceutical and biotechnology industries. A Health Professions option is also offered within the B.S. in Biochemistry for students whose career goals are in fields related to biochemistry. This option allows more flexibility in upper division electives, permitting students to tailor the degree to their needs.

Bachelor of Science - Biochemistry; Health Professions Option

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 99
Required Cumulative GPA: 2.0

Lower Division Core

Rule: Must complete the following subcategories

50 Total Credits Required

Biochemistry

Rule: All of the following courses are required

	Course	Credits
	BCH 110 - Intro Biology for Biochemists Offered spring. Prereq. CHMY 141N or equivalent. Prereq. or Coreq., CHMY 143N. Coreq., BCH 111. An introductory course that explores biomolecules and their roles in life processes. Provides a foundation for Cellular and Molecular Biology (BIOB 260), Genetics and Evolution (BIOB 272), Introductory Biochemistry Seminar (BCH 294), and many other advanced science courses.	3 Credits
	BCH 111 - Intro Biol for Biochemists Lab Offered spring. Prereq., CHMY 141N or equivalent. Prereq., or Coreq., CHMY 143N. Coreq., BCH 110. Introduction to the experimental techniques used to study biomolecules and their roles in life processes. Provides a foundation for other advanced level laboratory courses in chemistry and biochemistry.	1 Credits

	BCH 294 - Seminar/Workshop Offered spring. Prereq., BCH 110/111 or equivalent. An introduction to important advances in biochemistry through readings from the primary literature and discussion of this literature. Faculty members will also make presentations on their research. Graded credit/no credit.	1 Credits
Minimum Required Grade: C-		5 Total Credits Required

Biology

Rule: All of the following courses are required

	Course	Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

General and Organic Chemistry

Rule: All of the following courses are required

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits

	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 222 - Org Chm I Lab Offered autumn. Coreq., CHMY 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.	2 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
	CHMY 224 - Org Chm II Lab Offered spring. Prereq., CHMY 222; prereq. or coreq., CHMY 223.	2 Credits
Minimum Required Grade: C-		20 Total Credits Required

Physics

Rule: Either the PHSX 205N-208N or the PHSX 215N-218N sequence may be completed

	Course	Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits

	PHSX 215N - Fund of Physics w/Calc I Offered autumn. Prereq. or coreq., PHSX 216N and M 171 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 216N - Physics Laboratory I w/Calc Offered autumn. Coreq., PHSX 215N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
	PHSX 217N - Fund of Physics w/Calc II Offered spring. Prereq., PHSX 215N, and prereq. or coreq. PHSX 218, and prereq. or coreq., M 172 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	4 Credits
	PHSX 218N - Physics Laboratory II w/Calc Offered spring. Prereq., PHSX 215N, coreq., PHSX 217N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHSX 215N-216N-217N-218N and 205N-206N-207N-208N.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Mathematics

Rule: Either the M162/M263 sequence or the M171/M172 sequence may be completed

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits

	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	M 263 - Applied Differential Equations Offered spring. Prereq., one of M 162, 171 or 181 and knowledge of basic trigonometry. Solution of ordinary differential equations and systems with emphasis on applications, numerical methods and computer software.	3 Credits
Minimum Required Grade: C-		7-8 Total Credits Required

Upper Division Core

Rule: Must complete the following subcategories

25 Total Credits Required

Biochemistry

Rule: All of the following courses are required

	Course	Credits
	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Microbiology

Rule: The following course is required

	Course	Credits
	BIOM 360 - Gen Microbiolgy (equiv to 260) Offered autumn. Prereq., CHMY 123 or 143N; Prereq. or coreq., BIOB 260. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.	3 Credits

Minimum Required Grade: C-	5 Total Credits Required

Analytical Chemistry

Rule: All of the following courses are required

	Course	Credits
	CHMY 311 - Analytical Chem-Quant Analysis Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.	4 Credits
	CHMY 421 - Advanced Instrument Analysis Offered spring. Prereq., CHMY 311. Theory and use of instrumental methods in the study of analytical and physical chemistry.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Inorganic Chemistry

Rule: The following course is required

	Course	Credits
	CHMY 401 - Advanced Inorganic Chemistry Offered autumn. Prereq., CHMY 223 AND 360 OR 373 or consent of instr. Theory and principles of inorganic chemistry and a systematic coverage of descriptive inorganic chemistry in the context of the periodic table.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Chemistry

Rule: Choose 1 of the following courses

	Course	Credits
	CHMY 360 - Applied Physical Chemistry Offered spring. Prereq., CHMY 123 OR 143 AND M 162. Basic thermodynamics and chemical kinetics with applications in the biological and environmental sciences. Credit not allowed for both 360 and 373.	3 Credits
	CHMY 373 - Phys Chem-Kntcs & Thrmdynmcs Offered autumn. Prereq., CHMY 143N, M 273, PHSX 207N or 217N. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHMY 360 and 373.	4 Credits

Minimum Required Grade: C-	3-4 Total Credits Required

Biology Laboratory Course

Rule: Choose one of the following lab courses

	Course	Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 440 - Biological Electron Microscopy Offered spring. Prereq., senior standing or consent of instr. Theory of electron microscopy, recent developments in transmission and scanning electron microscopy. Limited experience with the instruments.	2 Credits
	BIOM 361 - Gen Microbiolgy Lb (equiv 261) Offered autumn. Prereq. or coreq., BIOM 360. Basic microbiology procedures and techniques.	2 Credits
	BIOM 428 - General Parasitology Lab Offered autumn. Coreq., BIOM 427. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.	2 Credits
Minimum Required Grade: C-		2 Total Credits Required

Advanced Electives

Rule: Choose 21 credits from the courses listed

Note: No more than 3 credits combined of BIOB 490, CHMY 490, CHMY 498 and BCH 490. No more than 3 credits combined of CHMY 397 and CHMY 494.

	Course	Credits
	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
	BCH 490 - Undergraduate Research (R-10) Offered every term. Consent of instr. Independent research under the direction of a faculty member.	1 To 10 Credits
	BIOB 301 - Developmental Biology Offered autumn. Prereq., BIOB 260; BIOB 272 recommended. An analysis of the origin and development of form and patterns in organisms, stressing the processes of growth and differentiation in plants and animals. Graded traditional letter grade only.	3 Credits

	BIOB 375 - General Genetics Offered spring. Prereq., BIOB 260 and 272. This course will focus on the molecular genetics of eukaryotes, with special emphasis on transmission genetics and gene structure and regulation.	3 Credits
	BIOB 410 - Immunology Offered autumn. Prereq., BIOB 260. Current concepts and methods in Immunology.	3 Credits
	BIOB 411 - Immunology Laboratory Offered autumn. Coreq., BIOB 410. Modern techniques for analysis of immune responses.	2 Credits
	BIOB 425 - Adv Cell & Molecular Biology Offered spring. Prereq., BIOB 260 and 272; BCH 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.	3 Credits
	BIOB 440 - Biological Electron Microscopy Offered spring. Prereq., senior standing or consent of instr. Theory of electron microscopy, recent developments in transmission and scanning electron microscopy. Limited experience with the instruments.	2 Credits
	BIOB 486 - Genomics Offered autumn. Prereq., BIOB 272. Principles and mechanisms of genome biology of animals and microbes, including genome function, evolution, and basic molecular and computational methodology used in genome biology.	3 Credits
	BIOB 490 - Adv Undergrad Research (R-10) Offered every term. Prereq., junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit.	1 To 10 Credits
	BIOH 360 - Intro Neuroscience Offered autumn. Prereq., introductory chemistry and biology. Same as BMED 347. The molecular and cellular physiology of the human nervous system. Topics range from the basis of electrical and chemical signaling in neurons to the organization of the nervous system and its functions in generating behavior.	3 Credits
	BIOH 365 - Human AP I for Health Profsns Offered autumn. Prereq., CHMY 121N or CHMY 141N; BIOB 160N or BIOH 112 or 113. Introduction to basic cellular structure and function. The fundamental facts and concepts of the anatomy and physiology of cells and tissues, the integumentary, musculoskeletal, nervous and special senses with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	4 Credits
	BIOH 370 - Human AP II for Health Profsns Offered spring. Prereq., BIOH 365. The fundamental facts and concepts of the anatomy and physiology of the endocrine, circulatory, respiratory, digestive, urinary and reproductive systems with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	4 Credits

	BIOH 405 - Hematology Offered autumn. Prereq., junior level or consent of instr., BIOM 360. Study of blood and diseases of the circulatory system. Blood banking and serology.	3 Credits
	BIOH 462 - Principles Medical Physiology Offered spring. Prereq., C (2.00) or better in BIOH 365, 370, and either CHMY 123 or 143N or consent of instr. An advanced course in human physiology for students preparing for careers in health care.	3 Credits
	BIOM 400 - Medical Microbiology Offered autumn. Microbial structure and functions, pathogenic microorganisms, virology, immunology. Credit not allowed toward a major in microbiology.	3 Credits
	BIOM 410 - Microbial Genetics Offered spring. Prereq., BIOM 360 and 361. The molecular genetics of prokaryotic organisms including: structure and replication of the prokaryotic chromosome; gene expression; mutagenesis and DNA repair; plasmids and other tools of genetic engineering; transmission of genetic material and recombination in prokaryotes; regulation of gene expression in prokaryotes; recombinant DNA and biotechnology.	3 Credits
	BIOM 411 - Exprmntl Microbial Genetcs Lab Offered spring. Prereq. or coreq., BIOM 410. Experiments in microbial genetics: Analysis of genes and genomes.	1 Credits
	BIOM 427 - General Parasitology Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.	2 Credits
	BIOM 428 - General Parasitology Lab Offered autumn. Coreq., BIOM 427. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.	2 Credits
	BIOM 435 - Virology Offered spring. Prereq., BIOB 260, and either BIOM 360 or BIOM 400. The general nature of viruses, with emphasis on the molecular biology of animal and human viruses. Co-convenes with BIOM 535.	3 Credits
	CHMY 371 - Phys Chem-Qntm Chm & Spctrscpy Offered spring. Prereq., CHMY 373. Systematic treatment of the laws and theories relating to chemical phenomena.	4 Credits
	CHMY 397 - Teaching Chemistry Offered every term. Prereq., CHMY 141N-143N with B or better and consent of instr. Methods of peer-led team learning as applied to general chemistry instruction. Review of concepts from general chemistry. Student leaders mentor a team of general chemistry students in working toward constructing chemistry knowledge and developing problem-solving skills.	1 Credits
	CHMY 402 - Advanced Inorganic Chem Lab Offered spring. Prereq., CHMY 224 AND 360 or 373 and consent of instr. Preparation of inorganic and coordination compounds. Isolation and characterization by ion exchange, column chromatography, IR, UV-VIS, derivatives, MP, and BP.	2 Credits

	CHMY 403 - Descriptive Inorganic Chem Offered spring. Prereq., CHMY 221-222, 360 or 373-371, and 401. A survey of the chemistry of the elements including transition metal reaction mechanisms, redox chemistry, organometallic chemistry, bioinorganic chemistry.	3 Credits
	CHMY 442 - Aquatic Chemistry Offered autumn odd-numbered years. Prereq., CHMY 311 or consent of instr. Application of chemical equilibria theory for understanding and modeling chemical processes in natural waters with an emphasis on spreadsheet computations. In depth examination of concepts such as pH, alkalinity, buffering, and solubility as they apply to natural waters.	3 Credits
	CHMY 465 - Organic Spectroscopy Offered intermittently. Prereq., CHMY 360 or 373 and one year of organic chemistry or consent of instr. Theory and interpretation of the NMR, IR, UV, and mass spectra of organic compounds with the goal of structure identification.	3 Credits
	CHMY 466 - FT-NMR Optn for Undrgrd Rsrch Offered intermittently. Prereq., CHMY 221-222; research project using NMR; consent of instr. Operation of the FT-NMR spectrometer and brief background of NMR spectroscopy.	1 Credits
	CHMY 485 - Laboratory Safety Offered autumn. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.	1 Credits
	CHMY 490 - Undergraduate Research Undergraduate Research Variable cr (R-9). Offered autumn, spring, and summer. Prereq., consent of instr. Laboratory investigations and research in the laboratory of a faculty member.	1 To 9 Credits
	CHMY 494 - Seminar/Workshop (R-9) Offered autumn and spring. Prereq., consent of instr. Laboratory investigations and research in the laboratory of a faculty member.	1 To 9 Credits
	CHMY 498 - Internship/Cooperative Educ Prereq., consent of department. Extended non-classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	PHAR 421 - Medicinal Chem I Offered autumn. The chemistry of organic compounds used medicinally and their biochemical mechanisms of action.	3 Credits
	PHAR 422 - Medicinal Chem II Offered spring. Prereq., BMED 421. Continuation of 421.	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

Ethics

Rule: Complete the following course

	Course	Credits
	CHMY 305E - Ethics and Writing in Science Offered autumn and spring. Prereq., CHMY 223 and chemistry or biochemistry majors. Practicum for developing and improving skills in scientific writing and evaluation. Presentation, discussion and written evaluations of standard ethics traditions and ethical issues related to the professional practice of science. Use of library and search tools to access current literature in chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Biochemistry Minor

The Biochemistry Program is a joint program between the Department of Chemistry and Biochemistry and the Division of Biological Sciences. Biochemistry is an interdisciplinary science that integrates chemistry and biology to understand the molecular basis of life. The program offers a B.S. in Biochemistry and M.S. and Ph.D. degrees in Biochemistry & Biophysics.

Undergraduate majors receive a solid foundation in both chemistry and biology. Biochemistry courses are usually taken in the junior year allowing majors to become involved in research with faculty and to take electives in their senior year. The major also introduces students to computer science and bioinformatics, essential tools in modern biochemistry. The B.S. in Biochemistry prepares students for advanced degrees in biochemistry or biophysics, for medical, dental or veterinary schools and for careers in the pharmaceutical and biotechnology industries. A Health Professions option is also offered within the B.S. in Biochemistry for students whose career goals are in fields related to biochemistry. This option allows more flexibility in upper division electives, permitting students to tailor the degree to their needs.

The graduate degrees in Biochemistry & Biophysics prepare students to be independent researchers in academic laboratories or in the biotechnology and pharmaceutical industries. Through coursework and independent research, graduate students in this program will become adept at the physical and structural methods necessary to probe important problems in the life sciences at the molecular level. In collaboration with the Center for Biomolecular Structure & Dynamics, the Biochemistry Program provides state-of-the-art facilities for research in biochemistry, biophysics and structural biology.

Prospective students desiring further information on these degrees should contact the Program Director by visiting the Biochemistry Program web site: http://www.cas.umt.edu/chemistry/biochemistryProgram/.

Minor - Biochemistry

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 29

Required Cumulative GPA: 2.0

Biochemistry

Rule: All courses are required

	Course	Credits

	BCH 110 - Intro Biology for Biochemists Offered spring. Prereq. CHMY 141N or equivalent. Prereq. or Coreq., CHMY 143N. Coreq., BCH 111. An introductory course that explores biomolecules and their roles in life processes. Provides a foundation for Cellular and Molecular Biology (BIOB 260), Genetics and Evolution (BIOB 272), Introductory Biochemistry Seminar (BCH 294), and many other advanced science courses.	3 Credits
	BCH 111 - Intro Biol for Biochemists Lab Offered spring. Prereq., CHMY 141N or equivalent. Prereq., or Coreq., CHMY 143N. Coreq., BCH 110. Introduction to the experimental techniques used to study biomolecules and their roles in life processes. Provides a foundation for other advanced level laboratory courses in chemistry and biochemistry.	1 Credits
Minimum Required Grade: C-		4 Total Credits Required

Chemistry

Rule: All courses are required

	Course	Credits
	CHMY 141N - College Chemistry I Offered autumn and spring. Prereq., ALEKS Placement Level 4 or M 095 Intermediate Algebra w/ C- or better. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.	5 Credits
	CHMY 143N - College Chemistry II Offered spring and summer. Prereq., "C-" or better in CHMY 141N or consent of instr. A continuation of CHMY 141N. Includes Laboratory.	5 Credits
	CHMY 221 - Organic Chem I Offered autumn. Prereq., CHMY 123N or 143N. The chemical and physical properties of organic compounds.	3 Credits
	CHMY 223 - Organic Chm II Offered spring. Prereq., CHMY 221. Continuation of 221.	3 Credits
Minimum Required Grade: C-		16 Total Credits Required

Upper Division Biochemistry

Rule: All courses are required

	Course	Credits

	BCH 480 - Advanced Biochemistry I Offered autumn. Prereq., CHMY 223. Primarily for science majors. The chemistry of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids. The chemistry and regulation of the transfer and expression of genetic information, protein synthesis. Credit not allowed for both BCH 380 and 480-482.	3 Credits
	BCH 482 - Advanced Biochemistry II Offered spring. Prereq., BCH 480 or equiv. Continuation of BCH 480. Enzyme kinetics, metabolism, especially macromolecule biosyntheses and energy acquisition pathways, and the associated energetics and molecular physiology. Credit not allowed for both BCH 380 and BCH 480-482.	3 Credits
	BCH 486 - Biochemistry Research Lab Offered spring. Prereq., BCH 380 or 480. Applications of biochemical principles to modern protein biochemistry. Basic micro- and molecular biology techniques are used to produce mutant proteins; then students learn basic and advanced biophysical techniques to characterize the mutant proteins.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Global Leadership Initiative Certificate

Professional Certificate - Global Leadership

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 12
Required Cumulative GPA: 2.0

Required Courses

Rule: Student must complete the following courses

	Course	**Credits**
	GBLD 110 - Global Chllnges & Leadrshp Prereq., admission to the GLI and consent of GLI Director. Introduction to key global challenges, identifying issues inherent in the challenges, and working with others to research and tackle the challenges.	1 Credits
	GBLD 194 - Seminar (R-6) Presentations by students, faculty, and professionals on issues and topics in their field.	3 Credits
	GBLD 220 - Models of Leadership Prereq., admission to the GLI and consent of GLI Director. Exploration of leadership models, culture influences the effectiveness of those models, and how one's leadership style can best be identified, developed, and put into action.	2 Credits

Minimum Required Grade: C-	6 Total Credits Required

Required Courses

Rule: Student must complete the following courses

Note: Junior year - Students must complete 3 upper-division credits of internship, research, study abroad or service learning connected to their global theme

Senior year - Students must complete 3 credits of GBLD 499 (2 in autumn, 1 in spring)"

	Course	Credits
	GBLD 499 - GLI Capstone Prereq., senior standing and consent of GLI Director; culminating project addressing a global question, to include a written proposal (completed and presented in semester 1) or execution of a project (completed and presented in semester 2).	1 To 6 Credits
Minimum Required Grade: C-		

Global Leadership Initiative

The Franke Global Leadership Initiative is a certificate program that encourages undergraduate students to lead, innovate and think entrepreneurially in order to propose solutions to some of society's greatest challenges. Each year, a cohort of students from disciplines across campus is selected to participate in this 4-year, 12-credit Certificate in Global Leadership.

Students in the Franke Global Leadership Initiative begin by exploring new and enduring global challenges through small, interdisciplinary seminars and through a survey course that delves into specific challenges within a set of five overarching global themes. After gaining an understanding of global challenges, participants experience different styles of leadership and begin to practice and develop leadership styles of their own.

During the final two years of the certificate, the program hones in on a specific theme and challenge chosen by each student. The world becomes the classroom in year three as students undertake experiential learning in both domestic and international settings. By year four, students are ready to bring their individual experiences together through a culminating capstone project with interdisciplinary teams. Each team presents a problem and proposes an innovative solution formed from their out-of-classroom experiences and disciplinary knowledge.

College of Education and Human Sciences

Roberta D. Evans, Dean
Susan Harper-Whalen, Associate Dean

The Phyllis J. Washington College of Education and Human Sciences is comprised of five academic departments– Communicative Sciences and Disorders, Counselor Education, Curriculum and Instruction, Educational Leadership, and Health and Human Performance. It is also the home for the Institute for Educational Research and Service (IERS).

Mission: The College of Education and Human Sciences shapes professional practices that contribute to the development of human potential. We are individuals in a community of lifelong learners, guided by respect for knowledge, human dignity, and ethical behavior. We work together producing and disseminating knowledge to advance the physical, emotional, and intellectual health of a diverse society.

The College of Education and Human Sciences coordinates the University of Montana Professional Education Unit, a unit comprised of initial teacher preparation at the elementary and secondary levels, and the advanced preparation of teachers, certified speech-language pathologists, educational leaders, school counselors, and school psychologists. The Departmetn of Communicative Sciences and Disorders prepares professionals at the master's level in speech-language pathology. The Departments of Curriculum and Instruction, Educational Leadership and Counseling Education prepare professionals for careers in education with bachelor, master's, Education Specialist and Doctor of Education programs while the School Psychology Program, housed in the Psychology Department in the College of Humanities and Sciences, prepares students for careers in education with its master's, education specialist, and doctoral degrees. These programs are organized to foster the development of learning communities and incorporate three basic themes: integration of knowledge and

experience; cooperation among participants; and inclusiveness, caring, and respect for others. The Professional Education Unit at the University of Montana is accredited by the National Council for Accreditation of Teacher Education (NCATE), http://www.ncate.org**.**

The Communicative Sciences and Disorders, Counselor Education, and Health and Human Performance Departments all prepare professionals for careers in human service professions. Via its bachelor's degree in Communicative Disorders, the Communicative Sciences and Disorders Department prepares graduates qualified to work as clinical aides in speech-language pathology or audiology. Through its master's program in Speech-Language Pathology, the department produces professional students qualified to work as speech-language pathologists in schools and clinical settings. Students pursuing the Master of Arts in Counselor Education are prepared to work in a variety of community/agency settings. Upon completion of the program, graduates are prepared to sit for the Licensed Practical Counselor or Licensed Practical Clinical Counselor examination. Via its Bachelor and Master of Science degrees, the Department of Health and Human Performance prepares students in the areas of community health, athletic training, exercise science, and health enhancement. The Athletic Training Program is accredited by the Commission on Accreditation of Athletic Training Education.

Central to its research and outreach efforts with P/K-12 schools, the College of Education and Human Sciences' Institute for Educational Research and Service (IERS) designs, evaluates, and disseminates programs that support the well-being of students and communities. Since 1957, IERS has collaborated with numerous local, state, national, and federal organizations to provide effective, data-driven research models that enhance the social development and academic achievement of all learners. Externally sponsored teaching, research, and service activities are central to IERS. In addition, the College of Education and Human Sciences supports a Preschool Laboratories, Preschool Program, Health and Human Performance Laboratory and Technology Resource Center. These programs offer enhanced opportunities for student involvement and learning.

Specific program options within the College of Education and Human Sciences are described below and in the various departmental sections of this catalog. The web address for the college is http://www.coehs.umt.edu

Name	Minor	Certificate	Associate	Bachelor
Administrative System Mgmt	Requirements			
Commun Sci & Disorders	Requirements			Requirements
Early Childhood Education	Requirements			
Education				
Elementary Education				Requirements
Health & Human Performance				Requirements
Health Behavior Coaching		Requirements		
Secondary Certification				

Communicative Science and Disorders Department

Amy Glaspey, Chair

The Bachelor of Arts Degree in Communicative Sciences and Disorders prepares students for graduate study in speech-language pathology, audiology, various education specialties, business, and health care as well as such fields as developmental and cognitive psychology. The Master of Science degree in Speech Language Pathology provides students with the foundational knowledge and clinical skills in the field of speech language pathology to work in medical and educational settings with clients across the life span.

Department Faculty

Professor

Al Yonovitz, Professor / Audiologist

Associate Professor

Amy Glaspey, Professor
Lucy Hart Paulson, Associate Professor
Julie Wolter, Department Chair and Associate Professor

Assistant Professor

Ginger Collins, Assistant Professor
Catherine Off, Associate Professor
Laurie Slovarp, Ph.D., Assistant Professor

Adjunct

Julie Doerner, CSD Adjunct Instructor; Rural Instit MonTECH Clinical Coord
Nancy Dold, Adjunct Assistant Professor
Megan Eandi, Clinical Educator
Dana Fitz Gale, Adjunct Assistant Professor
Jenna Griffin, Clinical Educator / Adjunct Asst Professor
RoseMary Johnson, Adjunct Assistant Professor
Mary Morrison, CSD Adjunct Instructor; Rural Instit PEPNET Director
Jennifer Schoffer Closson, Clinic Director / Adjunct Assistant Professor

Biology-Human

Back to Top

- BIOH 330 - Anat & Phys Speech Mech
  Credits: 3. Offered autumn. Introduction to anat omy and physiology of the speech and hearing mechanisms including the anatomical orientation and embryological devel opment, the breathing mechanism, structures of phonation, articulators, audition and the nervous system.

Communicative Sci & Disorders

Back to Top

- CSD 110 - The Field of CSD
  Credits: 3. Offered autumn. Introduction to the scientific study of human communi cation and its disorders and to the professions of Speech-Language Pathology and Audiology. Overview of biological systems of speech, language, and hearing and the nature and treatment of communication disorders.
- CSD 131 - American Sign Language I
  Credits: 3. Offered autumn. Introduces the fundamentals of American Sign Language (ASL) used by the Deaf Community, including basic vocabulary, syntax, fingerspelling, and grammatical non-manual signals. Focuses on basic expressive and receptive competence. In addition, the course provides a survey of various issues raised by examining ASL and the Deaf community.
- CSD 132 - American Sign Language II
  Credits: 3. Offered spring. Prereq., CSD 131. ASL II emphasizes further development of receptive and expressive skills; use of signing space; further use of non-manual components of ASL grammar including facial expression and body postures, and introduction to conversational regulators. Discussion of regional and ethnic sign variations, and social, political and educational institutions of the Deaf community. Interaction with members of the Deaf community in both directed and non-directed activities will be featured. Course Attributes:
  Foreign Language Requirement
- CSD 194 - Seminar
  Credits: 1 TO 6. (R-6) Offered intermittently. A review and discussion of current research. Topics vary.
- CSD 210 - Speech & Lang Devel
  Credits: 3. Offered autumn. Sophomore standing or greater. Topics include typical speech and language development, phonology, semantic, morphological, syntax, and pragmatics, along with individual differences, second language acquisition and literacy.

- CSD 221N - Fundamentals of Acoustics

  Credits: 3. Offered spring. Provides students with a basic and working knowledge of acoustics and the physics of sound. Provides the basis for measurement and description of speech stimuli. Direct application to Speech Hearing and Language intervention as well as application into communicative sciences. Course Attributes: Natural Science Course (N)

- CSD 222 - Intro to Audiology

  Credits: 3. Offered autumn. Introduction to prin ciples of acoustics as a basis for understanding hearing assess ment. Development of ability to interpret audiograms as well as the results from a hearing evaluation. Includes pure tone and speech audiometry, acoustic immittance and reflex testing. Hearing screening procedures are also included.

- CSD 320 - Phono Devel & Phonetics

  Credits: 3. Offered autumn. Junior standing or higher. Exploration of the sounds and sound structure of American English and some of its dialects. Introduction to the theory and practice of phonetic and phonological analysis and trained in the transcription of speech into the International Phonetic Alphabet.

- CSD 345 - Developmental Speech & Language Disorders

  Credits: 3. Offered spring. Prereq., CSD 210, CSD 320. Nature of developmental speech and language disorders and basic understanding of principles underlying assessment and treatment of these disorders.

- CSD 365 - Acquired Speech and Language Disorders

  Credits: 3. Offered spring. Prereq., CSD 210. Identification, assessment, and intervention for a variety acquired speech and language disorders. Other topics include secondary conditions, potential psychosocial and educational concerns, multicultural considerations, and family roles.

- CSD 392 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- CSD 405 - The Clinical Process

  Credits: 3. Offered spring. Prereq., CSD 210, CSD 222, CSD 320, CSD 345, CSD 365. The underlying principles of clinical methods and practice including: the observation of human behavior and clinical processes, assessment of communication differences, clinical management of these differences, delays and disorders, behavior, interviewing/counseling, lesson planning, and writing skills.

- CSD 411 - Neuroanatomy & Physiology

  Credits: 3. Offered spring. Prereq.,BIOH 330. Focused study on the anatomy of the nervous system and how the nervous system supports behaviors inherent to communication. Students will be introduced to anatomical terms, structures, and functions. Clinical implications will be discussed as well.

- CSD 420 - Speech Science

  Credits: 3. Offered spring. Prereq., CSD 222, CSD 320, BIOH 330. Physiologic, neurologic, and acoustic aspects of human communication, theoretical framework for speech science, and principles of acoustics applied to speech pathology.

- CSD 430 - Senior Capstone

  Credits: 3. Offered autumn. Prereq., senior status. Part one of a two course sequence where the student completes an independent project. Students will prepare a literature review, and ethics application, and a proposal in preparation for a major research project of their design. Course Attributes: Writing Course-Advanced

- CSD 450 - Intro to Aural Rehabilitation

  Credits: 3. Offered spring. Prereq., CSD 210, CSD 222, CSD 345, & CSD 365 or graduate standing. Fundamental skills in speech reading, various types of hearing aids, and the tools necessary to assess and implement auditory training. Management of the client with hearing impairment including psycho-social development and educational intervention. Both children and adults are included.

- CSD 480 - Multicultural Issues

  Credits: 3. Offered autumn. Prereq., CSD 210, CSD 222, CSD 320, CSD 340, CSD 360. Topics include: dynamics of community and culture; strategies to communicate with people from a

variety of backgrounds; learning English as a second language; phonological and linguistic analysis of differences between Standard English speakers and culturally diverse populations and international differences in service delivery.

- CSD 490 - Undergrad Clin Practicum

  Credits: 1 TO 3. 1-3 cr. (per semester). Prereq., lower division CSD courses and consent of CSD Clinical Director. A maximum of 5 credits of clinical practicum may count toward graduation. Allows the advanced student an opportunity to pursue independent or small group clinical practicum. Students will be directly supervised by a certified speech and language pathologist or audiologist. Course Attributes: Internships/Practicums

- CSD 491 - Special Topics

  Credits: 1 TO 3. (R-6) Offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- CSD 496 - Independent Study

  Credits: 1 TO 4. (R-8) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- CSD 498 - Independent Research

  Credits: 1 TO 3. (R-6) Offered Autumn, Spring. Prereq., consent of the instructor. Participation in independent or instructor associated research activities. Course Attributes: Internships/Practicums

- CSD 520 - Artic & Phono Disorders

  Credits: 3. Offered Autumn. Prereq., Graduate standing and CSD 320, CSD 330, CSD 340 or equivalent course work. Theoretical perspectives on phonological and articulation disorders with emphasis on application to clinical management including evaluation, assessment techniques, and intervention strategies. Level: Graduate

- CSD 530 - Voice & Motor Speech Dis

  Credits: 4. Prereq., Graduate standing, CSD 330, 340, and 411, or equivalent course work. Study of anatomy, physiology, and pathology of voice. Diagnosis and management of voice and resonance disorders. Neural bases of normal and disordered speech motor control. Assessment and treatment of motor speech disorders. Level: Graduate

- CSD 540 - Fluency Disorders

  Credits: 3. Offered Autumn. Prerequisites: Graduate standing and CSD 340 or equivalent course work. Theoretical, etiological, and developmental perspectives of fluency disorders. Principals of assessment and intervention, including integration of fluency shaping and stuttering modification techniques. Level: Graduate

- CSD 545 - Augmentative & Alt. Comm.

  Credits: 3. Offered variable terms. Prereqs., graduate standing. Topics include: AAC terminology, design and use of multiple AAC devices (high and light tech), and implementation of treatment programs for individuals and communication partners. Level: Graduate

- CSD 550 - Lang/Learn Dis.Yng Chld SERV

  Credits: 3. Offered autumn. Prereq., Graduate standing and CSD 210 and CSD 360 or equivalent course work. Theoretical perspectives, research, and clinical issues concerning disorders of language in infants, toddlers and preschoolers considering contributing factors, special populations and basic assessment and intervention principles. Level: Graduate Course Attributes: Service Learning

- CSD 560 - Lang/Learn Dis.Schl Age SERV

  Credits: 3. Offered spring. Prereq., graduate standing and CSD 210 and CSD 360 or equivalent course work. Theoretical perspectives, research, and clinical issues concerning disorders of language, literacy, and learning in the school-age population (elementary through high school) considering contributing factors, special populations and basic assessment and intervention principles. Level: Graduate Course Attributes: Service Learning

- CSD 565 - Aphasia & Acq. Apraxia

  Credits: 3. Offered autumn. Prereq., BIOH 330, CSD 210, and CSD 411 or equivalent course work and graduate standing. Neural bases and medical etiologies of acquired apraxia of speech and acquired cognitive-linguistic disorders in adults. Evaluation and treatment of aphasia and apraxia of speech in persons with acquired neurologic disorders across successive stages of recovery.

Incorporates models of rehabilitation across prevention, assessment, and treatment, with a focus on the WHO ICF and aspects of disability across diverse populations. Level: Graduate

- CSD 566 - Acquired Cog-Com Disorders

  Credits: 3. Offered intermittently. Prereq., Graduate standing, CSD 565 or equivalent course work. Assessment, treatment, and prevention of acquired cognitive-communication disorders including pediatric and adult traumatic brain injury (TBI) and mild traumatic brain injury (MTBI), right hemisphere syndrome (RHS), and dementia. Emphasis on neurobiological principles of rehabilitations, differential diagnosis and theories, and evidence-based research pertaining to clinical management. Level: Graduate

- CSD 570 - Clinical Procedures I

  Credits: 1. Offered autumn, summer; on campus only. Prereq., graduate standing, permission of clinical director. Co-convened with CSD 571. Study of professional and clinical issues with application to clinical practicum. Discussions, demonstrations, and student presentations. Mandatory weekly meeting. Level: Graduate Course Attributes: Co-Convened Course

- CSD 571 - Applied Clinic I

  Credits: 1. Offered autumn, summer; on campus only. Prereq., graduate standing, permission of clinical director. Co-convened with CSD 570. Application of professional skills in the UM RiteCare Clinic. Assignment of cases and area of specialization will vary with the clients needs and availability. Level: Graduate Course Attributes: Co-Convened Course

- CSD 575 - Clinical Procedures II

  Credits: 1. (R-9) Offered autumn, spring, summer. Prereq., CSD 570. Co-convened with CSD 576. Advanced study of professional and clinical issues with application to clinical practicum. Discussions, demonstrations, and student presentations. Mandatory synchronous weekly class meeting. Out of state placement by approval of clinical director. Level: Graduate Course Attributes: Co-Convened Course

- CSD 576 - Applied Clinic II

  Credits: 2. (R-9) Offered autumn, spring, summer. Prereq., CSD 570. Co-convened with CSD 575. Advanced application of professional skills in the UM RiteCare Clinic or off-campus. Assignment of cases and area of specialization will vary with the clients needs and availability. Out of state placement by approval of clinical director. Level: Graduate. Course Attributes: Co-Convened Course

- CSD 580 - Diagnostics

  Credits: 2. Offered every term. Prereq., Graduate Standing and CSD 570. Students will accrue clinical clock hours with pediatric and adult populations while developing the following skills: using case history information to form a diagnostic plan; administering various standardized and non-standardized diagnostic tools; interpreting assessment results; writing diagnostic reports; and sharing diagnostic results with clients, caregivers and other professionals. Mandatory weekly class meetings. Level: Graduate

- CSD 591 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate

- CSD 594 - Graduate Seminar

  Credits: 1 TO 12. (R-3) Offered intermittently. Prereq., consent of instr. A review and discussion of current research. Topics vary. Level: Graduate

- CSD 595 - Special Topics

  Credits: 1 TO 12. Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offering of current topics. Level: Graduate

- CSD 600 - Research Methods

  Credits: 3. Offered spring. Prereq., graduate standing. Research methodologies appropriate for quantitative and qualitative studies in communication sciences and disorders. Focuses on critical reading of research papers, design, and implementation of experiments. Level: Graduate

- CSD 640 - Swallowing Disorders

  Credits: 3. Prereq, Graduate standing and CSD 330, CSD 340, and CSD 411, or equivalent course work. Study of anatomy, physiology, and pathology of swallowing. Diagnosis and treatment of swallowing disorders. Level: Graduate

- CSD 675 - Clinical Externship
  Credits: 6. Offered every term. Prereq., permissions of Clinic Director and completion of at least 4 credits of CSD 575 clinical course work. The course is an externship typically completed during a student's final semester of graduate school. The externship requires a commitment of 30-40 hours a week in a school, clinic, or medical site across Montana or out of state that is approved by The University of Montana. Online case study is also required to fulfill requirements. Level: Graduate
- CSD 688 - CSD Master of Science Capstone
  Credits: 3. Offered spring and autumn. Prereq., CSD 600, Graduate standing and consent of instructor. In depth literature review of a particular field of study related to speech-language pathology. Level: Graduate
- CSD 696 - Independent Study
  Credits: 1 TO 5. Prereq. Consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate
- CSD 699 - Thesis
  Credits: 1 TO 6. (R-9) Offered autumn, spring, summer. Prereq., CSD 600, Graduate standing and consent of instructor. The primary purpose of the thesis is to allow a student to conduct a research project in a particular field of study related to speech and language pathology. Level: Graduate

Communicative Sciences and Disorders B.A.

Bachelor of Arts - Commun Sci & Disorders

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 67
Required Cumulative GPA: 2.0

Lower Core Courses

Rule: All courses listed are required

	Course	Credits
	CSD 110 - The Field of CSD Offered autumn. Introduction to the scientific study of human communi cation and its disorders and to the professions of Speech-Language Pathology and Audiology. Overview of biological systems of speech, language, and hearing and the nature and treatment of communication disorders.	3 Credits
	CSD 210 - Speech & Lang Devel Offered autumn. Sophomore standing or greater. Topics include typical speech and language development, phonology, semantic, morphological, syntax, and pragmatics, along with individual differences, second language acquisition and literacy.	3 Credits

	CSD 221N - Fundamentals of Acoustics Offered spring. Provides students with a basic and working knowledge of acoustics and the physics of sound. Provides the basis for measurement and description of speech stimuli. Direct application to Speech Hearing and Language intervention as well as application into communicative sciences.	3 Credits
	CSD 222 - Intro to Audiology Offered autumn. Introduction to prin ciples of acoustics as a basis for understanding hearing assess ment. Development of ability to interpret audiograms as well as the results from a hearing evaluation. Includes pure tone and speech audiometry, acoustic immittance and reflex test ing. Hearing screening procedures are also included.	3 Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	PSYX 120 - Research Methods I Offered every term. Prereq., PSYX 100S. Experimental and other quantitative methods employed in the scientific study of behavior.	3 Credits
Minimum Required Grade: C-		22 Total Credits Required

Upper Core Courses

Rule: All courses listed are required

	Course	**Credits**
	BIOH 330 - Anat & Phys Speech Mech Offered autumn. Introduction to anat omy and physiology of the speech and hearing mechanisms including the anatomical orientation and embryological devel - opment, the breathing mechanism, structures of phonation, articulators, audition and the nervous system.	3 Credits
	CSD 320 - Phono Devel & Phonetics Offered autumn. Junior standing or higher. Exploration of the sounds and sound structure of American English and some of its dialects. Introduction to the theory and practice of phonetic and phonological analysis and trained in the transcription of speech into the International Phonetic Alphabet.	3 Credits
	CSD 345 - Dev. Speech & Lng Dis Offered spring. Prereq., CSD 210, CSD 320. Nature of developmental speech and language disorders and basic understanding of principles underlying assessment and treatment of these disorders.	3 Credits

	CSD 405 - The Clinical Process Offered spring. Prereq., CSD 210, CSD 222, CSD 320, CSD 345, CSD 365. The underlying principles of clinical methods and practice including: the observation of human behavior and clinical processes, assessment of communication differences, clinical management of these differences, delays and disorders, behavior, interviewing/counseling, lesson planning, and writing skills.	3 Credits
	CSD 411 - Neuroanatomy & Physiology Offered spring. Prereq.,BIOH 330. Focused study on the anatomy of the nervous system and how the nervous system supports behaviors inherent to communication. Students will be introduced to anatomical terms, structures, and functions. Clinical implications will be discussed as well.	3 Credits
	CSD 420 - Speech Science Offered spring. Prereq., CSD 222, CSD 320, BIOH 330. Physiologic, neurologic, and acoustic aspects of human communication, theoretical framework for speech science, and principles of acoustics applied to speech pathology.	3 Credits
	CSD 430 - Senior Capstone Offered autumn. Prereq., senior status. Part one of a two course sequence where the student completes an independent project. Students will prepare a literature review, and ethics application, and a proposal in preparation for a major research project of their design.	3 Credits
	CSD 450 - Intro to Aural Rehabilitation Offered spring. Prereq., CSD 210, CSD 222, CSD 345, & CSD 365 or graduate standing. Fundamental skills in speech reading, various types of hearing aids, and the tools necessary to assess and implement auditory training. Management of the client with hearing impairment including psycho-social development and educational intervention. Both children and adults are included.	3 Credits
Minimum Required Grade: C-		27 Total Credits Required

Degree Electives

Rule: Must complete the following subcategories

18 Total Credits Required

Biological Science Requirement

Rule: Choose 1 of the listed courses

	Course	**Credits**
	BIOB 101N - Discover Biology Offered every term. Contemporary exploration of the organization and complexity of living organisms and the systems in which they live. The central question of biology--relationship between form and function, acquisition and use of energy, and continuity between generations will be addressed through lectures and laboratory investigations. Credit not allowed toward a major in biology. Credit not allowed for both BIOB 101N and BIOB 160N.	3 Credits

	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Science Requirement

Rule: 1 chemistry or physics course, which must be at the 100-level or above and a minimum of 3 credits

Note: Student may take another approved physical science course.

Statistics Requirement

Rule: Choose 1 of the listed courses

	Course	**Credits**
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Psychology Requirement

Rule: Choose 1 of the listed courses

	Course	Credits
	PSYX 230 - Developmental Psychology Offered autumn, spring, summer. Prereq., PSYX 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect. Appropriate for Social Work, Nursing, Addiction Studies, Education, and Psychology.	3 Credits
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Modern and Classical Language Requirement

Rule: Choose a sequence of 2 semesters

Note: Student must take a sequence (2 semesters) of a modern or classical language.

Suggested Course of Study

First Year	**A**	**S**
CSD 110 The Field of CSD	3	-
PSYX 100S (PSYC100S) Introduction to Psychology	-	4
M 115 (MATH 117) Probability and Linear Math	-	3
WRIT 101 (ENEX 101) College Writing I	3	-
LING 270 Introduction to Linguistics	-	3
BIOB 101N (BIOL 100N) Discovery Biology or BIOB 160N (BIOL 110N) Principles of Living Systems	3	-
General Education/Electives	6	6
Total Credits	15	16
Second Year		
BIOH 330 (CSD 330) Anat & Phys Speech Mech	3	-
CSD 210 Speech & Language Development	3	-
CSD 221N Foundations of Acoustics	-	3
CSD 222 Introduction to Audiology	3	-
PSYX 230S (PSYC 240S) Developmental Psychology or PSCX 233 (PSYC 245) Fundamentals of Psychology of Aging	3	-

PSYX 120 (PSYC 120) Research Methods I	-	3
General Education/Electives	3	9
Total Credits	15	15
Third Year		
STAT 216 (MATH 241) Introduction to Statistics or PSYX 222 (PSYC 220) Psychological Statistics or SOCI 202 (SOC 202) Social Statistics	4	-
CSD 320 Phonological Development & Phonetics	3	-
CSD 340 Speech Disorders	-	3
CSD 360 Language Disorders	-	3
General Education/Electives (Students must complete 9 total upper-division credits outside of the CSD major)	9	9
Total Credits	16	15
Fourth Year		
CSD 405 The Clinical Process	-	3
CSD 411 Neuroanatomy & Physiology for Communication	-	3
CSD 420 Speech Science	-	3
CSD 430 Senior Capstone I	3	-
CSD 440 Senior Capstone II	-	3
CSD 450 Introduction to Aural Rehabilitation	-	3
CSD 480 Multicultural Issues in Speech Language and Hearing	3	-
Electives (Students must complete 9 total upper-division elective credits)	9	-
Total Credits	15	15

Communicative Sciences and Disorders Certificate

Minor - Commun Sci & Disorders

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 18
Required Cumulative GPA: 2.0

Core Courses

Rule: Students must complete the following courses

	Course	Credits
	CSD 110 - The Field of CSD Offered autumn. Introduction to the scientific study of human communi cation and its disorders and to the professions of Speech-Language Pathology and Audiology. Overview of biological systems of speech, language, and hearing and the nature and treatment of communication disorders.	3 Credits
	CSD 210 - Speech & Lang Devel Offered autumn. Sophomore standing or greater. Topics include typical speech and language development, phonology, semantic, morphological, syntax, and pragmatics, along with individual differences, second language acquisition and literacy.	3 Credits
	CSD 222 - Intro to Audiology Offered autumn. Introduction to prin ciples of acoustics as a basis for understanding hearing assess ment. Development of ability to interpret audiograms as well as the results from a hearing evaluation. Includes pure tone and speech audiometry, acoustic immittance and reflex test ing. Hearing screening procedures are also included.	3 Credits
	LING 270S - Intro to Ling Offered autumn and spring. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Minor electives

Rule: Choose at least 6 upper division credits from the list

	Course	Credits
	CSD 320 - Phono Devel & Phonetics Offered autumn. Junior standing or higher. Exploration of the sounds and sound structure of American English and some of its dialects. Introduction to the theory and practice of phonetic and phonological analysis and trained in the transcription of speech into the International Phonetic Alphabet.	3 Credits
	CSD 345 - Dev. Speech & Lng Dis Offered spring. Prereq., CSD 210, CSD 320. Nature of developmental speech and language disorders and basic understanding of principles underlying assessment and treatment of these disorders.	3 Credits
	CSD 365 - Acq. Speech & Lang Dis. Offered spring. Prereq., CSD 210. Identification, assessment, and intervention for a variety acquired speech and language disorders. Other topics include secondary conditions, potential psychosocial and educational concerns, multicultural considerations, and family roles.	3 Credits

	CSD 491 - Special Topics (R-6) Offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Teaching and Learning Department

Adrea Lawrence, Chair

The Department of Teaching and Learning offers the Bachelor of Arts degree in elementary education and teaching licensure in elementary education. The department also offers teaching licensure at both the secondary and K-12 levels for students who are earning or have already completed the baccalaureate degree (teaching major or teaching minor) in one of the following state-approved content areas: Art, Biology, Business Education, Chemistry, Earth Science, Economics, English, English as a Second Language, French, General Science Broadfield, Geography, German, Government, Health and Human Performance, History, Latin, Library Media, Mathematics, Music, Physics, Psychology, Reading, Russian, Social Studies Broadfield, Sociology, Spanish, Special Education, and Theatre. (See specific requirements for each in the following pages.) At the graduate level, the department offers master and doctoral degrees in Curriculum and Instruction. Programs across all degree levels are organized to foster the development of learning communities and incorporate three essential themes: integration of ideas; cooperative endeavors; and respect for diversity and individual worth. For more information go to the Department of Teaching and Learning web site.

Graduate Programs

The department offers the Master of Education (M.Ed.) in curriculum and instruction. Students select from one of the following options: curriculum studies, early childhood education, library media services, literacy education, and special education. Students may earn the master's degree in combination with requirements for initial teacher licensure at the elementary and secondary and K-12 levels. This option is further explained below. The department also offers the Doctor of Education (Ed.D.) in curriculum and instruction. Information about these graduate programs is available from the department office and website, UM Graduate Programs and Admissions Catalog.

Teacher Preparation

Elementary Education

Individuals preparing to teach in elementary schools (license for grades K-8) complete a major in elementary education. Students apply for admission to the Teacher Education Programs, usually at the end of the sophomore year, in order to continue with the education (EDU) sequence of courses. All elementary education majors are advised by full-time advisors within the Department of Curriculum and Instruction.

Secondary and K-12 licensure

Students preparing to teach at the middle or high school levels (license for grades 5-12) or in K-12 licensure areas will declare a major in the subject area(s) they wish to teach, e.g., English, mathematics, music, or any other of the state-approved major content endorsement areas listed previously. They are advised within their major department(s) and, upon admission to the Teacher Education Program, they also are advised within the Department of Curriculum and Instruction regarding the requirements necessary to earn secondary or K-12 licensure. All secondary and K-12 licensure students seek admission to the Teacher Education Program, usually at the end of the sophomore year, and complete course work required for licensure in Curriculum and Instruction and in their major content area(s).

Applicants for Montana teaching licensure must: (1) satisfy all degree and licensure requirements as outlined below; and (2) be at least 18 years of age. Information about the Teacher Education Program is available in the department office and website.

Master's Degree and Initial Licensure

Individuals who have completed a bachelor's degree may elect to apply to the department's Graduate Program and combine the master's degree in curriculum and instruction (curriculum studies option) with licensure to teach. At the secondary and K-12 licensure level, the combined program may be completed in a summer-autumn-spring-summer sequence provided the student previously has completed most of the required content courses. At the elementary licensure level, the program typically takes two academic years.

Assessment at Admission to the Undergraduate Teacher Education Program

Individuals seeking licensure to teach must apply for admission to the professional Teacher Education Program. Admission is limited to approximately 125 elementary and 125 secondary candidates per year. Deadlines for application are September 15 and February 15. Individuals are eligible for consideration for admission if they have:

- been admitted to the University of Montana;
- completed at least 30 semester credits;
- earned a minimum cumulative GPA (including all transfer credits) of 2.75;
- completed an English writing course (WRIT 101) with a grade of C- or better;
- demonstrated evidence of writing ability in an application essay;
- documented appropriate experience working with children or youth;
- secured supportive recommendations from two faculty members;
- presented results of a national fingerprint-based background check; and
- demonstrated appropriate professional behaviors and dispositions associated with success in the profession.

The Teacher Education Program Admission Application packet includes a policy and procedures handbook and can be downloaded from the website.

Once admitted, licensure candidates must maintain a minimum GPA of 2.75 each semester to continue in the program. Candidates who interrupt their studies for more than two years are placed on inactive status and must apply for readmission to both the University and the Teacher Education Program.

Candidates seeking a K-12 endorsement in library, reading, or special education must have full admission to the Teacher Education Program or be a licensed teacher before applying to one of these specialized programs.

Degree-holding individuals are invited to submit transcripts for review to determine how previous course work applies. They may earn a second baccalaureate degree and/or a teaching license or they may combine elementary, secondary, or K-12 licensure with a master's degree. They should enroll with the Admissions Office as “post-baccalaureate” unless pursuing a graduate degree.

Admission Policy for Minority Students and Students with Disabilities

The Teacher Education Program is committed to providing opportunities for teacher preparation for members of groups that have been historically disadvantaged and subject to discrimination. The criteria for admission are the same for students with disabilities and for members of racial, ethnic and other minorities, as for other students; however, students who do not meet one or more of the criteria for admission are encouraged to describe in their applications any special circumstances, experiences, skills and/or special talents that may compensate for unmet criteria. The physical, social, economic, and cultural circumstances that may have influenced a student’s ability to achieve minimum eligibility for admission will be considered. A special effort will be made to determine the student's abilities and potential to overcome disadvantage or discrimination and become a successful beginning teacher. Upon entry to the program, the candidate will be assigned to a faculty mentor. The candidate and mentor will design a course of study appropriate for the candidate’s progression toward the degree and/or licensure.

Assessment at Application for Student Teaching

Candidates begin planning for student teaching two semesters prior to placement. Candidates are eligible to student teach if they have:

- full admission into the Teacher Education Program;
- a grade of C- or better in all required licensure courses;
- a minimum cumulative GPA of 2.75 (and 2.75 in each field of licensure);
- results of a current national fingerprint-based background check (candidates with misdemeanors or felonies may be subject to further review by the Field Experience Committee);
- a completed application to student teach and the consent of the Director of Field Experiences;
- for elementary education majors, student should be enrolled in Level of the Program, and have completed all coursework in all previous levels.
- for secondary licensure candidates, all methods courses, two thirds of content course work, and approval by departments in the major/minor content area.

Consult the Teacher Education Policy Handbook for application deadlines and procedures. The Student Teaching Application is available on the Field Experiences website.

Internships and practica in library, reading, and special education do not substitute for the student teaching semester required for licensure in a subject field.

Assessment at Program Completion:

As active participants in this learning community, candidates are expected to assume roles as both learners and teachers in course work and clinical performance. Through personal disposition, classroom performance, and professional action, candidates who complete the Teacher Education Program at the University of Montana will be able to:

- demonstrate knowledge of the disciplines and subject matter related to curriculum;
- design interdisciplinary and discrete subject area instruction to achieve curriculum goals;
- use appropriate technologies and resources to enhance instruction and student performance;
- select and design appropriate, authentic means of assessing student learning and progress;
- implement instructional and behavioral management strategies to promote a safe and positive learning environment;
- engage students in learning activities that promote critical and creative thinking;
- design and organize learning environments to accommodate learners;
- communicate clearly, accurately and professionally with students and their families, colleagues, and community members;
- reflect on professional practices and demonstrate commitment to fairness and the ability of all to learn.

Indian Education for All

It is Montana's constitutional intent that the state's education system will recognize the distinct and unique cultural heritage of American Indians and will be committed in its education goals to the preservation of their cultural heritage. The intent of the legislature as expressed in MCA20-1-501, Indian Education for All, is that every Montanan, whether Indian or non-Indian, be encouraged to learn about the distinct and unique heritage of American Indians in a culturally responsive manner. It is also intended that educational personnel provide means by which school personnel will gain an understanding for the American Indian people.

Candidates preparing for teaching licensure in all endorsement areas are required to complete a minimum of one course in Native American Studies. Candidates also may choose ANTY 323X (ANTH 323X), Indians of Montana, to meet this requirement. Throughout their programs of study candidates must demonstrate a) ability to integrate into their content areas knowledge of the history, cultural heritage, and contemporary status of American Indians and tribes in Montana; b) knowledge of how students within different populations, including Montana American Indians, differ in their approaches to learning; and c) ability to create instructional opportunities that are adapted to diverse learners, including situations where concentrated generational poverty has affected student academic achievement.

Department Faculty

Professor

Trent Atkins, Professor
Lisa M. Blank, Professor, Science Education
Julie Bullard, Professor
Georgia Cobbs, Professor, Mathematics Education
David Erickson, Professor

Associate Professor

Morgen Alwell, Associate Professor
Fletcher Brown, Associate Professor
Ann Garfinkle, Associate Professor
Martin Horejsi, Associate Professor of Instructional Technology and Science Education
Adrea Lawrence, Department Chair / Associate Professor
Matthew Schertz, Associate Professor

Assistant Professor

Kate Brayko, Assistant Professor
Jessica Gallo, Assistant Professor
Tracy Missett, Assistant Professor
Lucila Rudge, Assistant Professor
Jingjing Sun, Assistant Professor of Educational Psychology

Adjunct

Scott Hohnstein, Adjunct Assistant Professor

Bachelor of Arts - Elementary Education

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 116

Required Cumulative GPA: 2.75

Note: Admission to the Teacher Education Program is required to enroll in any EDU courses.

Language Arts Content Courses

Rule: All courses are required.

Minimum Required Grade: C-

9 Total Credits Required

Literature

Rule: Complete one of the following.

Note: Other literature courses may meet this requirement. Please consult with the Education Advisor for approval.

	Course	Credits
	LIT 110L - Intro to Lit Offered every term. Study of how readers make meaning of texts and how texts influence readers. Emphasis on interpreting literary texts: close reading, critical analysis and effective writing.	3 Credits
	LSH 151L - IntrHumanities:Greek,Bible,Rom Offered autumn. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, comparing and contrasting the Greco–Roman with the Jewish and Christian traditions.	0 To 4 Credits
	LSH 152L - Humanities Medieval to Modern Offered spring. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, in the modern period.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

College Writing

Rule: Complete the following course.

Note: null

	Course	Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Children's Literature

Rule: Complete the following course.

	Course	Credits
	EDU 331 - Lit & Literacy for Children Offered autumn and spring. Prereq., WRIT 101; open to majors in elementary education, secondary education or pre-education. Genre survey, including cross-cultural literature, that focuses on responding to children's literature through reading, writing, listening, speaking, and activities that emphasize selecting literature, teaching critical thinking, and integrating literature into the elementary curriculum.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Science Content Courses

Rule: Complete all of the following.

Note: Other science courses may meet the requirements. Please consult with the Education Advisor.

	Course	Credits
	BIOB 226N - Gen Science: Earth & Life Sci Offered spring. Prereq., PHSX 225N and M 132 or M 135 or equiv. Integrated lectures, laboratory exercises, and field trips on topics in earth and biological science for prospective elementary school teachers and the non-scientist. A two-hour laboratory session is required each week and one or two Saturday field trips.	5 Credits

	PHSX 225N - Gen Science: Phys & Chem Sci Offered autumn. Prereq., M 095 or equiv. Integrated lectures, discussions, laboratory exercises, and demonstrations on topics in chemical and physical science for prospective elementary school teachers and the non-scientist. A two-hour laboratory session is required each week.	5 Credits
Minimum Required Grade: C-		10 Total Credits Required

Social Studies Content Courses

Rule: Complete all of the following.
Note: null
Minimum Required Grade: C-
16 Total Credits Required

Geography

Rule: Complete one of the following.

	Course	Credits
	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
	GPHY 141S - Geography of World Regions Offered autumn and/or spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

American History

Rule: Complete one of the following.
Note: Other history courses may fulfill this requirement. Please consult with the Education Advisor.

	Course	Credits
	HSTA 101H - American History I (AM) Offered autumn. A comprehensive introductory history of Colonial, Revolutionary and 19th century America, to 1877. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTA 102H - American History II (AM) Offered spring. A comprehensive introductory history of the U.S. since 1877. Lecture-discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits

Minimum Required Grade: C-	4 Total Credits Required

Other Social Studies Courses

Rule: Complete all of the following courses.

Note: Other Native American Studies courses may fulfill the NASX 105H requirement. Please consult with the Education Advisor.

	Course	Credits
	HSTA 255 - Montana History (AM) Offered autumn. An introductory and interpretive history from Lewis and Clark to 2000.	3 Credits
	NASX 105H - Intro Native Amer Studies Offered Autumn and Spring. Survey course to acquaint the student with Native American Studies by a general overview of Indian history, culture, philosophy, religious beliefs and contemporary issues.	3 Credits
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Health and Physical Education

Rule: Complete all of the following.

	Course	Credits
	HEE 233 - Health Issues Child/Adol Offered every term. Overview of current health issues affecting children and adolescents. Focus is on educational and preventive measures that can be implemented by teachers and schools through comprehensive school health education programs.	3 Credits
	HEE 302 - Meth of Inst Strat in Elem PE Offered every term. Prereq. admission into Teacher Education Program in the College of Education and HEE 233. Application of educational theory in planning, analyzing, and presenting learning experiences to typical and atypical populations in elementary school physical education for children in grades K-6. Active participation required.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

The Arts

Rule: Complete all of the following.

	Course	Credits
	ARTZ 302A - Elementary School Art Offered autumn and spring. Visual art teaching methods for future elementary school teachers in a variety of media, methods of critique, and curricular components.	2 Credits
	MUSE 397 - Methods: K-8 Music Offered autumn and spring. Prereq., C&I 200. Integration of fundamental skills and basic rudiments of music into the various aspects of teaching music creatively in the elementary school. For non-music majors only.	2 Credits
	THTR 239 - Creative Drama/Dance: K-8 Offered autumn and spring. Focus on the use of creative drama and dance as types of educational tools. Students will explore, experience, and implement creative teaching methods in order to promote scholarship through kinesthetic teaching in elementary education.	2 Credits
Minimum Required Grade: C-		6 Total Credits Required

Teacher Education Program Professional Licensure Courses

Rule: All courses are required.
Minimum Required Grade: C-
60 Total Credits Required

Level 1

Rule: All courses must be completed concurrently.

Note: Students are required to complete EDU 397 Methods: Early Numeracy K-4 (3 credits) and EDU 397 Methods: PK-3 Early Reading (3 credits).

	Course	Credits
	EDU 222 - Educational Psych Child Dev Offered autumn and spring. Prereq., Admission to the Teacher Education Program in elementary or early childhood: P-3. This course must be taken concurrently with Level 1 courses. This course will examine the classroom practices that impact elementary aged children's learning, motivation and development. The content is closely aligned with co-requisite courses and initial field experience, allowing opportunities for observation and practice of principles covered in class.	3 Credits
	EDU 338 - Academic Interventions Offered autumn and spring. Prereq., Admission to the Teacher Education Program in elementary or early chiildhood:P-3. This course must be taken concurrently with Level 1 courses. This course prepares pre-service teachers to work with all students including those who are struggling learners and high achievers. The course is focused on school-wide assessment and instruction methods with particular focus on working with individual children and small groups in core academic areas.	3 Credits

	EDU 339 - Tchg Assess PK-8 Lang Arts Offered autumn and spring. Prereq., admission to the Teacher Education Program in elementary education. This class must be taken concurrently with Level 2 courses. Language development and primary and secondary language acquisition, theory and application of teaching and assessing listening, speaking, writing, and viewing in a PK-8 setting.	3 Credits
	EDU 395 - Clinical Experience (R-4) Offered autumn and spring. Prereq., admission to the Teacher Education Program. Arranged field experience and seminar focusing on applying content from the co-requisite courses. This course number is used for multiple clinical experiences. Check the class schedule or with your advisor regarding the appropriate section. Elementary Education Majors: EDU 395 Clinical Experience Level 1 must be taken concurrently with Level 1 courses. EDU 395 Clinical Experience Level 2 must be taken concurrently with Level 2 courses. Secondary and K-12 Licensure Students: EDU 395 Clinical Experience K-8 and EDU 395 Clinical Experience 9-12 have a prerequisite of an initial field experience and should be taken concurrently with a secondary or K-12 methods course.	1 Credits
Minimum Required Grade: C-		10 Total Credits Required

Level 2

Rule: All courses must be completed concurrently.

Note: Students are required to complete EDU 397 Methods: PK-8 Language Arts (3 credits).

	Course	**Credits**
	EDU 346 - Exceptionalities Offered autumn and spring. Prereq., Admission to the Teacher Education Program in elementary or early childhood: P-3. This course must be taken concurrently with Level 2 courses and is restricted to students who have completed coursework in Level 1. This course will focus on characteristics and strategies for optimizing learning for children with exceptionalities in the regular education classroom. Addresses the Individuals with Disabilities Education Act and subsequent reauthorizations, presents practices for working with students who are at-risk and students with disabilities in inclusive settings, and includes technological considerations.	3 Credits
	EDU 370 - IntegTech into Educ Offered autumn and spring. Prereq., Admission to the Teacher Education Program and general computer literacy skills. Integration and use of computer and other technologies in education.	3 Credits

	EDU 395 - Clinical Experience (R-4) Offered autumn and spring. Prereq., admission to the Teacher Education Program. Arranged field experience and seminar focusing on applying content from the co-requisite courses. This course number is used for multiple clinical experiences. Check the class schedule or with your advisor regarding the appropriate section. Elementary Education Majors: EDU 395 Clinical Experience Level 1 must be taken concurrently with Level 1 courses. EDU 395 Clinical Experience Level 2 must be taken concurrently with Level 2 courses. Secondary and K-12 Licensure Students: EDU 395 Clinical Experience K-8 and EDU 395 Clinical Experience 9-12 have a prerequisite of an initial field experience and should be taken concurrently with a secondary or K-12 methods course.	1 Credits
	EDU 397 - Methods: Teaching & Assessing (R-15) Offered autumn and spring. Prereq., admission to the Teacher Education Program in elementary or early childhood: P-3. This course number is used for multiple methods courses. Check the class schedule or with your advisor regarding appropriate sections. PK-4 Early Numeracy: Offered autumn and spring. This class must be taken concurrently with Level 1 courses and is restricted to students who have been admitted to the Elementary Education program. Students will learn mathematics concepts, methods of instruction, and the use of instructional materials appropriate for grades K-4 including the use of state and national standards for mathematics, appropriate technology, and manipulatives. Additionally, students will learn techniques for assessing the effectiveness of the counting and cardinality, operations and algebraic thinking, numbers and operations, measurement and data, and geometry. PK-3 Early Literacy: Offered autumn and spring. This class must be taken concurrently with Level 1 courses and is restricted to students who have been admitted to the Elementary Education program. The purpose of this course is to develop an understanding of emergent literacy and beginning reading and to examine developmentally appropriate methods of teaching and assessing reading to children in grades K-3.	3 Credits
	EDU 407E - Ethics & Policy Issues Offered every term. Prereq., admission to Teacher Education Program and EDU 202 or EDU 395. Practical application of ethical principles of the teaching profession. Analysis of the American public school and major policy issues from historical, legal, political, social as well as ethical perspectives.	3 Credits
	ENST 472 - Gen Sci: Conserv Ed Offered autumn and spring. A study of the foundations of environmental science and conservation education with applications to community service and teaching.	3 Credits
Minimum Required Grade: C-		16 Total Credits Required

Level 3

Rule: All courses must be completed concurrently.

Note: Students must complete EDU 495 Clinical Experience: Level 3 (1 credit).
Students must complete four EDU 497 methods courses, including 5-8 Mathematics (3 credits), K-8 Social Studies (3 credits), K-8 Science (3 credits), 4-8 Reading (3 credits).

	Course	Credits
	EDU 340 - Classroom Management Offered autumn and spring. Prereq., Admission to the Teacher Education Programin elementary edcuation. This course must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Level 1 and 2. This course is designed to prepare pre-service teachers to set up a classroom, establish classroom policies and procedures and routines, establish and maintain cooperative relationships with parents, effectively provide feedback to students, motivate desired student behavior, and research professional literature to seek best classroom management practices to hone the craft of effective instruction.	3 Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits

Minimum Required Grade: C-	16 Total Credits Required

Level 4

Rule: All courses must be completed concurrently.

Note: EDU 494 is completed for 1 credit and EDU 495 is completed for 14 credits.

	Course	Credits
	EDU 494 - Seminar:Refl Pract & App Rsrch (R-9) Required seminar during student teaching. Prereq., admission to the Teacher Education Program. Focuses on learning to conduct research on P-12 student performance to determine teaching effectiveness. Includes on-campus and/or on-line planning, conducting, and analyzing classroom practice.	1 To 9 Credits
	EDU 495 - Student Teaching (R-14) Offered autumn and spring. Arranged capstone clinical experience required for all professional licensure students. Prereq., admission to the Teacher Education Program, completion of all required field experiences and methods courses, an application to student teach, and the consent of the Director of Field Experiences. In addition, elementary education majors must complete all coursework in all previous levels. Secondary and K-12 licensure students must complete at least two-thirds of content coursework and receive approval by departments in their major and minor content areas.	1 To 14 Credits
Minimum Required Grade: C-		15 Total Credits Required

Administrative Systems Management Minor

Minor - Administrative System Mgmt (Minor)

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 27

Required Cumulative GPA: 2.0

Note: This is a non-teaching minor offered with the Department of Curriculum & Instruction in the College of Education and Human Sciences. Admission to the Teacher Education Program is NOT required.

Administrative Systems Management Minor Required Courses

Rule: Complete all of the following courses.

	Course	Credits

	ACTG 201 - Principles of Fin Acct Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.	3 Credits
	BGEN 235 - Business Law Offered autumn and spring. This course provides an overview of law as it applies to business transactions. Topics include the nature and source of law; courts and procedure; contracts, sales, and employment; commercial paper; bailment's; property; business organizations; insurance; wills and estate planning; consumer and creditor protection; torts; criminal law; and agency law. Credit not allowed for both BGEN 235 and BADM 257.	3 Credits
	BMGT 340 - Mgmt & Organization Behavior Offered autumn and spring. Prereq., junior standing in Business. An intensive examination of the fundamentals of management and organization supported by the application of behavioral science principles to the management of people in organizations.	3 Credits
	C&I 287 - Business Communications Offered autumn and spring. Prereq., WRIT 101 College Writing I. Emphasis on consistent and logical approaches to solving communication problems and creating successful communication products.	3 Credits
	C&I 341 - Information Managemnt & Design Offered spring. Prereq., CSCI 172. Emphasis on the development and maintenance of a file management system, application of effective design concepts in the creation of professional print and digital images and documents, and the creation of digital videos for use in education and/or business.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	EDU 472 - Dev Digital Rich Workplace Offered spring. Prereq., CSCI 172. Project-based course to gain understanding and the ability to use web development tools to create a functional, well-designed web project. Additional topics/projects include: Web 2.0+ tapping the potential of digital tool; social media—educational and business uses; gamification in education and business, and introductory electronic game development for the classroom and the boardroom.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits

Minimum Required Grade: C-	27 Total Credits Required

Teaching Library Media Licensure

Teaching Licensure - Education; Track: Teacher Librarian Endorsement

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 27

Required Cumulative GPA: 2.75

Note: This program of study can only be completed as a teaching minor for those pursuing a teaching major in another content area or by currently licensed teachers. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. This program is offered jointly online with UM-Missoula and UM-Western. Some courses will be taken through UM-Western.

Library Media Minor Courses

Rule: Complete all of the following courses.

Note: Students will also complete LIBM 461 Information Literacy (3 credits) through UM-Western. Students may choose to substitute EDU 391 Children's and Young Adult Literature (4 credits) online through UM-Western in place of EDU 331 and EDU 432.

	Course	Credits
	EDU 331 - Lit & Literacy for Children Offered autumn and spring. Prereq., WRIT 101; open to majors in elementary education, secondary education or pre-education. Genre survey, including cross-cultural literature, that focuses on responding to children's literature through reading, writing, listening, speaking, and activities that emphasize selecting literature, teaching critical thinking, and integrating literature into the elementary curriculum.	3 Credits
	EDU 432 - Lit & Literacy for Yng Adlts Offered spring. Genre surveys; extensive reading, and analyzing of literature, authors and media addressed to students ages 12-18. Emphasizes effective teaching strategies for using high quality literature with middle school and secondary students. Not a substitute for EDU 331.	3 Credits
	EDU 488 - Libraries and Technology Offered spring. Coreq., C&I 483. Uses of digital technologies in all aspects of library media center operations, including cataloging and circulation, collection development, reference services and administration.	3 Credits
	LIBM 464 - Reference Resources Offered intermittently. Evaluation, selection, and use of basic reference resources. Teaching of media skills, information negotiation, search strategies, database use, and information services.	3 Credits

	LIBM 468 - Admin & Assess of Lib Programs Administrating and managing the school library space, materials, budget, and programs. Assessing the library program in terms of effectiveness, instructional collaboration, and district support, using state, regional and national guidelines for library programs and services.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Library Media Practicum

Rule: Complete the following course.

Note: All library media coursework must be completed prior to enrolling in the library media practicum.

	Course	Credits
	LIBM 495 - Practicum Offered spring and summer. Prerequisite: 16 credits in library and consent of instructor. Supervised field experience in selected phases of library operations, including assessment.	2 Credits
Minimum Required Grade: C-		2 Total Credits Required

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Teaching Reading Licensure

Teaching Licensure - Education; Track: Teaching Reading

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 27

Required Cumulative GPA: 2.75

Note: This program of study can only be completed as a teaching minor for those pursuing a teaching major in another content area or by currently licensed teachers. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information.

Reading Teaching Minor Courses

Rule: Complete all of the following courses.

Note: The EDU 397 course number is used for multiple courses. Students should register for EDU 397 Teaching and Assessing PK-8 Language Arts. The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Teaching and Assessing K-8 Reading.

	Course	Credits

	EDU 331 - Lit & Literacy for Children Offered autumn and spring. Prereq., WRIT 101; open to majors in elementary education, secondary education or pre-education. Genre survey, including cross-cultural literature, that focuses on responding to children's literature through reading, writing, listening, speaking, and activities that emphasize selecting literature, teaching critical thinking, and integrating literature into the elementary curriculum.	3 Credits
	EDU 397 - Methods: Teaching & Assessing (R-15) Offered autumn and spring. Prereq., admission to the Teacher Education Program in elementary or early childhood: P-3. This course number is used for multiple methods courses. Check the class schedule or with your advisor regarding appropriate sections. PK-4 Early Numeracy: Offered autumn and spring. This class must be taken concurrently with Level 1 courses and is restricted to students who have been admitted to the Elementary Education program. Students will learn mathematics concepts, methods of instruction, and the use of instructional materials appropriate for grades K-4 including the use of state and national standards for mathematics, appropriate technology, and manipulatives. Additionally, students will learn techniques for assessing the effectiveness of the counting and cardinality, operations and algebraic thinking, numbers and operations, measurement and data, and geometry. PK-3 Early Literacy: Offered autumn and spring. This class must be taken concurrently with Level 1 courses and is restricted to students who have been admitted to the Elementary Education program. The purpose of this course is to develop an understanding of emergent literacy and beginning reading and to examine developmentally appropriate methods of teaching and assessing reading to children in grades K-3.	3 Credits
	EDU 432 - Lit & Literacy for Yng Adlts Offered spring. Genre surveys; extensive reading, and analyzing of literature, authors and media addressed to students ages 12-18. Emphasizes effective teaching strategies for using high quality literature with middle school and secondary students. Not a substitute for EDU 331.	3 Credits
	EDU 438 - Ltrcy Asmnt, Diagnosis & Instr Offered spring. Prereq., EDU 397 or 481 for education students. Based on the analytic process, emphasis on assessing, identifying, and devising instructional strategies to meet students' reading/writing strengths and needs.	3 Credits
	EDU 441 - Orgnzng Reading/Writing Prgms Offered autumn. Prereq., EDU 397 or EDU 481. Emphasis on teaching writing across the curriculum and supervising the school-wide writing program. Planning, implementing, and assessing writing, and connecting reading and writing will be addressed.	3 Credits
	EDU 481 - Content Area Literacy Offered autumn and spring. Prereq., Admission to the Teacher Education Program. Theories, models, instructional approaches for using literacy for learning in content fields. Emphasis on research, instructional practice, classroom assessment, multicultural and discipline integration.	3 Credits

	EDU 497 - Teaching and Assessing (R-15) Offered autumn and/or spring. Prerequisite: Admission to the Teacher Education Program. This course number is used for multiple elementary and secondary methods courses. Check the class schedule or with your advisor regarding appropriate sections. 5-8 Mathematics: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Methods of teaching, assessing, and evaluating mathematics in the 5-8 middle grades including number and operations, rational numbers, ratio and proportion, measurement, algebra, expressions and equations, geometry, probability, statistics, and functions. K-8 Social Studies: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing teaching and assessing social studies teaching/learning opportunities that incorporate literature, primary sources and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum and understanding state and national curriculum standards. K-8 Science: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards. 4-8 Reading: 3 cr. Offered autumn and spring. This class must be taken concurrently with Level 3 courses and is restricted to students who have completed coursework in Levels 1 & 2. Preparation for teaching reading in a 4-8 setting so that all students are successful. Emphasis on reading to learn. Focus on using assessment to guide instruction, learning from trade books, textbooks, and electronic texts, activating prior knowledge, studying texts, and developing student enthusiasm for reading. 5-12 Science: 3 cr. Offered autumn. Methods of teaching science in the middle and secondary school. This course emphasizes the use of inquiry, problem-solving, appropriate use of technology, and assessment techniques that align with state and national curriculum standards. 5-12 Social Studies: 3 cr. Offered autumn. Foundations and purpose of the middle and secondary social studies curriculum. Elements of curricular design, including instructional methods, materials and assessment. 5-12 Mathematics: 4 cr. Offered autumn. Methods for teaching mathematics in grades 5-12 focusing on presentation of mathematics concepts and procedures through models, problem solving, and technology. Development of instructional strategies and classroom organizational models, discourse in the classroom, and multiple means for assessing student progress. 5-12 Business Subjects: 4 cr. Offered autumn. Methods for teaching business subjects in grades 5-12 focusing on content-specific topics in business, marketing, and information technology to include: instructional planning; effective teaching strategies (F2F & online); multiple means for assessing student progress; classroom management; and the relationship of the content area to standards-based curricula.	0 To 4 Credits
Minimum Required Grade: C-		21 Total Credits Required

Reading Teaching Minor Practicum

Rule: Complete the following course.

Note: All reading coursework must be complete prior to enrolling in the reading practicum.

	Course	Credits
	EDU 456 - Applictn of Literacy Modls K12 Offered summer. Prereq., EDU 438 or C&I 533. Provides classroom teaching experience under direct supervision. Candidates teach reading and writing and apply knowledge of assessing and correcting reading and writing difficulties in grades K-12.	6 Credits
Minimum Required Grade: C-		6 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Teaching Special Education Licensure

Teaching Licensure - Education; Track: Teaching Special Education

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 34

Required Cumulative GPA: 3.0

Note: This program of study can only be completed as a teaching minor for those pursuing a teaching major in another content area or by currently licensed teachers. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information.

Early Childhood Special Education

Rule: Select one of the following courses.

	Course	Credits
	EDSP 401 - Intro Early Intervention Offered autumn odd-numbered years. Restricted to Curriculum & Instruction and Certification majors. This course covers issues relevant to serving very young children and their families. Topics include: ecological systems theory, typical and atypical development, family and child advocacy, naturalist environments, policies and procedures, models of intervention, transdisciplanary service delivery, Individual family service plans, and transition to preschool services. This course requires a 45-hour practicum.	3 Credits

	EDSP 403 - Curric/Mthds Early Spec Educ Offered autumn even-numbered years. Principles in selecting and adapting early childhood curriculum materials for young children with disabilities; development, implementation and evaluation of individualized education programs; and appropriate teaching strategies for the early childhood special education classroom. Includes a practicum.	3 Credits
Minimum Required Grade: B		3 Total Credits Required

Special Education Requirements

Rule: Complete all of the following courses.

	Course	Credits
	EDSP 405 - Assess of Students with Excep Focus on a variety of assessment procedures for students who qualify for Special Education services. A variety of assessments and assessment techniques will be taught, with a strong emphasis on the use of ecologically valid assessment tools. Specific measurement skills will be taught including observation skills. Field experience is required.	3 Credits
	EDSP 426 - Intro Transition & Community Introduction to issues and strategies for preparing adolescents and young adults with disabilities for the transition from school to future careers, post-secondary education, and other post-school environments. These issues are discussed within the context of more global efforts to create school-to-career programs in school settings for all students. A field experience is required.	3 Credits
	EDSP 454 - Adv Academic Interventions Evidence-based assessment and instruction techniques in all basic academic areas. Particular focus on general outcome and curriculum-based measures and the alignment of these and other assessments to interventions. A field experience is required.	3 Credits
	EDSP 456 - Intro Mthds Low Incidence Dis Offered spring and odd summers. Introduction to research-based methods of instruction for students with low incidence disabilities in basic communication, mobility, sensory, and social skills, as well as academic skills (especially literacy and general education curricular access). An introduction to augmentative and alternative communication (AAC) and assistive technology (AT) is also addressed. A field experience is required.	3 Credits
	EDSP 461 - Positive Behavior Supports Offered spring and odd-numbered summers. In-depth study of the principles and procedures for managing problem behaviors with an emphasis on prevention and classroom management. A field experience is required.	3 Credits
	EDSP 462 - Spec Ed Law, Policy, Practice Offered autumn and even-numbered summers. Historic and current perspectives on laws, policies and practices of the special education and related fields. Coverage of all aspects of the special education process including collaborative practices.	3 Credits

	EDU 438 - Ltrcy Asmnt, Diagnosis & Instr Offered spring. Prereq., EDU 397 or 481 for education students. Based on the analytic process, emphasis on assessing, identifying, and devising instructional strategies to meet students' reading/writing strengths and needs.	3 Credits
Minimum Required Grade: B		21 Total Credits Required

Special Education Student Teaching

Rule: Complete the following course.

Note: All special education coursework must be completed prior to the special education student teaching experience. An application is required to determine special education student teaching eligibility. See Teacher Education Services or the Office of Field Experiences for deadlines.

	Course	Credits
	EDSP 495 - Student Teaching: Special Educ Offered autumn and spring. Prereq., completion of all courses in the special education minor with a grade of B or higher and consent of advisor and Director of Field Experiences. Supervised field experience in special education.	1 To 10 Credits
Minimum Required Grade: B		10 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Technology in Education Licensure

Teaching Licensure - Education; Track: Technology in Education

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 21

Required Cumulative GPA: 2.75

Note: Technology in Education is an Area of Permissive Special Competency. This minor leads to an area of permissive special competency in technology in education for those holding or attaining a Montana teaching license. It does not qualify as a teaching endorsement in Montana. See the Department of Curriculum and Instruction in the College of Education and Human Sciences for additional information.

Technology in Education Requirements

Rule: Complete all of the following courses.

Note: Equivalent courses from MSU-Bozeman, MSU-Billings and MSU-Northern may substitute. Please consult a C&I advisor for approved courses.

	Course	Credits

	C&I 515 - Computer/Tchnlgcl Appl in Educ Prereq., a basic computer course or demonstrated computer literacy. Computer systems and other hardware utilizing various software applications by administrators, counselors, librarians, teachers, and students. Level: Graduate	3 Credits
	C&I 570 - Instructional Teach Found Same as EDLD 570. General introduction to the field, theory, and profession of instructional technology. Definition of instructional technology; history of the field. Level: Graduate	3 Credits
	C&I 571 - Educ Tech Media Same as EDLD 571. Principles and practices of instructional design for integration of educational technology. Emphasis on role of technology in contemporary teaching/learning/assessing theory and practice, including learning styles and multiple intelligences. Level: Graduate	3 Credits
	C&I 580 - Dist Lrng Theory & Implem Same as EDLD 580. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction. Introduction to distance learning models and exploration of satellite and computer-mediated course development, implementation, and evaluation. Level: Graduate	3 Credits
	C&I 581 - Plng & Mgt for Tech in Edu Same as EDLD 581. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction. Creating, implementing, maintaining, and evaluating technology plans for educational institutions, including budgets, facilities, and hardware planning. Level: Graduate	3 Credits
	C&I 582 - Ed Tech Trends & Issues Same as EDLD 582. Exploration of trends and issues in the use of educational technology in a variety of settings. Level: Graduate	3 Credits
	C&I 584 - Authentic App Inst Design Same as EDLD 584. Development of practical competencies in such components of instructional technology as development, production, materials evaluation, and project management and implementation. Level: Graduate	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Secondary Licensure

Students preparing to teach at the middle or high school levels (license for grades 5-12) will declare a major in the subject area(s) they wish to teach, e.g., English, mathematics, or any other of the state-approved major content endorsement areas listed previously. They are advised within their major department(s) and, upon admission to the Teacher Education Program, they also are advised within the Department of Curriculum and Instruction regarding the requirements necessary to earn secondary licensure. All secondary licensure students seek admission to the Teacher Education Program, usually at the end of the sophomore year, and complete course work required for licensure in Curriculum and Instruction and in their major content area(s).

Applicants for Montana teaching licensure must: (1) satisfy all degree and licensure requirements as outlined below; and (2) be at least 18 years of age. Information about the Teacher Education Program is available in the department office and online at: http://www.coehs.umt.edu/

Teaching Licensure - Secondary Certification

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 41

Required Cumulative GPA: 2.75

Note: Teacher Education Program coursework is completed in addition to a teaching major and leads to secondary (5-12) or K-12 teaching licensure in that content area. Individuals must be admitted to the Teacher Education Program to enroll in any EDU courses. See the Curriculum and Instruction website for additional information regarding admission.

Teacher Education Program Prerequisite

Rule: This course must be completed before applying to the Teacher Education Program

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Additional Licensure Requirements

Rule: Complete all of the following courses.

Note: Students may take any NASX course to fulfill this requirement. If you choose to take a course with a Native American focus outside of the Native American Studies Department, please consult with your C&I advisor for approval.

	Course	Credits
	HEE 233 - Health Issues Child/Adol Offered every term. Overview of current health issues affecting children and adolescents. Focus is on educational and preventive measures that can be implemented by teachers and schools through comprehensive school health education programs.	3 Credits
	NASX 105H - Intro Native Amer Studies Offered Autumn and Spring. Survey course to acquaint the student with Native American Studies by a general overview of Indian history, culture, philosophy, religious beliefs and contemporary issues.	3 Credits

Minimum Required Grade: C-	6 Total Credits Required

Education Coursework

Rule: Admission to the Teacher Education Program is required to enroll in the following courses.

Note: Math and Business majors are not required to complete EDU 370. They meet the technology requirement through departmental requirements. Music majors do not complete EDU 370 nor EDU 481. They meet the technology and literacy requirements through departmental requirements. English majors do not complete EDU 481. They meet the literacy requirement through departmental requirements. All students must complete major and/or minor teaching methods courses specific to their content areas. These methods course requirements are listed within the requirements for each program of study.

	Course	Credits
	EDU 221 - Ed Psych & Measuremnt Offered autumn and spring. Prereq., admission to Teacher Education program in secondary and K-12. Analysis of fundamental psychological concepts underlying classroom teaching and management, learning and evaluation including educational measurement. Emphasis on cognition, developmental, and motivational aspects of learning.	3 Credits
	EDU 345 - Excptnlty & Clsrm Mgmt Offered autumn and spring. Prereq., Admission to the Teacher Education Program in secondary and K-12. Focus on classroom management and the characteristics and instructional adaptations for exceptional students in the regular classroom. Addresses the Individuals with Disabilities Education Act and subsequent reauthorizations, presents practices for working with students who are at-risk and students with disabilities in inclusive settings, and includes technological considerations.	3 Credits
	EDU 370 - IntegTech into Educ Offered autumn and spring. Prereq., Admission to the Teacher Education Program and general computer literacy skills. Integration and use of computer and other technologies in education.	3 Credits
	EDU 407E - Ethics & Policy Issues Offered every term. Prereq., admission to Teacher Education Program and EDU 202 or EDU 395. Practical application of ethical principles of the teaching profession. Analysis of the American public school and major policy issues from historical, legal, political, social as well as ethical perspectives.	3 Credits
	EDU 481 - Content Area Literacy Offered autumn and spring. Prereq., Admission to the Teacher Education Program. Theories, models, instructional approaches for using literacy for learning in content fields. Emphasis on research, instructional practice, classroom assessment, multicultural and discipline integration.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Education Field Experiences

Rule: Admission to the Teacher Education Program is required to enroll in the following courses.

Note: EDU 202 is a prerequisite to EDU 395. EDU 395 is taken concurrently with the content-specific methods course.

	Course	Credits
	EDU 202 - Early Field Experience Offered autumn and spring. Prereq., admission to Teacher Education Program in secondary and K-12. Guided introductory field experience for students committed to teaching as a profession. Connects field experience to content of co-requisite theory classes. Seminars include professional development portfolio, developmental level of students, diversity, learning/teaching strategies, motivation, classroom management, and assessment of learning.	1 Credits
	EDU 395 - Clinical Experience (R-4) Offered autumn and spring. Prereq., admission to the Teacher Education Program. Arranged field experience and seminar focusing on applying content from the co-requisite courses. This course number is used for multiple clinical experiences. Check the class schedule or with your advisor regarding the appropriate section. Elementary Education Majors: EDU 395 Clinical Experience Level 1 must be taken concurrently with Level 1 courses. EDU 395 Clinical Experience Level 2 must be taken concurrently with Level 2 courses. Secondary and K-12 Licensure Students: EDU 395 Clinical Experience K-8 and EDU 395 Clinical Experience 9-12 have a prerequisite of an initial field experience and should be taken concurrently with a secondary or K-12 methods course.	1 Credits
Minimum Required Grade: Pass		2 Total Credits Required

Student Teaching Field Experience

Rule: All content, methods, and education courses must be completed prior to enrolling in the student teaching semester.

Note: An application is required to determine student teaching eligibility. See Teacher Education Services or the Office of Field Experiences for deadlines. The EDU 494 course is completed for 1 credit and the EDU 495 course is completed for 14 credits.

	Course	Credits
	EDU 494 - Seminar:Refl Pract & App Rsrch (R-9) Required seminar during student teaching. Prereq., admission to the Teacher Education Program. Focuses on learning to conduct research on P-12 student performance to determine teaching effectiveness. Includes on-campus and/or on-line planning, conducting, and analyzing classroom practice.	1 To 9 Credits
	EDU 495 - Student Teaching (R-14) Offered autumn and spring. Arranged capstone clinical experience required for all professional licensure students. Prereq., admission to the Teacher Education Program, completion of all required field experiences and methods courses, an application to student teach, and the consent of the Director of Field Experiences. In addition, elementary education majors must complete all coursework in all previous levels. Secondary and K-12 licensure students must complete at least two-thirds of content coursework and receive approval by departments in their major and minor content areas.	1 To 14 Credits

Minimum Required Grade: C-	15 Total Credits Required

Teaching ESL Licensure

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Teaching Licensure - Education; Track: Teaching ESL

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 24

Required Cumulative GPA: 2.0

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Core Courses

Rule: Must complete the following subcategories

16 Total Credits Required

Required Courses

Rule: All courses are required

Note: Those completing the teaching minor in ESL must take Ling 495 ESL Practicum for 3 credits.

	Course	Credits
	LING 470 - Linguistic Analysis Offered autumn. An in-depth examination of the formal properties of language, concentrating on the core areas of linguistic analysis (phonetics, phonology, morphology, syntax and semantics).	3 Credits
	LING 471 - Phonetics and Phonology Offered autumn. Prereq., LING 470. A study of phonetic and phonological systems from as many as 20 languages, most of them non–Indo–European; training in how to do linguistic analysis as well as linguistic theory. This course co-convenes with LING 571.	3 Credits
	LING 472 - Generative Syntax Offered autumn. Prereq., LING 470. A study of the human language sentence–formation system, the means for expressing semantic information as propositional content. Emphasis on the abstraction of utterances in the form of mathematical objects. This course co-convenes with LING 572.	3 Credits

	LING 480 - Tchg Engl as For Lang Offered autumn online. Prereq., LING 270 or equiv. Same as ENLI 480. The application of principles of modern linguistics to the problems of teaching English as a foreign language.	3 Credits
	LING 495 - ESL Practicum Offered autumn and spring. Prereq., or coreq., LING 480. Offered every term. Students with a teaching major take the course for 3 credits; others take it for 1 credit and do one third of the work.	1 To 3 Credits
Minimum Required Grade: C-		13 Total Credits Required

Core Options

Rule: Complete 1 of the following courses

	Course	Credits
	LING 477 - Bilingualism Offered autumn. Prereq., LING 270S or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code-switching and mixting, and bilingual education.	3 Credits
	LING 478 - Learner Language Offered spring. Prereq., LING 270S or equivalent. Observing/describing language learners' behaviors and, to a degree, advances toward proficiency (i.e., fluency plus accuracy); the presence of error as conditioned by a priori knowledge of language and implications for child and adult development; and applying typical methods of linguistic analysis to the (non-) systematic variants in language form characterizing developmental processes as a way of trying to explain variable behavior.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Elective Courses

Rule: Complete 2 of the following courses

Note: Ling 477 or Ling 478 may be taken as an Elective if not taken as a Required Course.

	Course	Credits
	LING 473 - Language and Culture Offered spring. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view. This course co-convenes with LING 573.	3 Credits
	LING 481 - The ESL Professional Offered intermittently. Prereq. or coreq., LING 491; prereq., LING 480 or consent of instr. Professional development techniques for the independent language teacher: language test construction, self–critique of teaching strategies, materials development, curriculum evaluation and design, and electronic and print media resources for the language teaching professional.	3 Credits

	LING 489 - Morphology Offered spring. Prereq., LING 470. A survey of the morphological features of several unrelated languages to provide the student with a broad overview of how languages compare and contrast. This course co-convenes with LING 589.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Early Childhood Education Minor

Minor - Early Childhood Education (Minor)

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 24

Required Cumulative GPA: 2.0

Note: This minor can only be completed by individuals seeking K-8 elementary licensure or currently licensed elementary education teachers.

Required Courses

Rule: Must complete all of the following courses:

Note: Students must take two semesters of EDU 397: 1) Methods: PK-4 Early Numeracy and 2) Methods: PK-3 Early Literacy.

	Course	**Credits**
	EDEC 408 - EC Principles & Practices Prereq., Admission to the Teacher Education Program in early childhood: P-3. This course is an overview of principles and practices in early childhood education (ages birth through eight). The main topics to be covered will include: the sociological, professional, and theoretical perspectives of early childhood education with a focus on developmentally appropriate practice (DAP); the skills and dispositions needed in planning and implementing early care and education programs for all children; and education models in early childhood.Students must plan for a minimum of 45 hours in an early childhood setting to meet requirements for the application of course content. Co-convened course with EDEC 508.	3 Credits
	EDEC 410 - Families, Communities, Culture Prereq., Admission to the Teacher Education Program in early childhood: P-3. This on-line course explores the dynamics of working together with families of young children (birth - 8) in early childhood programs using a family-centered approach that places the child in the context of family and community. Students will explore developmental relationship building, communication, needs-based assessment and cultural diversity through readings, online discussion groups, an independent service-learning project and field-work. Co-convened with EDEC 510.	3 Credits

	EDEC 420 - Meeting Standards through Play Prereq., Admission to the Teacher Education Program in early childhood: P-3. This course features an in-depth examination of how early learning standards in all content areas (math, science, literacy, technology, physical education, and the arts) can be met through the design and facilitated use of play-based environments. Also examined will be the role of the teacher as environmental designer and facilitator of learning. Students must plan for a minimum of 45 hours in an early childhood setting to meet requirements for the application of course content. This course is co-convened with EDEC 520.	3 Credits
	EDEC 430 - SocEmot Dvlpmnt in Yng Child Prereq., Admission to the Teacher Education Program in early childhood: P-3. This on-line course examines the development, components, and influences of social competence in the early childhood years (birth – 8). Positive guidance techniques that enhance children's self-esteem and pro-social skills will be taught. Students will examine developmental theories, current literature, researched-based teaching strategies and assessment tools. Students must plan for a minimum of 45 hours in an early childhood setting to meet requirements for the application of course content. Co-convened with EDEC 530.	3 Credits
	EDEC 495 - EC Fieldwork/Practicum Offered autumn and spring. This course provides students the opportunity to participate in planning and facilitating learning activities in a multi-age early childhood program while also participating in an on-line seminar. Students will observe and facilitate learning in a model early childhood setting and participate in on-going written and verbal reflection to explore key teaching and learning issues. The course will focus on promoting student knowledge, skills, and dispositions in the areas of child observation and assessment, curriculum planning, child guidance, and integration of curriculum using a broad repertoire of teaching strategies. Students are required to be based in an approved licensed and/or accredited early childhood program for a minimum of 8 hours/week. Co-convened with EDEC 595.	3 Credits
	EDU 222 - Educational Psych Child Dev Offered autumn and spring. Prereq., Admission to the Teacher Education Program in elementary or early childhood: P-3. This course must be taken concurrently with Level 1 courses. This course will examine the classroom practices that impact elementary aged children's learning, motivation and development. The content is closely aligned with co-requisite courses and initial field experience, allowing opportunities for observation and practice of principles covered in class.	3 Credits

	EDU 397 - Methods: Teaching & Assessing (R-15) Offered autumn and spring. Prereq., admission to the Teacher Education Program in elementary or early childhood: P-3. This course number is used for multiple methods courses. Check the class schedule or with your advisor regarding appropriate sections. PK-4 Early Numeracy: Offered autumn and spring. This class must be taken concurrently with Level 1 courses and is restricted to students who have been admitted to the Elementary Education program. Students will learn mathematics concepts, methods of instruction, and the use of instructional materials appropriate for grades K-4 including the use of state and national standards for mathematics, appropriate technology, and manipulatives. Additionally, students will learn techniques for assessing the effectiveness of the counting and cardinality, operations and algebraic thinking, numbers and operations, measurement and data, and geometry. PK-3 Early Literacy: Offered autumn and spring. This class must be taken concurrently with Level 1 courses and is restricted to students who have been admitted to the Elementary Education program. The purpose of this course is to develop an understanding of emergent literacy and beginning reading and to examine developmentally appropriate methods of teaching and assessing reading to children in grades K-3.	3 Credits
Minimum Required Grade: C-		24 Total Credits Required

Health and Human Performance Department

Scott Richter, Chair

Vision

Health and Human Performance Professionals

Creating a Healthy, Progressive Global Community

Mission

In pursuit of our vision, the Department of Health and Human Performance (HHP) prepares quality graduates to be ethical and competent entry level professionals in health and human performance related occupations or candidates for advanced study in related disciplines. Within the liberal arts tradition of the University of Montana and the mission of the College of Education and Human Sciences, the Department of Health and Human Performance engages in professional education, scholarly activity, and meaningful public service. The department emphasizes mental, social, spiritual, and physical dimensions of health to promote healthy lifestyle choices and enhanced quality of life.

The Health and Human Performance Department has established the following goals in support of our vision and mission:

- ***Promote*** an understanding and appreciation for the scope of the profession
- ***Enhance*** student awareness of the departmental mission and goals
- ***Coordinate*** student development of the basic skills germane to effective practice as health and human performance professionals or successful pursuit of advanced studies
- ***Cultivate*** higher-order thinking skills that increase student involvement and interest in their own learning, promoting a lifelong quest for knowledge
- ***Nurture*** cognition of the multiple dimensions of health (physical, intellectual, emotional, spiritual, social and environmental)
- ***Advocate*** respect for the uniqueness and dignity of others.

Undergraduate students major in Health & Human Performance (HHP). HHP majors choose from one of the following five consentrations: Community Health and Prevention Sciences, Exercise Science Applied, Exercise Scienc Pre-Athletic Training, Exercise Science Pre-Professional, or Health Enhancement.

The **Community Health and Prevention Sciences concentration** prepares students with knowledge and skills related to assessing individual and community needs prior to planning, implementing, and evaluating programs designed to encourage healthy lifestyles and environments. Individuals who will be most successful in the community health option are those who are deeply interested in the interrelationship among all aspects of health (social, emotional, mental, spiritual and physical) and in the life and behavioral sciences. In addition, success in this field requires imagination and creativity in applying scientific knowledge to strategies for

individual and community change through a wide range of educational, environmental and political approaches. Graduates of this program will be prepared to take the National Certification Exam for Health Education Specialists.

There are three options **Exercise Science**: Pre-Professional, Applied, and Pre-Athletic Training. The ***Pre-Professional concentration*** is for students planning to continue on in higher education and is designed to provide students with an in-depth science background and prepares students for post-baccalaureate study in exercise physiology and related health sciences such as medical school, physical therapy, physician's assistant, athletic training, occupational therapy or other medical programs. There are adequate electives in this program for most students to complete the required pre-requisite courses for graduate health science degrees. Successful graduates of this option should possess the knowledge and skills to qualify for the American College of Sports Medicine Certified Clinical Exercise Physiologist certification (requires additional clinical hours). The ***Applied concentration*** is designed to prepare students for jobs as strength and conditioning coaches, athletic coaches, personal trainers, elderly services providers, corporate wellness personnel and directors, fitness center directors and other fitness related jobs or graduate studies in Exercise Science. Successful graduates of this track should possess the knowledge and skills to qualify for the American College of Sport Medicine Certified Exercise Physiologist certification and/or National Strength and Conditioning Association Certified Strength and Conditioning Specialist. The ***Pre-Athletic Training*** *concentration* is designed for students interested in applying for the Master's in Athletic Training Program (see information below).

The **Health Enhancement** concentration prepares students to use a variety of educational strategies designed to facilitate the adoption of healthy behaviors in K-12 students. Upon acceptance into the College of Education and Human Sciences, and successful completion of the course requirements, students will be eligible for a Montana K-12 teaching license. See Admission Policies below.

The **Master's in Athletic Training** Program prepares competent entry-level athletic trainers for employment in educational and clinical settings or post-graduate study. The Athletic Training curriculum is designed to help students develop competency in evidence based medicine, prevention and health promotion, clinical examination and diagnosis, acute care of injury and illness, therapeutic interventions, psychosocial strategies and referral, healthcare administration and professional development and responsibility. Successful graduates should possess the knowledge and skills to qualify for the Board of Certification Examination.

The graduate curriculum in Health and Human Performance at the University of Montana prepares post-graduates to become effective health and human performance professionals or competitive candidates for advanced study in related disciplines through a comprehensive program of study and guided research. Development of the following is considered essential in achieving a graduate degree:

1. Oral and written communication skills,
2. An understanding of current research literature in one's chosen specialization and the independent pursuit of learning beyond the confines of curricular requirements,
3. Appropriate technological skills,
4. Ability to design, conduct, and report research in a scholarly fashion,
5. Personal characteristics, sense of responsibility, and professional behavior requisite for effective functioning as an advanced health and human performance professional.

Graduate options include Exercise Science, Community Health and Prevention Sciences, Athletic Training and a generalist degree in Health and Human Performance. For more information regarding the department's graduate program refer to either:

The University of Montana Graduate Programs and Admissions catalog: http://www.umt.edu/grad/

The College of Education and Human Sciences Graduate website: http://coehs.umt.edu/departments/hhp/graduate_programs/default.php

Activity Classes

The HHP department also provides a large activity program (ACT classes numbered 100-287, ACTV 189 and HHP 170-179) which includes instruction in a wide variety of individual, team, recreational, and fitness activities. Goals of this program include helping students:

1. Develop and maintain long-term health-related fitness,
2. Develop motor performance skills that facilitate regular and continuous participation in physical activity, and
3. Develop the adult "inner athlete" who continually strives to reach optimal potential through involvement in challenging endeavors.

Any University of Montana student may elect to apply up to four credits toward a baccalaureate degree. For descriptions of the activity classes offered, refer to the website at http://coehs.umt.edu/departments/hhp/activity_classes/default.php.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

Students must fulfill the requirements listed below. All HHP majors must earn a minimum grade of a C- in all required courses, including prerequisites, except for special cases of higher requirements in Athletic Training and Health Enhancement noted below. In-department and out-of-department courses specifically listed in this catalog as requirements for Health and Human Performance majors must be taken for a traditional letter grade.

The University of Montana symbolic systems requirement is met by completing one of the following statistics courses and any pre-requisite courses: STAT 216 Introduction to Statistics, or PSYX 222 Psychological Statistics, or SOCI 202 Social Statistics, or WILD 240 Introduction to Biostatistics, or EDU 421 Statistical Procedures in Education. All options must meet this requirement.

Admission Policies for Health Enhancement Option

The Health Enhancement option is designed for individuals who wish to teach in K-12 school systems. Application for admission to the College of Education must be made (refer to http://coehs.umt.edu/departments/hhp/default.php). Applications are accepted twice a year; however, the number of students admitted into the program is limited. Application is made no sooner than after the completion of 30 hours of course work. A cumulative GPA of 2.75 is necessary for application.

To successfully complete the program in Health Enhancement, a student must receive a grade of C (2.00) or above in every course in the following areas: teaching major, professional education courses, a drug abuse course, PSYX 100S, WRIT 101, and EDU 481. These courses must be taken as a traditional letter grade.

Admission Policies for the Masters in Athletic Training Degree Program

Athletic Training Program (ATP)

The University of Montana-Missoula offers an accelerated entry level Master's in Athletic Training program housed within the Health and Human Performance Department. The program meets the standards established by the Commission on Accreditation of Athletic Training Education (CAATE). The Master's in AT Program was granted CAATE accreditation in 2015. The ATP is a demanding curriculum which requires dedication and commitment. Upon completion there are a variety of professional career opportunities.

The University of Montana offers an accelerated Master's in Athletic Training Program. This program allows students to take three years of pre-requisite courses and general education requirements, followed by 2 years full time in a Master's in Athletic Training program, including summers. There are two ways in which a student may attain a Master's Degree in Athletic Training:

Option 1: A five-year program in which students earn a Bachelor of Science Degree in Health and Human Performance and a Master's Degree in Athletic Training.

Option 2: A two-year master's program designed for students who already have a baccalaureate degree

Upon completion of the Master's in Athletic Training Program, students will be eligible to sit for the Board of Certification (BOC) Exam.

*Both the Bachelor's degree and Master's degree will be officially awarded at the time of graduation.

Following are the requirements for application, admission, and retention of the Athletic Training Program (ATP). Academic advisors are available to assist students with this interesting and challenging professional program.

Admission. Students who desire admission into the Master's in Athletic Training Program must submit a formal application. This application must be submitted by the deadline (February 1st) prior to your proposed admission into the professional program. If the application deadline falls on a weekend, applications may be submitted the next business day by 5pm. Applications received after the deadline will be considered on a rolling admissions basis if available slots exist.

A review board consisting of the Athletic Training Program Director, Clinical Director, Preceptors, professional students and possibly other professionals, will evaluate each student applying for admission to the professional program. Formal notification of admission to the Master's program will be made in writing.

Candidates who are NOT admitted to the program will also receive written notification of this decision. Students may be selected as alternates and if a vacancy should become available prior to summer semester, these students will be informed. Not all qualified candidates may be admitted to the Master's program due to limited enrollment in clinical experiences.

For more information on applying to the professional program, please go to http://coehs.umt.edu/umat/applications.php.

ADMISSION REQUIREMENTS FOR PROFESSIONAL ATHLETIC TRAINING PROGRAM (ATP)

1. Students must apply and be accepted to the University of Montana's Graduate School http://www.umt.edu/grad/Apply/Graduate%20Degree%20Admission.php
2. Students must have a minimum GPA of 3.0 for all college coursework (a GPA below 3.0 may be considered)
3. Completed pre-requisite courses (students may be enrolled in pre-requisite courses at time of application)

4. Official transcript(s) of all college coursework

Professional ATP

As a student in the Athletic Training Program at the University of Montana, students must meet the following retention standards:

- Enroll as a full-time student (unless approved by Program Director)
- Maintain a cumulative grade point average of 3.0 or higher
- Achieve no more than 2 "C" grades in graduate courses
- Achieve satisfactory evaluations in each Clinical Phase before progressing
- Successfully complete coursework in the sequence indicated by the program of study unless approved by Athletic Training Program Director
- Abide by the Code of Ethics of the University and those established by the National Athletic Trainers' Association

Students are expected to complete at least 20 hours every two weeks and a maximum of 60 hours in two weeks and many of those hours may be during evenings and weekends. Students who fail to meet the retention criteria will be placed on probation in the Athletic Training Program for a maximum of two semesters. This may limit progress of course sequencing and clinical phases. If standards are not met by the end of the probationary period, the student will be dismissed from the Athletic Training Program. Students who are placed on probation may require remediation as deemed appropriate by the Program Director.

For further information on clinical education requirements, please visit the athletic training website.

Additional Costs Associated with ATP Program

There will be additional costs (above tuition and fees) for the clinical rotations. Program fee: there is an additional fee of $925/semester in addition to regular tuition of fees. This fee will help cover the cost of lab equipment, accreditation costs, adjunct teaching, and software. Other costs may include, but are not limited to: Criminal Background Check ($55), Initial NATA Membership Fee (approximately $60), Polo Shirts ($30), and Medical Pack/Kit ($30).

Transportation is needed for all off-campus clinical sites. Each student will have a minimum of one off-campus site.

General HHP Program Requirements

First Aid and CPR Exit Certifications

All Health and Human Performance students are required to have the appropriate certification in first aid/emergency care and CPR at graduation. The following certifications will meet this competency:

Any one of the following current first aid/emergency care certifications:

- American Academy of Orthopedic Surgeons (AAOS) - Emergency Medical Responder
- National Safety Council Level - First Responder
- Wilderness First Responder
- American Heart Association - First Responder

Plus one of the following CPR certifications:

- American Heart Association (Health Care Provider)
- American Red Cross (Professional Rescuer)

Or Certification as an Emergency Medical Technician

Health and Human Performance students may use available elective credits to take ECP 120/121, First Responder and CPR, to meet this competency, or they may elect to fulfill the competency through one of the department approved agencies. Academic credit for ECP 120/121 will not be awarded for certifications earned at off-campus approved agencies other than the Health and Human Performance Department at the University of Montana.

Upper-division Writing Expectation

The HHP Department offers three upper-division writing courses to fulfill the General Education writing requirements; KIN 447, AHAT 342 and HEE 301. Exercise Science and Community Health and Prevention Sciences students are required to complete KIN 447 (Analytical and Communication Techniques) or AHAT 342

(Therapeutic Interventions), and Health Enhancement students are required to complete HEE 301 (Instructional Strategies in Secondary Physical Education).

Undergraduate students must complete requirements for a minimum of one of the options listed below. The typical student may take more than four years to complete these requirements, especially in the Health Enhancement option.

Department Faculty

Professor

Blakely Brown, Professor
Clarence Burns, Professor
Charles Dumke, Professor
Laura Dybdal, Professor
Arthur Miller, Professor
Brent Ruby, Professor
Annie Sondag, Professor

Associate Professor

Matthew Bundle, Associate Professor
Melanie McGrath, Associate Professor
Valerie Moody, Professor
Charles Palmer, Associate Professor
John Quindry, Associate Professor
Scott Richter, Department Chair / Associate Professor

Activities

Back to Top

- ACT 103 - Jump Rope Fitness and Skill
  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course
- ACT 105 - Aerobic Fitness
  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course
- ACT 106 - Beg Conditioning and Fitness
  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course
- ACT 107 - Beginning Aerobic Dance
  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course
- ACT 109 - Beginning Racquetball
  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course

- ACT 110 - Beginning Weight Training

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in activity courses (ACT 100-287) in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 112 - Curling

  Credits: 1. (R-4) Students will learn the curling rules, scoring, etiquette, basic strategies, methods and styles of stone deliver. In addition, how to "read' the ice/call for sweeping, most effective sweeping techniques, and the different positions on a curling team will be taught.

- ACT 113 - Beginning Softball

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 114 - Beginning Rock Climbing

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 115 - Soccer

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 118 - Hockey

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 119 - Beginning Nordic Skiing

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 129 - Circuit Training

  Credits: 1. (R-4) Upon completing this course, the student will be able to develop their strength, endurance, and flexibility by participating in various fitness programs or sports, demonstrate proper form and skills for various fitness programs, and recognize and demonstrate appropriate fitness etiquette.

- ACT 136 - Aerial Yoga

  Credits: 1. (R-4) This course teaches traditional Hatha yoga with an aerial hammock, aiding the student in postures. In order to accumulate a person who is new to yoga, the aerial hammock offers the body assistance to find correct alignment and decompression of the spine without pressure on the head or hands.

- ACT 140 - Beginning Basketball

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 143 - Beginning Table Tennis

Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 144 - Horse

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 145 - Beginning Dodgeball

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 146 - Beginning Golf

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 150 - Beginning Yoga

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 151 - Beginning Billiards

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 152 - Beginning Handball

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 154 - Beginning Tai Qi

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 157 - Beginning Martial Arts

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website.

- ACT 163 - 5/10 K Race Training

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website.

- ACT 164 - Triathlon Training

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 167 - Mountain Biking

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 169 - Beginning Tennis

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 171 - Physical Fitness I

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 172 - Physical Fitness II

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 173 - Beg Fly Fishing/Fly Tying

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 174 - Introduction to Backpacking

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 175 - Fly Fishing

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 176 - Fnd of Whitewater Rafting

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 177 - Fundamentals of Kayaking

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students

graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
PE Activity Skills Course

- ACT 178 - Canoeing

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course

- ACT 179 - Basic Canoeing

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course

- ACT 185 - Multicultural Games

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course

- ACT 186 - Firefighter Conditioning

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website.

- ACT 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ACT 202 - Intermediate Racquetball

  Credits: 1. An intermediate course for the sport of racquetball. Students should have a fundamental understanding of the sport, including the rules of the game and its variations, and the necessary equipment. Intermediate-level instruction will focus more on stroke mechanics, and strategies. Students will also be learning the enjoyment of playing racquetball, which is a game that can last a lifetime.

- ACT 207 - WC Aerobics

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course

- ACT 215 - AMGA Climbing Wall Instructor

  Credits: 1. This course will address the technical skills necessary to manage an instructional program at an indoor climbing wall facility and will address the following general topic areas: instructor roles, responsibilities and professionalism, client orientation and instruction, risk management, lesson planning, teaching basic climbing skills, including movement, teaching lead climbing skills, teaching top-rope and lead belaying techniques, use of available equipment and facility, basic rescue and emergency procedures.

- ACT 218 - Ultimate Disc

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course

- ACT 219 - Folf

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students

graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 222 - Ski Camp

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 225 - Snow Bowl Ski Area

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 228 - Ski Instructor's Preparation

  Credits: 2. Offered spring. Prereq., consent of instr. Open to all students with advanced to expert skiing skills. Techniques of teaching skiing including: skill concepts and contemporary skiing movements; teaching cycle; movement analysis; personal skiing improvement. Prepares student for certification with (PSIA) Professional Ski Instructors of America.

- ACT 229 - Snowboard Instructor Prep

  Credits: 2. Offered spring. Prereq., consent of instr. Open to students with advanced to expert riding skills. Techniques of teaching snowboarding including: skill concepts and contemporary snowboarding movements; teaching cycle; movement analysis; personal riding improvement. Prepares student for certification with (ASSI) American Association of Snowboard Instructors.

- ACT 231 - Pilates - Yoga Fusion

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 232 - Alpine Core Studio

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 233 - Freestone Climbing

  Credits: 1. Offered every term. This course is a free climb, no ropes course. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 234 - Jazz for Fun & Fitness

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 235 - Belly Dancing

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- ACT 237 - Trampoline Arial Acrobatics

Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
PE Activity Skills Course

- ACT 250 - Pilates

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course

- ACT 257 - Martial Arts and Self Defense

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course

- ACT 258 - CFM Mixed Martial Arts

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website.

- ACT 259 - AAK American Kenpo

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course

- ACT 271 - Swimming for Fitness

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course

- ACT 274 - Scuba Diving

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website.

- ACT 286 - Fencing

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course

- ACT 287 - Strength & Flexibility

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes:
  PE Activity Skills Course

- ACT 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Offerings of visiting professors, new courses, or current topics.

- ACT 292 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of advisor and instr. Course material appropriate to the needs and objectives of the individual student.

- ACT 337 - Aquatic Certifications

  Credits: 1 TO 2. (R-4) Offered spring. Prereq., HHP 238 or equivalent certifications. Offered on a rotating basis. Training for Water Safety Instructor, Lifeguard Training Instructor, or Adapted Aquatics Instructor. Red Cross Instructor's Certificate awarded upon successful completion of requirements.

- ACT 391 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ACT 490 - Undergraduate Research

  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Directed individual research and study appropriate to the background and objectives of the student. Course Attributes: Research & Creative Schlrshp

- ACT 491 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ACT 492 - Independent Study

  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- ACT 494 - Workshop

  Credits: 1 TO 6. (R-6) Offered intermittently. Special courses experimental in nature dealing with a relatively narrow, specialized topic of particular current interest. Credit not allowed toward a graduate degree.

- ACT 498 - Internship

  Credits: 2 TO 6. (R-6) Offered every term. Prereq. all HHP options minimum junior standing and ECP 120/121 (or equivalent). Prereqs per option. Exercise Science Applied: KIN 320/321. If internship is coaching or strength & conditioning must also have completed KIN 410 and COA 405. Exercise Science Pre-Professional: KIN 320/321. If internship is cardiac rehab must also have completed KIN 460/483/484. Community Health: CHTH 335. Supervised field experiences with private businesses, public agencies, or institutions. 45 hours of internship site work = 1 credit. A maximum of 6 credits of Internship 498 may count toward graduation. Students should not be registered for more than 14 credits their internship semester. Course Attributes: Internships/Practicums Internship graduation limit 6

- ACT 499 - Capstone

  Credits: 1 TO 3. (R 6) Offered every term. Prereq., consent of instr. Independent work under the University omnibus option. See index. Course Attributes: Omnibus Course

Activities - Varsity

Back to Top

- ACTV 189 - Varsity Athletics

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

Allied Hlth: Athletic Training

Back to Top

- AHAT 210 - Prev and Care Athletic Injur

  Credits: 2. Offered autumn and Spring (winter session). Coreq., AHAT 213. Development of knowledge of prevention, assessment, treatment, rehabilitation, emergency care of athletic injuries.

- AHAT 213 - Prev and Care Athletic Injur L

Credits: 1. Coreq., AHAT 210. Development of practical skills in prevention, assessment, treatment, rehabilitation, and emergency care of athletic injuries.

- AHAT 292 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of advisor and instr. Course material appropriate to the needs and objectives of the individual student.

- AHAT 324 - Assessment of the Extremities

  Credits: 2. Coreq., AHAT 325. The study and practice of techniques used when assessing athletic injuries to the upper and lower extremities, including the spine.

- AHAT 325 - Assessment of Exremities Lab

  Credits: 1. Coreq., AHAT 324. The study and practice of techniques used when assessing athletic injuries to upper and lower extremities including the spine.

- AHAT 342 - Therapeutic Interventions

  Credits: 2. Offered spring. Prereq., WRIT 121 or 201. Theories and application methods of interventions such as therapeutic modalities and exercise for athletic injuries. Substantial reading and writing component. Course Attributes: Writing Course-Advanced

- AHAT 343 - Therapeutic Interventions Lab

  Credits: 1. Offered spring. Coreq., AHAT 342. Laboratory sessions examining theories and application methods of interventions such as therapeutic modalities and exercise for athletic injuries.

- AHAT 479 - Topics in Sports Medicine

  Credits: 3. Offered spring. Prereq., Junior standing or higher. The etiology and management of sports related injuries/illnesses. Includes: therapeutic use of drugs, pre-participation screening techniques, ergogenic aids, the aging athlete, the sports medicine team concept and current medical treatment of sports injuries.

- AHAT 490 - Undergraduate Research

  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student.

- AHAT 492 - Independent Study

  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- AHAT 498 - Internship

  Credits: 2 TO 6. (R-6) Offered every term. Prereq. all HHP options minimum junior standing and ECP 120/121 (or equivalent). Prereqs per option. Exercise Science Applied: KIN 320/321. If internship is coaching or strength & conditioning must also have completed KIN 410 and COA 405. Exercise Science Pre-Professional: KIN 320/321. If internship is cardiac rehab must also have completed KIN 460/483/484. Community Health: CHTH 335. Supervised field experiences with private businesses, public agencies, or institutions. 45 hours of internship site work = 1 credit. A maximum of 6 credits of Internship 498 may count toward graduation. Students should not be registered for more than 14 credits their internship semester. Course Attributes: Internship graduation limit 6

Athletic Training

Back to Top

- ATEP 534 - Techniques Athletic Training I

  Credits: 3. Prereq., Athletic Training Student. Serves as an introduction to athletic training practice. Emphasis on the prevention, care, and management of acute injuries and illnesses, as well as risk management, environmental concerns, and protective taping and equipment. Level: Graduate

- ATEP 535 - Athletic Training Techniques II

  Credits: 3. Provides an investigation into the study of evidence based medicine, epidemiology and injury surveillance, cultural competency, and mental health issues. Level: Graduate

- ATEP 540 - Practicum Athletic Training I

Credits: 3. Prereq., Athletic Training Student. Builds on skills previously acquired and introduces new skills related to current coursework. Students will be assigned to a clinical education rotation under the direct supervision of a clinical preceptor. First in the series of four practicum courses. Level: Graduate

- ATEP 541 - Practicum Athletic Training II

  Credits: 3. Prereq., Athletic Training Student. Expands on skills previously acquired and introduces new skills related to current coursework. Students will be assigned to a clinical education rotation under the direct supervision of a clinical preceptor. Second in the series of four practicum courses. Level: Graduate

- ATEP 542 - Lower Extremity Assessment

  Credits: 3. Prereq., Athletic Training Student. Provides a study of anatomy and physiology, assessment, evaluation techniques, treatment, and management of conditions affecting the lower extremities and lumbar spine. Level: Graduate

- ATEP 544 - Upper Extremity Assessment

  Credits: 3. Prereq., Athletic Training Student. Provides a study of anatomy and physiology, assessment, evaluation techniques, treatment, and management of conditions affecting the upper extremities, head, and thoracic and cervical spine. Level: Graduate

- ATEP 546 - General Medical Assessment

  Credits: 3. Prereq., Athletic Training Student. Examines the recognition, assessment, and management of general medical conditions and illnesses. Level: Graduate

- ATEP 550 - Pract in AT III

  Credits: 3. Prereq., Athletic Training Student. Broadens skills previously acquired and introduces new skills related to current coursework. Students will be assigned to a clinical education rotation under the direct supervision of a clinical preceptor. Third in the series of four practicum courses. Level: Graduate

- ATEP 551 - Pract in AT IV

  Credits: 3. Prereq., Athletic Training Student. Reviews and refines skills previously acquired and evaluated in previous coursework. Students will be assigned to a clinical education rotation under the direct supervision of a clinical preceptor. Fourth in the series of four practicum courses. Level: Graduate

- ATEP 566 - Therapeutic Modalities

  Credits: 3. Offered spring. Prereq., ATEP 550. Physiology, indications, contraindications, and the application of therapeutic modalities for athletic injuries. Level: Graduate

- ATEP 569 - Clinical Anatomy Laboratory

  Credits: 1. Offered Fall. Prereq., Athletic Training Student. Clinical applications of anatomy in Athletic Training. Laboratory time for practical applications including prosected cadavers, surface anatomy, osteology, radiology, functional analysis of movement, applied clinical anatomy and sports application. Level: Graduate

- ATEP 572 - Therapeutic Exercise

  Credits: 3. Offered spring. Prereq., ATEP 566. Theories and application methods of comprehensive therapeutic exercise programs for athletic injuries. Level: Graduate

- ATEP 574 - Manual Therapy Techniques

  Credits: 3. Offered summer. Prereq., ATEP 572. Theories and application methods of comprehensive manual therapy for athletic injuries. Level: Graduate

- ATEP 578 - Org & Ad in AT

  Credits: 3. Prereq., Athletic Training Student. Explores leadership, organization, administration, and legal issues in athletic training. Topics include leadership; insurance; ethics; professional development; the planning, organization, operations, and assessment of athletic training programming and facilities. Fiscal and risk management will also be examined. Level: Graduate

- ATEP 580 - Pharmacology for Sports Medicine

  Credits: 3. Prereq., graduate level student. Explores the pharmaceutical and chemical processes of therapeutic interventions and therapies. This course examines the constraints placed on patients in the performance environment as well management, protocols, and legal issues. Level: Graduate

Community Health

Back to Top

- CHTH 355 - Theory Pract Comm Hlth Ed
  Credits: 3. Offered autumn. Prereq., KIN 205. History, philosophy, and theory related to community health education and health promotion. Includes the application of program development principles and health promotion strategies to community health programs.
- CHTH 435 - Human Response To Stress
  Credits: 3. Offered autumn and spring. Prereq., junior status. The study of psychosomatic and somatopsychic techniques for relaxation and self-enhancing strategies.
- CHTH 445 - Prgrm Plan in Comm Health
  Credits: 3. Offered spring. Prereq., CHTH 355. Overview of the issues, approaches, and techniques community health educators and professionals utilize in planning and implementing programs to assist communities in improving health status and reducing risky behaviors and their determinants. This course co-convenes with HHP 541. Course Attributes: Co-Convened Course
- CHTH 485 - Theories of Hlth Behav and Cou
  Credits: 3. Offered spring. Exploration of the helping role as it relates to health behavior, health assessment, problem-solving and referral skills. Application of theories to facilitation of healthy behavior changes.
- CHTH 490 - Undergraduate Research
  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student.
- CHTH 492 - Independent Study
  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.
- CHTH 498 - Internship
  Credits: 2 TO 6. (R-6) Offered every term. Prereq. all HHP options minimum junior standing and ECP 120/121 (or equivalent). Prereqs per option. Exercise Science Applied: KIN 320/321. If internship is coaching or strength & conditioning must also have completed KIN 410 and COA 405. Exercise Science Pre-Professional: KIN 320/321. If internship is cardiac rehab must also have completed KIN 460/483/484. Community Health: CHTH 355. Supervised field experiences with private businesses, public agencies, or institutions. 45 hours of internship site work = 1 credit. A maximum of 6 credits of Internship 498 may count toward graduation. Students should not be registered for more than 14 credits their internship semester. Course Attributes: Internship graduation limit 6

Coaching

Back to Top

- COA 205 - Introduction to Coaching
  Credits: 1 TO 2. (R-4) Offered intermittently. Covers a variety of activities to include coaching theories, competitive coaching strategies, training methods and techniques. Covers requirements for the bronze level of the American Sport Education Program (ASEP). Course Attributes: Coaching Course
- COA 405 - Adv Concepts in Coaching
  Credits: 3. Offered spring. Prereq., junior or senior undergraduate status or graduate status. This class will introduce students to a solid foundation in coaching to include: coaching theories, competitive coaching strategies, training methods and techniques. This course will cover the requirements for the bronze level of the American Sport Education Program (ASEP). Course graded credit/no credit or for a letter grade. The class is appropriate for coaches at all levels but will focus on basic skills of coaching for youth through high school. Course Attributes: Coaching Course
- COA 494 - Workshop
  Credits: 1 TO 6. (R-6) Offered intermittently. Special courses experimental in nature dealing with a relatively narrow, specialized topic of particular current interest. Credit not allowed toward a

graduate degree. Course Attributes: Coaching Course

Emergency Care Provider

Back to Top

- ECP 100 - First Aid and CPR

  Credits: 1. Offered spring. Instruction will cover CPR, use of an automated external defibrillator (AED) and relief of foreign-body airway obstruction (FBAO). The First Aid component will cover general principles as well as medical, injury and environmental emergencies. Students will receive AHA Heartsaver CPR and First Aid certification. This class does not meet First Aid requirements for HHP majors.

- ECP 101 - Pediatric First Aid and CPR

  Credits: 1. Offered intermittently. Within the guidelines of the American Heart Association, this course is designed to provide students with the basic knowledge and certification in: CPR for victims of all ages, use of an automated external defibrillator (AED) relief of foreign body airway obstruction (FBAO) and basic first aid procedures (medical, trauma and environmental emergencies) with a focus on the pediatric patient. Upon successful completion of this course students will receive American Heart Association Heartsaver Pediatric First Aid/CPR certification.

- ECP 102 - Wilderness First Aid

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ECP 120 - Emergency Medical Respondr Lec

  Credits: 2. Offered every term. Coreq., ECP 121. Development of knowledge of emergency care and CPR/AED techniques. In conjunction with ECP 121 provides certifications by the American Academy of Orthopedic Surgeons and the American Heart Association upon successful completion.

- ECP 121 - Emergency Medical Respondr Lab

  Credits: 1. Offered every term. Coreq., ECP 120. Development of knowledge of emergency care and CPR/AED techniques. In conjunction with ECP 120 provides certification by the American Academy of Orthopedic Surgeons and the American Heart Association upon successful completion.

- ECP 122 - Wilderness First Responder

  Credits: 2. Offered intermittently. Instruction in the prevention, recognition, and treatment of backcountry illness and injury. Successful students receive an Aerie Wilderness First Responder certification and an American Heart Association Heartsaver CPR certification. This course meets HHP department First Aid requirement but does not meet the CPR requirement.

- ECP 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ECP 331 - Wilderness EMT

  Credits: 3. Offered intermittently. EMT-Basic curriculum with significantly more detail concerning care for patients in remote settings. Students must be 18 year old and never been convicted of a felony to qualify for certification. This course meets HHP department First Aid and CPR graduation requirements.

- ECP 332 - EMT and Incident Management

  Credits: 5. This course follows the DOT's National Registry of EMTs (NREMT) curriculum and is approved by the NREMT and the State of Montana Board of Medical Examiners. Incident management training includes mass-casualty incidents, extended rescue and evacuation scenarios. Clinical experience includes a two day health clinic in Costa Rica, ambulance and hospital emergency department clinical observations in Montana. Co-requisite courses PTRM 391 Wilderness Rescue and Survival Skills; PTRM 391 Wilderness Medicine and Risk Management.

Health Enhancement

Back to Top

- HEE 203 - Professional Activities I

  Credits: 2. Offered Autumn. The instruction of basic skills for tennis, basketball, and Western Swing. Techniques, drills, and strategies will be taught. Demonstration and instruction skills developed. Active participation required.

- HEE 204 - Professional Activities II

  Credits: 2. Offered Spring. The instruction of basic skills for soccer, volleyball, and golf. Techniques, drills, and strategies will be taught. Demonstration and instruction skills developed. Active participation required.

- HEE 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- HEE 292 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of advisor and instr. Course material appropriate to the needs and objectives of the individual student.

- HEE 301 - Meth of Secondary HE

  Credits: 3. Offered spring. Application of educational theory in planning, analyzing, and presenting learning experiences to typical and atypical populations in secondary school physical education for students in grades 7-12. Active participation required. Course Attributes:
  Writing Course-Advanced

- HEE 302 - Meth of Inst Strat in Elem PE

  Credits: 3. Offered every term. Prereq. admission into Teacher Education Program in the College of Education and HEE 233. Application of educational theory in planning, analyzing, and presenting learning experiences to typical and atypical populations in elementary school physical education for children in grades K-6. Active participation required.

- HEE 340 - Methods of Health Education

  Credits: 3. Offered autumn even-numbered years. Prereq., admission to the teacher education program. Focus on developing and implementing strategies to teach K-12 health education.

- HEE 391 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- HEE 490 - Undergraduate Research

  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student.

- HEE 492 - Independent Study

  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- HEE 498 - Internship

  Credits: 2 TO 6. (R-6) Offered every term. Prereq. all HHP options minimum junior standing and ECP 120/121 (or equivalent). Prereqs per option. Exercise Science Applied: KIN 320/321. If internship is coaching or strength & conditioning must also have completed KIN 410 and COA 405. Exercise Science Pre-Professional: KIN 320/321. If internship is cardiac rehab must also have completed KIN 460/483/484. Community Health: CHTH 335. Supervised field experiences with private businesses, public agencies, or institutions. 45 hours of internship site work = 1 credit. A maximum of 6 credits of Internship 498 may count toward graduation. Students should not be registered for more than 14 credits their internship semester. Course Attributes:
  Internship graduation limit 6

Health and Human Performance

Back to Top

- HHP 170 - Peak Court Sports

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list

of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- HHP 172 - CFM Crossfit

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- HHP 173 - YMCA Classes

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- HHP 174 - FVB Bowling

  Credits: 1. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website. Course Attributes: PE Activity Skills Course

- HHP 238 - Lifeguarding - New Method

  Credits: 2. Offered autumn and spring. Prereq., HHP 149 or equiv. skills. Skill development needed for the safe participation in various aquatic activities including the ability of self-recovered rescue of others. Provides the necessary knowledge and skills to serve as a pool lifeguard.

- HHP 520 - Educational Research

  Credits: 3. Offered every term. Same as C&I and EDLD 520. An understanding of basic quantitative and qualitative research methodology and terminology, particularly as they are used in studies presented in the professional literature. Level: Graduate

- HHP 522 - Cog/Beh Intrvnts Perf Psyc

  Credits: 3. Offered intermittently. Prereq., HHP 470 or equiv. Focus is on cognitive-behavioral interventions specific to enhancing human performance in a variety of individual and group settings. Strategies introduced based on research from health psychology, sport psychology, exercise psychology, clinical and counseling psychology Level: Graduate

- HHP 523 - Case Studies in Perf Psych

  Credits: 3. Offered intermittently. Prereq., consent of instr. Through the usage of both real and hypothetical case studies, the course will examine the field of sport/performance psychology and its role in the broader field of sports medicine. Level: Graduate

- HHP 524 - Ethics & Human Perf

  Credits: 3. Offered spring, even numbered years. A critical examination of the ethical issues dominating the field of health and human performance and beyond with special emphasis on developing the conceptual frameworks needed to articulate our concerns and engage in meaningful dialogue with others. Level: Graduate

- HHP 525 - Advanced Biomechanics

  Credits: 3. This course is focused on developing laboratory skills and an advanced understanding of the quantitative and qualitative basis for human motion. Particular emphasis will be placed on the Newtonian mechanics governing biological motion and the roles of the musculo-skeletal, nervous and cardio-vascular systems during human activity. This integrative approach will be used to quantify and understand motion by, and within, the human body; examples will be drawn from the sub-disciplines of clinical gait analysis, gerontology, sports medicine, biological engineering and performance physiology. The lecture portion of this course is co-convened with KIN425 Biomechanics. Level: Graduate

- HHP 528 - Adv Exercise Prescription

  Credits: 3. Offered spring even years. Prereqs., Graduate status or consent of the instructor. This class presents the principles and practices of advanced athletic performance training in a thorough and useful sequence. Testing and improving power, strength, speed, quickness, coordination, agility, flexibility, local muscular endurance, and cardiovascular aerobic capacity and endurance are covered based on the scientific record. Students will learn how to tailor sport

specific training exercises and drills and periodize the training program precisely for peak performance at critical points in the competitive season. Level: Graduate

- HHP 529 - Adv Exercise Physiol I

  Credits: 3. Offered autumn. Prereq., HHP 377, 378 or equiv. Advanced study of the effect of work, activity and exercise on human biochemistry, metabolism, endocrinology and muscle function. Level: Graduate

- HHP 530 - Adv Exercise Physiol II

  Credits: 3. Offered spring odd years. Prereq., HHP 529 or equiv. Advanced study of system physiology (circulatory, respiratory and renal function) and environmental factors applied to physical work, activity and exercise Level: Graduate

- HHP 531 - Lab Proc In Exer Science

  Credits: 3. Offered autumn. Introduction to common laboratory tools associated with clinical and health assessment techniques, research measures, and data collection. Level: Graduate

- HHP 540 - Comm Hlth Promotion Strategies

  Credits: 3. Offered autumn even-numbered years. Exploration of the role of the health professional in the development and implementation of educational, organizational, economic, and/or environmental strategies that promote individual and community health. Level: Graduate

- HHP 541 - Prgrm Plan in Comm Health

  Credits: 3. Prereq. HHP 540, admission to the Health and Human Performance major, and graduate standing. Overview of the issues, approaches, and techniques community health educators and professionals utilize in planning and implementing programs to assist communities in improving health status and reducing risky behaviors and their determinants. Application of program planning research methods including needs analyses, data collection, theory application, strategy development, and evaluation. This course co-convenes with CHTH 445. Level: Graduate
  Course Attributes: Co-Convened Course

- HHP 542 - Advanced Study Mind/Body/Spirit

  Credits: 3. This course is a comprehensive exploration of the body, mind and spirit relationship. An in-depth examination of the concepts, theoretical application, and research of the mind/body/spirit relationship will be applied to health, prevention of disease, and healing used in contemporary society. Conventional thinking will be stretched & challenged as diverse M/B/S ideas, constructs and paradigms will be considered & discussed. Level: Graduate

- HHP 544 - CBPR Methods for Health

  Credits: 3. Offered autumn even years. Instruction will present the principles and practice of community-based participatory research methods (CBPR) and mixed-methods approachs that offers strategies for studying and addressing health and social problems. Level: Graduate

- HHP 594 - Seminar

  Credits: 1 TO 3. (R-6) Offered spring. Prereq., consent of instr. A review and discussion of current research. Topics vary. Level: Graduate

- HHP 595 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate

- HHP 596 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate

- HHP 597 - Research

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., HHP 486, 520. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate

- HHP 598 - Internship

  Credits: 1 TO 4. (R-4) Offered every term. Prereq., current First Aid and CPR certification. Consent of advisor and instructor. Community Health prereq HHP 540, HHP 544. Supervised field work in public and private agencies and institutions. 45 hours of internship site work = 1 credit. Level: Graduate

- HHP 599 - Professional Paper

Credits: 1 TO 3. (R-3) Offered every term. Prereq., HHP 486, 520. Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate

- HHP 699 - Thesis

  Credits: 1 TO 6. (R-6) Offered every term. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

Health

Back to Top

- HTH 292 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of advisor and instr. Course material appropriate to the needs and objectives of the individual student.

- HTH 370 - Peer Health Education

  Credits: 3. Offered spring. Introduction to peer health education strategies and techniques. Instruction in the areas of wellness, drug and alcohol abuse prevention, and sexual assault prevention. Students develop and implement a peer health program focused on prevention of major health problems among college students.

- HTH 395 - Peer Health Practicum

  Credits: 1 TO 3. (R-6) Offered autumn and spring. Prereq., HTH 370. Practical experience in planning, coordinating, and implementing health education activities for the campus community. Students address topics related to wellness, drug and alcohol prevention, or sexual assault awareness. Course Attributes: Internships/Practicums

- HTH 430 - Hlth and Mind/Body/Spirit

  Credits: 3. Offered autumn. Prereq., junior standing. Overview of how the mind/body/spirit relationship affects health. Examination of current research exploring how thoughts, emotions, attitudes, and beliefs influence and mediate health outcome. Exploration of the theoretical applications of mind/body/spirit in health and healing used in contemporary society.

- HTH 465 - Leading Hlth, Hmn Perform Orgs

  Credits: 3. Offered every term. Prereq., KIN 205 and junior standing. Leadership, management, organizational structure assertiveness, conflict management, public relations, decision-making, budget management, and a broad overview of human resource management, all as they relate to health and human performance settings.

- HTH 475E - Leg Eth Issues Hlth Ex Pro

  Credits: 3. Prereq., upper-division or graduate status. Legal bases for litigation in the health and exercise professions, with emphasis on negligence, liability, and risk identification and risk management. Utilizing the Western ethical traditions, the ethics component examines moral/ethical development through the lifespan via analysis of specific human behaviors. Course Attributes: Ethical & Human Values Course

- HTH 481 - Teaching HHP

  Credits: 1 TO 3. (R-4) Offered every term. Prereq., consent of instructor. Students assist in the preparation and grading of demonstrations and laboratory assignments, and laboratory instruction of undergraduate students enrolled in HHP laboratory courses. Students are given advanced instruction in principles of the HHP course.

- HTH 492 - Independent Study

  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- HTH 498 - Internship

  Credits: 2 TO 6. (R-6) Offered every term. Prereq. all HHP options minimum junior standing and ECP 120/121(or equivalent). Prereqs per option. Exercise Science Applied: KIN 320/321. If internship is coaching or strength & conditioning must also have completed KIN 410 and COA 405. Exercise Science Pre-Professional: KIN 320/321. If internship is cardiac rehab must also have completed KIN 460/483/484. Community Health: CHTH 335. Supervised field experiences with private businesses, public agencies, or institutions. 45 hours of internship site work = 1 credit. A maximum of 6 credits of Internship 498 may count toward graduation. Students should not be registered for more than 14 credits their internship semester. Course Attributes: Internship graduation limit 6

Kinesiology

Back to Top

- KIN 201 - Basic Exercise Prescription

  Credits: 3. Offered every term. Theory, principles, and practice of exercise prescription for aerobic and resistance exercise programs for health, fitness and performance. Students must register for the lecture and a linked lab. Course Attributes: Service Learning/Volunteer Service Learning

- KIN 205 - Foundations of HHP

  Credits: 3. Offered autumn and spring. An overview of the foundational principles comprising the field of HHP with special emphasis on the historical and philosophical foundations, and the evolution of the unity of mind/body concept. Includes an overview of program options, analysis of future directions, and career choices.

- KIN 248 - Prin Optimal Perfm for Athlts

  Credits: 2. Offered autumn and spring. Introduction to an optimal performance model, with focus upon specific physical, psychological, and environmental factors that contribute to human performance.

- KIN 292 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of advisor and instr. Course material appropriate to the needs and objectives of the individual student.

- KIN 310 - Strength Training & Cond

  Credits: 2. This course is designed to introduce students to the fundamentals of aerobic exercise and resistance training related to health, fitness and performance. Subject matter will include, but is not limited to maximizing student involvement in the understanding of physical training and the designing of exercise programs for health (both physical and mental), fitness and performance. This course will lay a basic practical foundation for students to design training programs, understand and design programs for athletic performance and to develop the fundamental theories of training for future coaches.

- KIN 320 - Exercise Physiology

  Credits: 3. Offered every term. Prereq., BIOH 370 or BIOH 211N, KIN 201; coreq., KIN 321. Investigation of the physiological changes and the significance of these changes as they occur during physical work, activity and exercise. Focus on basic energy, musculosketal, nervous, cardiovascular and respiratory systems as they relate to aerobic and anaerobic exercise. Emphasis will be placed on the response of these systems to both acute exercise, and the adaptations to chronic exercise. Credit not allowed toward graduate degree in the exercise science option in Health and Human Performance.

- KIN 321 - Exercise Physiology Lab

  Credits: 1. Offered autumn and spring. Prereq., BIOH 370 or BIOH 211N; coreq., KIN 320. Laboratory session examining the physiological effect of the physical work, activity and exercise on the functions of the human body. Credit not allowed toward graduate degree in the exercise science option in Health and Human Performance.

- KIN 322 - Kinesiology

  Credits: 3. Offered autumn. Prereq., BIOH 211N or BIOH 370; coreq., KIN 323. Anatomy and kinesiology of the neuromusculoskeletal system and body cavities in relation to movement and function.

- KIN 323 - Anatomical Kinesiology Lab

  Credits: 1. Offered autumn. Prereq., BIOH 211N or BIOH 370; coreq., KIN 322. Anatomy and kinesiology of the neuromusculoskeletal system and body cavities in relation to movement and function.

- KIN 330 - Motor Learning and Control

  Credits: 3. Offered autumn and spring. Prereq., BIOH 201N or BIOH 365. Focused on developing an understanding of the anatomy and physiology within the nervous system necessary for movement. Establishes an understanding of the basic science involved in the control of motor tasks, and uses this foundation to evaluate case studies that will focus on sport performance, clinical deficits, age-related alterations, learning of motor tasks following injury, and other motor-related tasks.

- KIN 410 - Adv Strength Training & Cond

  Credits: 3. Offered spring. Prereq., KIN 320, senior or graduate student status. Advanced resistance and aerobic exercise testing and prescription for both healthy and clinical populations.

- KIN 425 - Biomechanics

  Credits: 3. Offered spring. Prereq., KIN 320 & M 115 or higher and major in health and human performance or athletic training. Description and analysis of the fundamental principles of human movement. Includes quantitative study of the Newtonian mechanics governing biological motion and the roles of the musculo-skeletal, nervous and cardio-vascular systems during human activity.

- KIN 440 - Sport Psychology

  Credits: 3. Offered autumn. Prereq., upper-division or graduate status. Course content is focused on the historical development of sport psychology, with emphasis upon the major principles and tactics of the discipline, including motivation, confidence, imagery, leadership, and team building.

- KIN 447 - Analytical & Comm Techniques

  Credits: 3. Offered every term. Prereq., WRIT 101, WRIT 121 or WRIT 201. Analysis and communicative critique of literature, cinema, and other forms of popular media that contain allegorical life themes. Substantial reading, speaking and writing component. Emphasis on improving and maintaining communication skills. Course Attributes: Writing Course-Advanced

- KIN 460 - ECG Assessment

  Credits: 2. Offered autumn. Prereq., junior, senior, or graduate status. Laboratory sessions combined with class sessions to understand electrocardiography and the assessment of electrocardiograms, both at rest and during exercise.

- KIN 480 - Teaching Anatomy, Physiology

  Credits: 4. (R-4) Offered every term. Prereq., student must have received at least a “B” in Human Anatomy and Physiology and consent of instructor. Students assist in preparation and grading of demonstrations and laboratory assignments, and provide laboratory instruction of undergraduate students enrolled in BIOH 201N/202N-211N/212N. Students are given advanced instruction in principles of human anatomy and physiology.

- KIN 483 - Exercise Disease & Aging

  Credits: 3. Offered spring. Prereq., KIN 320,321, 460; coreq. KIN 484. Focus on guidelines for exercise testing and prescription for individuals with chronic disease including heart disease, diabetes, hypertension, arthritis, osteoporosis, elderly and pulmonary disease. Class requires 25 assigned hours of service learning. Covers material necessary for ACSM clinical certification exam when combined with KIN 201, 320, 321, 460, and 484. Course Attributes: Service Learning/Volunteer Service Learning

- KIN 484 - Exercise Disease & Aging Lab

  Credits: 1. Offered spring. Prereq., KIN 320, 321; coreq., KIN 483. Laboratory sessions focus on practical exercise testing and prescription for individuals with chronic disease including coronary heart disease, diabetes, hypertension, arthritis, osteoporosis, elderly and pulmonary disease; basic ECG testing and analysis. Covers material necessary for ACSM clinical certification exam when combined with KIN 201, 320, 321, 460, and 483.

- KIN 490 - Undergraduate Research

  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student.

- KIN 492 - Independent Study

  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- KIN 498 - Internship

  Credits: 2 TO 6. (R-6) Offered every term. Prereq. all HHP options minimum junior standing and ECP 120/121 (or equivalent). Prereqs per option. Exercise Science Applied: KIN 320/321. If internship is coaching or strength & conditioning must also have completed KIN 410 and COA 405. Exercise Science Pre-Professional: KIN 320/321. If internship is cardiac rehab must also have completed KIN 460/483/484. Community Health: CHTH 335. Supervised field experiences with private businesses, public agencies, or institutions. 45 hours of internship site work = 1 credit. A maximum of 6 credits of Internship 498 may count toward graduation. Students should not be registered for more than 14 credits their internship semester. Course Attributes: Internship graduation limit 6

- KIN 499 - Capstone
  Credits: 1 TO 3. (R 6) Offered autumn. Prereq., consent of instr. Independent work under the University omnibus option. See index.

Nutrition

Back to Top

- NUTR 221N - Basic Human Nutrition
  Credits: 3. Offered autumn and spring. The principles of science as applied to current concepts and controversies in the field of human nutrition. Course Attributes: Natural Science Course (N)
- NUTR 411 - Nutrition For Sprts & Exercise
  Credits: 3. Offered autumn and spring. Prereq., KIN 320 and junior standing. Nutritional parameters of athletic performance including intervention planning, energy production, the energy nutrients, vitamins and minerals, principles of balanced diets, timing and composition of intakes, hydration, weight management strategies, and nutritional needs for special situations.

Health Behavior Coaching (C)

Admission requirements for the Certificate Program in Health Behavior Coaching include: 1) Sophomore level or higher standing; 2) 3.0 GPA; 3) BIOH 201 and 202 pre-requisite or co-requisite; and 4) letter of intent.

The Student Wellness Program and HHP are collaborating on the Health Behavior Coach Certificate. Staff in the Wellness Program will offer the 2 day training and will be able to monitor whether students have met that requirement prior to receiving their certificate.

Professional Certificate - Health Behavior Coaching

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 25

Required Cumulative GPA: 2.0

Note: Admission requirements for the Certificate Program in Health Behavior Coaching include: 1) Sophomore level or higher standing; 2) 3.0 GPA; 3) BIOH 201 and 202 pre-requisite or co-requisite; and 4) letter of intent.

Core Courses

Rule: Students must complete the following courses

Note: HTH 395 must be completed for 2 credits and CHTH 498 must be completed for 4 credits

	Course	Credits
	CHTH 485 - Theories of Hlth Behav and Cou Offered spring. Exploration of the helping role as it relates to health behavior, health assessment, problem-solving and referral skills. Application of theories to facilitation of healthy behavior changes.	3 Credits

	CHTH 498 - Internship (R-6) Offered every term. Prereq. all HHP options minimum junior standing and ECP 120/121 (or equivalent). Prereqs per option. Exercise Science Applied: KIN 320/321. If internship is coaching or strength & conditioning must also have completed KIN 410 and COA 405. Exercise Science Pre-Professional: KIN 320/321. If internship is cardiac rehab must also have completed KIN 460/483/484. Community Health: CHTH 355. Supervised field experiences with private businesses, public agencies, or institutions. 45 hours of internship site work = 1 credit. A maximum of 6 credits of Internship 498 may count toward graduation. Students should not be registered for more than 14 credits their internship semester.	2 To 6 Credits
	HTH 370 - Peer Health Education Offered spring. Introduction to peer health education strategies and techniques. Instruction in the areas of wellness, drug and alcohol abuse prevention, and sexual assault prevention. Students develop and implement a peer health program focused on prevention of major health problems among college students.	3 Credits
	HTH 395 - Peer Health Practicum (R-6) Offered autumn and spring. Prereq., HTH 370. Practical experience in planning, coordinating, and implementing health education activities for the campus community. Students address topics related to wellness, drug and alcohol prevention, or sexual assault awareness.	1 To 3 Credits
	HTH 430 - Hlth and Mind/Body/Spirit Offered autumn. Prereq., junior standing. Overview of how the mind/body/spirit relationship affects health. Examination of current research exploring how thoughts, emotions, attitudes, and beliefs influence and mediate health outcome. Exploration of the theoretical applications of mind/body/spirit in health and healing used in contemporary society.	3 Credits
	KIN 201 - Basic Exercise Prescription Offered every term. Theory, principles, and practice of exercise prescription for aerobic and resistance exercise programs for health, fitness and performance. Students must register for the lecture and a linked lab.	3 Credits
	KIN 483 - Exercise Disease & Aging Offered spring. Prereq., KIN 320,321, 460; coreq. KIN 484. Focus on guidelines for exercise testing and prescription for individuals with chronic disease including heart disease, diabetes, hypertension, arthritis, osteoporosis, elderly and pulmonary disease. Class requires 25 assigned hours of service learning. Covers material necessary for ACSM clinical certification exam when combined with KIN 201, 320, 321, 460, and 484.	3 Credits
	KIN 484 - Exercise Disease & Aging Lab Offered spring. Prereq., KIN 320, 321; coreq., KIN 483. Laboratory sessions focus on practical exercise testing and prescription for individuals with chronic disease including coronary heart disease, diabetes, hypertension, arthritis, osteoporosis, elderly and pulmonary disease; basic ECG testing and analysis. Covers material necessary for ACSM clinical certification exam when combined with KIN 201, 320, 321, 460, and 483.	1 Credits

	NUTR 221N - Basic Human Nutrition Offered autumn and spring. The principles of science as applied to current concepts and controversies in the field of human nutrition.	3 Credits
Minimum Required Grade: C-		25 Total Credits Required

Applied Exercise Science B.S.

Bachelor of Science - Health & Human Performance; Exercise Science - Applied Option

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 105
Required Cumulative GPA: 2.0

Lower Division Departmental Required Courses

Rule: All courses are required.

Note: Students should take ECP 120, ECP 121 within two years of graduation, in order to ensure current certification. Students may substitute outside Emergency Medical Responder Certification for these courses.

	Course	**Credits**
	ECP 120 - Emergency Medical Respondr Lec Offered every term. Coreq., ECP 121. Development of knowledge of emergency care and CPR/AED techniques. In conjunction with ECP 121 provides certifications by the American Academy of Orthopedic Surgeons and the American Heart Association upon successful completion.	2 Credits
	ECP 121 - Emergency Medical Respondr Lab Offered every term. Coreq., ECP 120. Development of knowledge of emergency care and CPR/AED techniques. In conjunction with ECP 120 provides certification by the American Academy of Orthopedic Surgeons and the American Heart Association upon successful completion.	1 Credits
	KIN 201 - Basic Exercise Prescription Offered every term. Theory, principles, and practice of exercise prescription for aerobic and resistance exercise programs for health, fitness and performance. Students must register for the lecture and a linked lab.	3 Credits
	KIN 205 - Foundations of HHP Offered autumn and spring. An overview of the foundational principles comprising the field of HHP with special emphasis on the historical and philosophical foundations, and the evolution of the unity of mind/body concept. Includes an overview of program options, analysis of future directions, and career choices.	3 Credits
	NUTR 221N - Basic Human Nutrition Offered autumn and spring. The principles of science as applied to current concepts and controversies in the field of human nutrition.	3 Credits

Minimum Required Grade: C-	18 Total Credits Required

Outside Major Lower Division Required Courses

Rule: All courses are required.

Note: Students interested in Medical School should pay special attention to those additional requirements. Please meet with the Medical School Adviser in the HHP Department if you intend to also major in Pre-Medical studies.

Note: One semester of General and one semester of Organic Chemistry is required. Students may substitute M 151 in place of M 121, M 122 series. Students may take any other Statistics course that is pre-approved by their adviser (PSYX 222, SOCI 202, WILD 240, or EDU 421). Students may substitute WRIT 201 or WRIT 222 for WRIT 121.

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits

	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		40 Total Credits Required

Upper Division Departmental Required Courses

Rule: All courses are required.

Note: Students take KIN 498 for 3 to 6 credits.

	Course	Credits
	HTH 475E - Leg Eth Issues Hlth Ex Pro Prereq., upper-division or graduate status. Legal bases for litigation in the health and exercise professions, with emphasis on negligence, liability, and risk identification and risk management. Utilizing the Western ethical traditions, the ethics component examines moral/ethical development through the lifespan via analysis of specific human behaviors.	3 Credits
	KIN 320 - Exercise Physiology Offered every term. Prereq., BIOH 370 or BIOH 211N, KIN 201; coreq., KIN 321. Investigation of the physiological changes and the significance of these changes as they occur during physical work, activity and exercise. Focus on basic energy, musculosketal, nervous, cardiovascular and respiratory systems as they relate to aerobic and anaerobic exercise. Emphasis will be placed on the response of these systems to both acute exercise, and the adaptations to chronic exercise. Credit not allowed toward graduate degree in the exercise science option in Health and Human Performance.	3 Credits
	KIN 321 - Exercise Physiology Lab Offered autumn and spring. Prereq., BIOH 370 or BIOH 211N; coreq., KIN 320. Laboratory session examining the physiological effect of the physical work, activity and exercise on the functions of the human body. Credit not allowed toward graduate degree in the exercise science option in Health and Human Performance.	1 Credits
	KIN 330 - Motor Learning and Control Offered autumn and spring. Prereq., BIOH 201N or BIOH 365. Focused on developing an understanding of the anatomy and physiology within the nervous system necessary for movement. Establishes an understanding of the basic science involved in the control of motor tasks, and uses this foundation to evaluate case studies that will focus on sport performance, clinical deficits, age-related alterations, learning of motor tasks following injury, and other motor-related tasks.	3 Credits
	KIN 425 - Biomechanics Offered spring. Prereq., KIN 320 & M 115 or higher and major in health and human performance or athletic training. Description and analysis of the fundamental principles of human movement. Includes quantitative study of the Newtonian mechanics governing biological motion and the roles of the musculo-skeletal, nervous and cardio-vascular systems during human activity.	3 Credits
	KIN 447 - Analytical & Comm Techniques Offered every term. Prereq., WRIT 101, WRIT 121 or WRIT 201. Analysis and communicative critique of literature, cinema, and other forms of popular media that contain allegorical life themes. Substantial reading, speaking and writing component. Emphasis on improving and maintaining communication skills.	3 Credits

	KIN 498 - Internship (R-6) Offered every term. Prereq. all HHP options minimum junior standing and ECP 120/121 (or equivalent). Prereqs per option. Exercise Science Applied: KIN 320/321. If internship is coaching or strength & conditioning must also have completed KIN 410 and COA 405. Exercise Science Pre-Professional: KIN 320/321. If internship is cardiac rehab must also have completed KIN 460/483/484. Community Health: CHTH 335. Supervised field experiences with private businesses, public agencies, or institutions. 45 hours of internship site work = 1 credit. A maximum of 6 credits of Internship 498 may count toward graduation. Students should not be registered for more than 14 credits their internship semester.	2 To 6 Credits
	NUTR 411 - Nutrition For Sprts & Exercise Offered autumn and spring. Prereq., KIN 320 and junior standing. Nutritional parameters of athletic performance including intervention planning, energy production, the energy nutrients, vitamins and minerals, principles of balanced diets, timing and composition of intakes, hydration, weight management strategies, and nutritional needs for special situations.	3 Credits
Minimum Required Grade: C-		35-38 Total Credits Required

Outside Major Upper Division Required Courses

Rule: All courses are required.

Note: It is strongly recommended that students take either BIOH 112 OR BIOH 113 OR BIOB 160 prior to taking Anatomy and Physiology.

Students may substitute BIOH 201/202 and BIOH 211/212 for their Anatomy and Physiology requirements. BIOH 112 OR BIOH 113 OR BIOB 160 AND CHMY 121 are prerequisites for the 300 level Anatomy and Physiology Series.

	Course	**Credits**
	BIOH 365 - Human AP I for Health Profsns Offered autumn. Prereq., CHMY 121N or CHMY 141N; BIOB 160N or BIOH 112 or 113. Introduction to basic cellular structure and function. The fundamental facts and concepts of the anatomy and physiology of cells and tissues, the integumentary, musculoskeletal, nervous and special senses with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	4 Credits
	BIOH 370 - Human AP II for Health Profsns Offered spring. Prereq., BIOH 365. The fundamental facts and concepts of the anatomy and physiology of the endocrine, circulatory, respiratory, digestive, urinary and reproductive systems with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Elective Courses

Rule: Electives require adviser pre-approval.

Note: Electives require adviser pre-approval.

Students may use any pre-approved Math and Science Elective courses in this category. At least 3 must be Upper Division Credits. Special care should be taken if BIOH 201/202 and BIOH 211/212 were used for Anatomy and Physiology requirements, as more Upper Division Credits may need to be used in this category.

Minimum Required Grade: C-

18 Total Credits Required

Pre-Professional Exercise Science B.S.

Bachelor of Science - Health & Human Performance; Exercise Scn - PreProfessional Option

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 103

Required Cumulative GPA: 2.0

Major Lower Division Departmental Required Courses

Rule: All courses are required.

Note: Students should take ECP 120, ECP 121 within two years of graduation in order to ensure current certification. Students may also substitute outside Emergency Medical Responder Certification for these courses.

	Course	Credits
	ECP 120 - Emergency Medical Respondr Lec Offered every term. Coreq., ECP 121. Development of knowledge of emergency care and CPR/AED techniques. In conjunction with ECP 121 provides certifications by the American Academy of Orthopedic Surgeons and the American Heart Association upon successful completion.	2 Credits
	ECP 121 - Emergency Medical Respondr Lab Offered every term. Coreq., ECP 120. Development of knowledge of emergency care and CPR/AED techniques. In conjunction with ECP 120 provides certification by the American Academy of Orthopedic Surgeons and the American Heart Association upon successful completion.	1 Credits
	KIN 201 - Basic Exercise Prescription Offered every term. Theory, principles, and practice of exercise prescription for aerobic and resistance exercise programs for health, fitness and performance. Students must register for the lecture and a linked lab.	3 Credits
	KIN 205 - Foundations of HHP Offered autumn and spring. An overview of the foundational principles comprising the field of HHP with special emphasis on the historical and philosophical foundations, and the evolution of the unity of mind/body concept. Includes an overview of program options, analysis of future directions, and career choices.	3 Credits
	NUTR 221N - Basic Human Nutrition Offered autumn and spring. The principles of science as applied to current concepts and controversies in the field of human nutrition.	3 Credits

Minimum Required Grade: C-	12 Total Credits Required

Outside Major Lower Division Required Courses

Rule: All courses are required.

Note: Students interested in Medical School should pay special attention to those additional requirements. Please meet with the Medical School Adviser in the HHP Department if you intend to also major in Pre-Medical studies.

Note: One semester of General and one semester of Organic Chemistry are required. Students may substitute M 151 in place of M 121, M 122 series. Students may take any other Statistics course that is pre-approved by an adviser (PSYX 222, SOCI 202, WILD 240, or EDU 421). Students may substitute WRIT 201 for WRIT 121.

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits

	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		40 Total Credits Required

Major Upper Division Departmental Required Courses

Rule: All courses are required.

Note: Students should take either KIN 498 for 3 to 6 credits OR KIN 499 for 3 credits.

	Course	Credits
	HTH 475E - Leg Eth Issues Hlth Ex Pro Prereq., upper-division or graduate status. Legal bases for litigation in the health and exercise professions, with emphasis on negligence, liability, and risk identification and risk management. Utilizing the Western ethical traditions, the ethics component examines moral/ethical development through the lifespan via analysis of specific human behaviors.	3 Credits
	KIN 320 - Exercise Physiology Offered every term. Prereq., BIOH 370 or BIOH 211N, KIN 201; coreq., KIN 321. Investigation of the physiological changes and the significance of these changes as they occur during physical work, activity and exercise. Focus on basic energy, musculosketal, nervous, cardiovascular and respiratory systems as they relate to aerobic and anaerobic exercise. Emphasis will be placed on the response of these systems to both acute exercise, and the adaptations to chronic exercise. Credit not allowed toward graduate degree in the exercise science option in Health and Human Performance.	3 Credits
	KIN 321 - Exercise Physiology Lab Offered autumn and spring. Prereq., BIOH 370 or BIOH 211N; coreq., KIN 320. Laboratory session examining the physiological effect of the physical work, activity and exercise on the functions of the human body. Credit not allowed toward graduate degree in the exercise science option in Health and Human Performance.	1 Credits
	KIN 322 - Kinesiology Offered autumn. Prereq., BIOH 211N or BIOH 370; coreq., KIN 323. Anatomy and kinesiology of the neuromusculoskeletal system and body cavities in relation to movement and function.	3 Credits
	KIN 323 - Anatomical Kinesiology Lab Offered autumn. Prereq., BIOH 211N or BIOH 370; coreq., KIN 322. Anatomy and kinesiology of the neuromusculoskeletal system and body cavities in relation to movement and function.	1 Credits
	KIN 330 - Motor Learning and Control Offered autumn and spring. Prereq., BIOH 201N or BIOH 365. Focused on developing an understanding of the anatomy and physiology within the nervous system necessary for movement. Establishes an understanding of the basic science involved in the control of motor tasks, and uses this foundation to evaluate case studies that will focus on sport performance, clinical deficits, age-related alterations, learning of motor tasks following injury, and other motor-related tasks.	3 Credits
	KIN 425 - Biomechanics Offered spring. Prereq., KIN 320 & M 115 or higher and major in health and human performance or athletic training. Description and analysis of the fundamental principles of human movement. Includes quantitative study of the Newtonian mechanics governing biological motion and the roles of the musculo-skeletal, nervous and cardio-vascular systems during human activity.	3 Credits

	KIN 447 - Analytical & Comm Techniques Offered every term. Prereq., WRIT 101, WRIT 121 or WRIT 201. Analysis and communicative critique of literature, cinema, and other forms of popular media that contain allegorical life themes. Substantial reading, speaking and writing component. Emphasis on improving and maintaining communication skills.	3 Credits
	KIN 460 - ECG Assessment Offered autumn. Prereq., junior, senior, or graduate status. Laboratory sessions combined with class sessions to understand electrocardiography and the assessment of electrocardiograms, both at rest and during exercise.	1 Credits
	KIN 483 - Exercise Disease & Aging Offered spring. Prereq., KIN 320,321, 460; coreq. KIN 484. Focus on guidelines for exercise testing and prescription for individuals with chronic disease including heart disease, diabetes, hypertension, arthritis, osteoporosis, elderly and pulmonary disease. Class requires 25 assigned hours of service learning. Covers material necessary for ACSM clinical certification exam when combined with KIN 201, 320, 321, 460, and 484.	3 Credits
	KIN 484 - Exercise Disease & Aging Lab Offered spring. Prereq., KIN 320, 321; coreq., KIN 483. Laboratory sessions focus on practical exercise testing and prescription for individuals with chronic disease including coronary heart disease, diabetes, hypertension, arthritis, osteoporosis, elderly and pulmonary disease; basic ECG testing and analysis. Covers material necessary for ACSM clinical certification exam when combined with KIN 201, 320, 321, 460, and 483.	1 Credits
	KIN 498 - Internship (R-6) Offered every term. Prereq. all HHP options minimum junior standing and ECP 120/121 (or equivalent). Prereqs per option. Exercise Science Applied: KIN 320/321. If internship is coaching or strength & conditioning must also have completed KIN 410 and COA 405. Exercise Science Pre-Professional: KIN 320/321. If internship is cardiac rehab must also have completed KIN 460/483/484. Community Health: CHTH 335. Supervised field experiences with private businesses, public agencies, or institutions. 45 hours of internship site work = 1 credit. A maximum of 6 credits of Internship 498 may count toward graduation. Students should not be registered for more than 14 credits their internship semester.	2 To 6 Credits
	KIN 499 - Capstone (R 6) Offered autumn. Prereq., consent of instr. Independent work under the University omnibus option. See index.	1 To 3 Credits
	NUTR 411 - Nutrition For Sprts & Exercise Offered autumn and spring. Prereq., KIN 320 and junior standing. Nutritional parameters of athletic performance including intervention planning, energy production, the energy nutrients, vitamins and minerals, principles of balanced diets, timing and composition of intakes, hydration, weight management strategies, and nutritional needs for special situations.	3 Credits
Minimum Required Grade: C-		31-34 Total Credits Required

Outside Major Upper Division Required Courses

Rule: All courses are required.

Note: It is strongly recommended that students take either BIOH 112 OR BIOH 113 OR BIOB 160 prior to taking Anatomy and Physiology.

Students may substitute BIOH 201/202 and BIOH 211/212 for their Anatomy and Physiology Requirements. BIOH 112 OR BIOH 113 OR BIOB 160 AND CHMY 121 are prerequisites for the 300 level Anatomy and Physiology Series.

	Course	Credits
	BIOH 365 - Human AP I for Health Profsns Offered autumn. Prereq., CHMY 121N or CHMY 141N; BIOB 160N or BIOH 112 or 113. Introduction to basic cellular structure and function. The fundamental facts and concepts of the anatomy and physiology of cells and tissues, the integumentary, musculoskeletal, nervous and special senses with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	4 Credits
	BIOH 370 - Human AP II for Health Profsns Offered spring. Prereq., BIOH 365. The fundamental facts and concepts of the anatomy and physiology of the endocrine, circulatory, respiratory, digestive, urinary and reproductive systems with an emphasis on clinical application for students preparing for careers in health care. Laboratory component includes presentation of cadaver prosections and models.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Elective Courses

Rule: Must be approved by adviser

Note: Electives require adviser pre-approval.

It is strongly recommended that students take either BIOH 112 OR BIOH 113 OR BIOB 160 in this category prior to taking either Anatomy and Physiology.

Students can use any pre-approved Math and Science Elective courses in this category. 6 must be Upper Division Credits. Special care should be taken if BIOH 201/202 and BIOH 211/212 were used for Anatomy and Physiology requirements, as more Upper Division Credits may need to be used in this category.

Minimum Required Grade: C-

12 Total Credits Required

Health Enhancement B.S.

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

Bachelor of Science - Health & Human Performance; Health Enhancement Option

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 93

Required Cumulative GPA: 2.0

Note: The Bachelor of Science degree in HHP with the Health Enhancement option requires 130 total credits to graduate. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for information. A major GPA of 2.75 is required to be eligible for student teaching.

Lower Division Departmental Required Courses

Rule: All courses are required.

Note: Students should take ECP 120 and ECP 121 within two years of graduation in order to ensure current certification. Students may substitute outside Emergency Medical Responder Certification for these courses.

	Course	Credits
	AHAT 210 - Prev and Care Athletic Injur Offered autumn and Spring (winter session). Coreq., AHAT 213. Development of knowledge of prevention, assessment, treatment, rehabilitation, emergency care of athletic injuries.	2 Credits
	AHAT 213 - Prev and Care Athletic Injur L Coreq., AHAT 210. Development of practical skills in prevention, assessment, treatment, rehabilitation, and emergency care of athletic injuries.	1 Credits
	ECP 120 - Emergency Medical Respondr Lec Offered every term. Coreq., ECP 121. Development of knowledge of emergency care and CPR/AED techniques. In conjunction with ECP 121 provides certifications by the American Academy of Orthopedic Surgeons and the American Heart Association upon successful completion.	2 Credits
	ECP 121 - Emergency Medical Respondr Lab Offered every term. Coreq., ECP 120. Development of knowledge of emergency care and CPR/AED techniques. In conjunction with ECP 120 provides certification by the American Academy of Orthopedic Surgeons and the American Heart Association upon successful completion.	1 Credits
	HEE 203 - Professional Activities I Offered Autumn. The instruction of basic skills for tennis, basketball, and Western Swing. Techniques, drills, and strategies will be taught. Demonstration and instruction skills developed. Active participation required.	2 Credits
	HEE 204 - Professional Activities II Offered Spring. The instruction of basic skills for soccer, volleyball, and golf. Techniques, drills, and strategies will be taught. Demonstration and instruction skills developed. Active participation required.	2 Credits
	HEE 233 - Health Issues Child/Adol Offered every term. Overview of current health issues affecting children and adolescents. Focus is on educational and preventive measures that can be implemented by teachers and schools through comprehensive school health education programs.	3 Credits

	HTH 110 - Personal Health and Wellness Offered autumn and spring. Focus on health principles and their relevance in contemporary society, the evaluation and application of scientific advances to hypothetical lifestyles, and on contemporary problems in life.	3 Credits
	KIN 201 - Basic Exercise Prescription Offered every term. Theory, principles, and practice of exercise prescription for aerobic and resistance exercise programs for health, fitness and performance. Students must register for the lecture and a linked lab.	3 Credits
	KIN 205 - Foundations of HHP Offered autumn and spring. An overview of the foundational principles comprising the field of HHP with special emphasis on the historical and philosophical foundations, and the evolution of the unity of mind/body concept. Includes an overview of program options, analysis of future directions, and career choices.	3 Credits
	NUTR 221N - Basic Human Nutrition Offered autumn and spring. The principles of science as applied to current concepts and controversies in the field of human nutrition.	3 Credits
Minimum Required Grade: C-		25 Total Credits Required

Outside Major Lower Division Required Courses

Rule: All courses are required.

Note: Students may take any adviser approved Statistics course in place of STAT 216 (PSYX 222, SOCI 202, WILD 240, or EDU 421). Students may substitute WRIT 201 for WRIT 121.
Note: BIOH 201N and 202N are co-requisites completed for a total of 4 credits and BIOH 211N and 212N are co-requisites completed for a total of 4 credits.

	Course	**Credits**
	BIOH 201N - Human Anat Phys I (equiv 301) Offered autumn and spring. Prereq., introductory science course or college-prep high school biology course recommended. Comprehensive knowledge of human form and function necessary for students preparing for health-related professions. Emphasis on structure, function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. Required, integrated laboratory includes some dissection.	4 Credits
	BIOH 202N - Human Anat and Phys I Lab Offered autumn and spring. Coreq., BIOH 201. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. A cadaver lab is included.	4 Credits

	BIOH 211N - Human Anat Phys II (equiv 311) Offered autumn and spring. Prereq., and continuation of BIOH 201N. Comprehensive knowledge of human form and function necessary for students in health-related programs. Emphasis on structure function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. Required integrated laboratory includes frequent dissection.	4 Credits
	BIOH 212N - Human Anat Phys II Lab Offered autumn and spring. Prereq., BIOH 201N. Coreq., BIOH 211. Continuation of 201N. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. A cadaver lab is included.	4 Credits
	BIOM 250N - Microbiology for Hlth Sciences Offered spring. Infectious diseases, including concepts of virulence, resistance, prevention and control of microbial diseases in the individual and in the community. If laboratory experience is desired, the student may enroll concurrently in BIOM 251. Credit not allowed toward a major in microbiology.	3 Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	NASX 105H - Intro Native Amer Studies Offered Autumn and Spring. Survey course to acquaint the student with Native American Studies by a general overview of Indian history, culture, philosophy, religious beliefs and contemporary issues.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		39 Total Credits Required

Upper Division Departmental Required Courses

Rule: All courses are required.

	Course	Credits
	HEE 301 - Meth of Secondary HE Offered spring. Application of educational theory in planning, analyzing, and presenting learning experiences to typical and atypical populations in secondary school physical education for students in grades 7-12. Active participation required.	3 Credits
	HEE 302 - Meth of Inst Strat in Elem PE Offered every term. Prereq. admission into Teacher Education Program in the College of Education and HEE 233. Application of educational theory in planning, analyzing, and presenting learning experiences to typical and atypical populations in elementary school physical education for children in grades K-6. Active participation required.	3 Credits
	HEE 340 - Methods of Health Education Offered autumn even-numbered years. Prereq., admission to the teacher education program. Focus on developing and implementing strategies to teach K-12 health education.	3 Credits

	HTH 465 - Leading Hlth, Hmn Perform Orgs Offered every term. Prereq., KIN 205 and junior standing. Leadership, management, organizational structure assertiveness, conflict management, public relations, decision-making, budget management, and a broad overview of human resource management, all as they relate to health and human performance settings.	3 Credits
	HTH 475E - Leg Eth Issues Hlth Ex Pro Prereq., upper-division or graduate status. Legal bases for litigation in the health and exercise professions, with emphasis on negligence, liability, and risk identification and risk management. Utilizing the Western ethical traditions, the ethics component examines moral/ethical development through the lifespan via analysis of specific human behaviors.	3 Credits
	KIN 320 - Exercise Physiology Offered every term. Prereq., BIOH 370 or BIOH 211N, KIN 201; coreq., KIN 321. Investigation of the physiological changes and the significance of these changes as they occur during physical work, activity and exercise. Focus on basic energy, musculosketal, nervous, cardiovascular and respiratory systems as they relate to aerobic and anaerobic exercise. Emphasis will be placed on the response of these systems to both acute exercise, and the adaptations to chronic exercise. Credit not allowed toward graduate degree in the exercise science option in Health and Human Performance.	3 Credits
	KIN 321 - Exercise Physiology Lab Offered autumn and spring. Prereq., BIOH 370 or BIOH 211N; coreq., KIN 320. Laboratory session examining the physiological effect of the physical work, activity and exercise on the functions of the human body. Credit not allowed toward graduate degree in the exercise science option in Health and Human Performance.	1 Credits
	KIN 322 - Kinesiology Offered autumn. Prereq., BIOH 211N or BIOH 370; coreq., KIN 323. Anatomy and kinesiology of the neuromusculoskeletal system and body cavities in relation to movement and function.	3 Credits
	KIN 323 - Anatomical Kinesiology Lab Offered autumn. Prereq., BIOH 211N or BIOH 370; coreq., KIN 322. Anatomy and kinesiology of the neuromusculoskeletal system and body cavities in relation to movement and function.	1 Credits
	KIN 330 - Motor Learning and Control Offered autumn and spring. Prereq., BIOH 201N or BIOH 365. Focused on developing an understanding of the anatomy and physiology within the nervous system necessary for movement. Establishes an understanding of the basic science involved in the control of motor tasks, and uses this foundation to evaluate case studies that will focus on sport performance, clinical deficits, age-related alterations, learning of motor tasks following injury, and other motor-related tasks.	3 Credits
Minimum Required Grade: C-		26 Total Credits Required

Outside Major Upper Division Required Courses

Rule: Complete the following course.

Note: Students may substitute BIOE 172 for ENST 472.

	Course	Credits
	ENST 472 - Gen Sci: Conserv Ed Offered autumn and spring. A study of the foundations of environmental science and conservation education with applications to community service and teaching.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Community Health and Prevention Sciences B.S.

Bachelor of Science - Health & Human Performance; Community Health & Prevent Sci Option

College of ED & Human Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 106
Required Cumulative GPA: 2.0

Lower Division Required Courses

Rule: All courses are required.

Note: Students should take ECP 120 and ECP 121 within two years of graduation in order to ensure current certification. Students may substitute outside Emergency Medical Responder Certification for these courses.

	Course	Credits
	ECP 120 - Emergency Medical Respondr Lec Offered every term. Coreq., ECP 121. Development of knowledge of emergency care and CPR/AED techniques. In conjunction with ECP 121 provides certifications by the American Academy of Orthopedic Surgeons and the American Heart Association upon successful completion.	2 Credits
	ECP 121 - Emergency Medical Respondr Lab Offered every term. Coreq., ECP 120. Development of knowledge of emergency care and CPR/AED techniques. In conjunction with ECP 120 provides certification by the American Academy of Orthopedic Surgeons and the American Heart Association upon successful completion.	1 Credits
	HTH 110 - Personal Health and Wellness Offered autumn and spring. Focus on health principles and their relevance in contemporary society, the evaluation and application of scientific advances to hypothetical lifestyles, and on contemporary problems in life.	3 Credits
	KIN 201 - Basic Exercise Prescription Offered every term. Theory, principles, and practice of exercise prescription for aerobic and resistance exercise programs for health, fitness and performance. Students must register for the lecture and a linked lab.	3 Credits

	KIN 205 - Foundations of HHP Offered autumn and spring. An overview of the foundational principles comprising the field of HHP with special emphasis on the historical and philosophical foundations, and the evolution of the unity of mind/body concept. Includes an overview of program options, analysis of future directions, and career choices.	3 Credits
	NUTR 221N - Basic Human Nutrition Offered autumn and spring. The principles of science as applied to current concepts and controversies in the field of human nutrition.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Outside Major Lower Division Required Courses

Rule: All courses are required.

Note: It is strongly recommended that students take either BIOH 112 OR BIOH 113 OR BIOB 160 as an elective course prior to taking Anatomy and Physiology. Students may take any other Statistics course pre-approved by their adviser in place of STAT 216 (PSYX 222, SOCI 202, WILD 240 or EDU 421). Students may substitute WRIT 201 for WRIT 121. Note: BIOH 201N and 202N are co-requisites completed for a total of 4 credits and BIOH 211N and 212N are co-requisites completed for a total of 4 credits.

	Course	Credits
	BIOH 201N - Human Anat Phys I (equiv 301) Offered autumn and spring. Prereq., introductory science course or college-prep high school biology course recommended. Comprehensive knowledge of human form and function necessary for students preparing for health-related professions. Emphasis on structure, function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. Required, integrated laboratory includes some dissection.	4 Credits
	BIOH 202N - Human Anat and Phys I Lab Offered autumn and spring. Coreq., BIOH 201. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. A cadaver lab is included.	4 Credits
	BIOH 211N - Human Anat Phys II (equiv 311) Offered autumn and spring. Prereq., and continuation of BIOH 201N. Comprehensive knowledge of human form and function necessary for students in health-related programs. Emphasis on structure function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. Required integrated laboratory includes frequent dissection.	4 Credits
	BIOH 212N - Human Anat Phys II Lab Offered autumn and spring. Prereq., BIOH 201N. Coreq., BIOH 211. Continuation of 201N. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. A cadaver lab is included.	4 Credits

	BIOM 250N - Microbiology for Hlth Sciences Offered spring. Infectious diseases, including concepts of virulence, resistance, prevention and control of microbial diseases in the individual and in the community. If laboratory experience is desired, the student may enroll concurrently in BIOM 251. Credit not allowed toward a major in microbiology.	3 Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	ENST 225 - Community & Enviornment Offered autumn. Same as SOCI 225. Exploration of the ways that communities address their environmental concerns. Introduction of relevant social science concepts.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WGSS 263S - Women, Men, and Sexuality Offered autumn. Broad overview of gender and women's issues from a social science perspective. Relevant topics related to the sociological and psychological aspects of gender across culture are explored, including masculinity, femininity, violence, reproductive health, cultural diversity in the expression of gender, issues in sexual orientation, and media contributions to these issues.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits

	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		39 Total Credits Required

Upper Division Departmental Required Courses

Rule: All courses are required.

	Course	Credits
	CHTH 355 - Theory Pract Comm Hlth Ed Offered autumn. Prereq., KIN 205. History, philosophy, and theory related to community health education and health promotion. Includes the application of program development principles and health promotion strategies to community health programs.	3 Credits
	CHTH 445 - Prgrm Plan in Comm Health Offered spring. Prereq., CHTH 355. Overview of the issues, approaches, and techniques community health educators and professionals utilize in planning and implementing programs to assist communities in improving health status and reducing risky behaviors and their determinants. This course co-convenes with HHP 541.	3 Credits
	CHTH 485 - Theories of Hlth Behav and Cou Offered spring. Exploration of the helping role as it relates to health behavior, health assessment, problem-solving and referral skills. Application of theories to facilitation of healthy behavior changes.	3 Credits
	CHTH 498 - Internship (R-6) Offered every term. Prereq. all HHP options minimum junior standing and ECP 120/121 (or equivalent). Prereqs per option. Exercise Science Applied: KIN 320/321. If internship is coaching or strength & conditioning must also have completed KIN 410 and COA 405. Exercise Science Pre-Professional: KIN 320/321. If internship is cardiac rehab must also have completed KIN 460/483/484. Community Health: CHTH 355. Supervised field experiences with private businesses, public agencies, or institutions. 45 hours of internship site work = 1 credit. A maximum of 6 credits of Internship 498 may count toward graduation. Students should not be registered for more than 14 credits their internship semester.	2 To 6 Credits
	HTH 370 - Peer Health Education Offered spring. Introduction to peer health education strategies and techniques. Instruction in the areas of wellness, drug and alcohol abuse prevention, and sexual assault prevention. Students develop and implement a peer health program focused on prevention of major health problems among college students.	3 Credits

	HTH 395 - Peer Health Practicum (R-6) Offered autumn and spring. Prereq., HTH 370. Practical experience in planning, coordinating, and implementing health education activities for the campus community. Students address topics related to wellness, drug and alcohol prevention, or sexual assault awareness.	1 To 3 Credits
	HTH 430 - Hlth and Mind/Body/Spirit Offered autumn. Prereq., junior standing. Overview of how the mind/body/spirit relationship affects health. Examination of current research exploring how thoughts, emotions, attitudes, and beliefs influence and mediate health outcome. Exploration of the theoretical applications of mind/body/spirit in health and healing used in contemporary society.	3 Credits
	HTH 465 - Leading Hlth, Hmn Perform Orgs Offered every term. Prereq., KIN 205 and junior standing. Leadership, management, organizational structure assertiveness, conflict management, public relations, decision-making, budget management, and a broad overview of human resource management, all as they relate to health and human performance settings.	3 Credits
	HTH 475E - Leg Eth Issues Hlth Ex Pro Prereq., upper-division or graduate status. Legal bases for litigation in the health and exercise professions, with emphasis on negligence, liability, and risk identification and risk management. Utilizing the Western ethical traditions, the ethics component examines moral/ethical development through the lifespan via analysis of specific human behaviors.	3 Credits
	KIN 447 - Analytical & Comm Techniques Offered every term. Prereq., WRIT 101, WRIT 121 or WRIT 201. Analysis and communicative critique of literature, cinema, and other forms of popular media that contain allegorical life themes. Substantial reading, speaking and writing component. Emphasis on improving and maintaining communication skills.	3 Credits
Minimum Required Grade: C-		28-33 Total Credits Required

Outside Major Upper Division Required Courses

Rule: All courses are required.

	Course	Credits
	ANTY 426 - Culture, Health and Healing Offered autumn. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.	3 Credits

	S W 423 - Addiction Studies Offered spring. Same as PSYX 441 and SOCI 433. Examination of chemical dependency and behavioral compulsions, including alcohol and other drugs, gambling, eating disorders, sexual addictions. Ecosystems perspective on etiology, treatment, prevention, family dynamics, community response, and societal contributors. Students engage in a service learning community project which is integrated into the classroom through initial training, regular reflection, and other activities.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Elective Courses

Rule: Elective courses require adviser pre-approval.

Note: Electives require adviser consent. Students should take an appropriate number of Upper Division Electives to achieve 39 Upper Division Credits, per UM graduation requirements.

Minimum Required Grade: C-

18-24 Total Credits Required

Counselor Education Department

John Sommers-Flanagan and Kirsten Murray, Co-Chair

The Counselor Education program educates students for employment in school (K-12 and higher education) and community mental health and human service settings. Counselors are practitioners, consultants, and coordinators who assist in problem solving, decision-making skills, personal growth and development, and individual, family school, and/or career issues. Counselors receive training in the eight core areas identified by the American Counseling Association Council for Accreditation of Counseling and Related Educational Programs: human growth and development, social and cultural foundations, the helping relationship, group theories and methods, career and lifestyle development, client assessment and evaluation, research and program evaluation, and professional orientation. We offer a School Counseling M.A., a Mental Health Counseling M.A., and an Interdisciplinary M.A. Each option requires additional specialty courses and comprehensive written and oral examinations focused on the student's career track. The more advanced graduate degrees (Ed.S. and Ed.D.) develop depth, supervisory, and leadership skills in these areas.

The Department of Counselor Education is also the academic home for an interdisciplinary masters degree in Global Youth Development. Students in this program are prepared for humanitarian and advocacy work, focusing specifically on youth and family development across cultures. Requirements include one year of campus-based course work and an approved internship of at least two semesters duration working with youth and family concerns. GYD is a Peace Corps Master's International program, and the expectation therefore is that students will complete the Internship requirement by serving as U.S. Peace Corps Volunteers abroad. For further information and course listings, see: http://coehs.umt.edu/departments/counsed/IYFD/default.php

Graduate Programs: The M.A., Ed.S., and Ed.D. are offered in Counselor Education. An interdisciplinary M.A. is offered in Global Youth Development. Information regarding specific requirements and program options is available from the Phyllis J. Washington College of Education and Human Sciences. For more information, please refer to the University of Montana Graduate Programs and Admissions Catalog. Graduate programs are accredited by NCATE and CACREP.

Admission to Counseling: Applicants for this program should contact the Department for more specific admissions information. Requirements include official transcripts from all undergraduate and graduate institutions attended; three current letters of recommendation; and a letter of application stating academic and professional background, purpose in obtaining the degree, and thoughts about eventual employment and career direction. Applicants have the option to include GRE scores. Priority deadline is February 15th with complete applications reviewed after this date on a space available basis. Admission is competitive.

Certification Requirements: The Counselor Education, M.A., School Counseling option, leads to licensure at the Class IV level.

Department Faculty

Professor

Catherine Jenni, Professor
John Sommers-Flanagan, Professor

Associate Professor

Kirsten Murray, Department Chair / Associate Professor

Assistant Professor

Veronica Johnson, Assistant Professor
Lindsey Nichols, Assistant Professor / GYD Director

Affiliates

Sara Polanchek, Clinical Director

Counselor Education

Back to Top

- COUN 242S - Intimate Relationships
  Credits: 3. Offered autumn and spring semester. This course covers the fascinating, multi-faceted world of intimate relationships and explores the topic from empirical and theoretical perspectives. The examination of intimate relationships in this course will look at the subject through cultural, biological, social and developmental lenses and will explore specific topics such as attraction, communication, friendship, sexuality, love, conflict, power and violence, loss, social cognition, and repairing relationships. Course Attributes: Social Sciences Course (S)
- COUN 395 - Special Topics
  Credits: 1 TO 9. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- COUN 475 - Forgiveness & Reconcilia
  Credits: 3. Offered spring. Survey of the theory and practice of healing fractured relationships at the individual and community levels, treating historical and personal issues from philosophical, psychological and religious perspectives drawn from several diverse cultures.
- COUN 485 - Counseling Theories
  Credits: 3. Offered autumn. Prereq., PSYX 100S. Same as PSYX 442 and SW 485. Introduction to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies, and diversity issues.
- COUN 495 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- COUN 510 - Intro to Counseling
  Credits: 1. Course is designed to prepare school and mental health counselors-in-training gain an understanding of the counseling field and begin developing professional identity. Much of the material introduced in this course will be developed in greater detail in later courses. This course is an overview that prepares the student for his or her professional identity and activities. Level: Graduate
- COUN 511 - Theories & Tech of Counseling
  Credits: 3. Offered autumn. Examination of historic and current theories of counseling. Overview of techniques associated with each theory. Basic introduction to ethical concerns with each theory. Level: Graduate
- COUN 512 - Counseling Fundamentals
  Credits: 3. Offered autumn. Prereq., COUN 511. Overview of approaches to counseling, including common factors. Includes meta-theoretical considerations and guided dyadic practice. Level: Graduate
- COUN 520 - Group Coun & Guidance

Credits: 3. Offered spring. Prereq., COUN 511. Theories, approaches, and methods for group counseling and guidance. Level: Graduate

- COUN 530 - Applied Counseling Skills

  Credits: 3. Offered autumn and spring. Prereq., COUN 511, 512 and consent of instr. Review and application of counseling theories and techniques to client issues. Intensive supervision including ethics, professional practice and diagnostic considerations. Lecture and class presentation with a focus on professional counseling development. Level: Graduate

- COUN 540 - Individual Appraisal

  Credits: 3. Offered spring. Prereq., C&I 517 or consent of instr. Overview of appraisal techniques utilized in counseling, including interviewing, observation, and psychological/educational testing. The processes of selection, administration, scoring, interpretation, and reporting information from appraisal techniques are examined in relation to practical, legal, and ethical considerations. Level: Graduate

- COUN 550 - Intro Family Counseling

  Credits: 3. Offered summer only. Prereq., admission to Counselor Education program or consent of instr. An introduction to the major theories, techniques, and diagnostic tools of family counseling. Course includes a family systems emphasis. Level: Graduate

- COUN 560 - Lifespan Developmentl Coun

  Credits: 3. Offered spring. Overview of counseling from the framework of lifespan developmental theory. Normal and abnormal development in the environmental context of family, school, society and culture emphasized. Level: Graduate

- COUN 565 - Coun, Prog Dev, & Superv

  Credits: 3. Offered spring. Prereq., graduate standing or consent of instr. Examination of counseling techniques and approaches relevant to prevention and remediation of behavioral, social, emotional and academic problems for students P-12. Overview of school counseling program development and administration. Level: Graduate

- COUN 566 - Coun Child & Adol

  Credits: 3. Offered every spring. Prereq., COUN 511, 512, 565 or consent of instr. Review and application of counseling concerns and approaches with children and adolescents in school and related educational settings, including classroom and psychoeducational strategies. Level: Graduate

- COUN 570 - Career Coun Theory & Tech

  Credits: 3. Offered summer only. Examination of theories of career choice and development; information sources for career counseling; techniques and approaches of career counseling with clients at different stages of career and life development and from diverse populations. Level: Graduate

- COUN 575 - Multicultural Coun

  Credits: 3. Offered spring. Prereq., graduate standing or consent of instr. An introduction to the field of multicultural counseling. Issues and practical considerations in counseling five population groups; definition of terms and concepts. Level: Graduate

- COUN 580 - Addictions Counseling

  Credits: 3. Offered summer. Pre-req., admission to the Counselor Education program or consent of instr. Understanding of addictions with a focus on chemical dependency and its treatment including community and school-based prevention. Course includes Motivational Interviewing approach. Level: Graduate

- COUN 585 - Coun Meth: School & Agency

  Credits: 1 TO 9. Offered every term. Prereq., COUN 511, 512. Supervised counseling methods and theories as applied in mental health agencies and schools. Review of the principles of counseling as these apply to various settings and client issues. Level: Graduate

- COUN 589 - Comprehensive Project

  Credits: 1. Offered autumn and spring. Integration of professional experience and academic research in a comprehensive paper or applied project. Students may elect to have an oral examination covering the eight CACREP core areas of counseling. Level: Graduate

- COUN 594 - Seminar

Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. Group analysis of problems in specific areas of professional counseling. Level: Graduate

- COUN 595 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- COUN 596 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate
- COUN 597 - Research
  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate
- COUN 610 - Profess Ethics/Orient
  Credits: 3. Offered spring. Prereq., COUN 530 or consent of instr. The public and institutional roles and responsibilities of counseling professionals including ethical and legal responsibilities. Level: Graduate
- COUN 615 - Diag/Treat Plan in Coun
  Credits: 3. Offered spring. Prereq., COUN 512. Overview of diagnosis, treatment planning and case documentation in counseling. Level: Graduate
- COUN 625 - Intro Mental Health Systems
  Credits: 3. Prereq., acceptance into Counselor Education program mental health track. Essential knowledge for professional identity, understanding of public policy, and community assessment procedures. Includes brief lectures, guest speakers, discussion, and student presentations. Level: Graduate
- COUN 630 - Doctoral Clinical Practice
  Credits: 3. Doctoral level clinical experience of 100 supervised hours focusing on the counseling relationship, including case conceptualization and therapeutic skills from a variety of theoretical perspectives. Additional areas of focus are ethical considerations and the assessment of professional counseling outcomes. Level: Graduate
- COUN 640 - Professional Leadership and Scholarly Development
  Credits: 3. Theories of academic leadership, within professional trends, political and social contexts. Includes developing awareness of scholarly opportunities, including preparation of a professional counseling organization conference proposal. Level: Graduate
- COUN 650 - Pedagogy and the Professorate
  Credits: 3. Consideration of pedagogy including teaching, learning, governance, curriculum development, assessment and evaluation. Includes knowledge of accreditation processes, personal and professional challenges of faculty life and exploration of doctoral level career paths. Level: Graduate
- COUN 670 - Doc Comprehensive Exam
  Credits: 2. Students will successfully complete four doctoral Comprehensive Examination Essays read by all members of the student's Doctoral Comps Committee. At least one of the essays is to be submitted for publication. Level: Graduate
- COUN 685 - Methods Counselor Education
  Credits: 1 TO 9. (R-9) Supervised advanced counselor education methods and approaches that address the professional leadership roles of counselor education, including realms of teaching and advising, clinical supervision, scholarly work and professional counseling practice. Level: Graduate
- COUN 699 - Thesis/Profess Paper
  Credits: 2 TO 10. (R-10) Offered intermittently. Prereq., EDLD 620 or 625. Preparation of a thesis, professional paper, or manuscript based on research for presentation and/or publication. Level: Graduate

Educational Leadership Department

John Matt, Chairman, Educational Leadership

The **Educational Leadership** knowledge base emphasizes the realities of the workplace, blending practical tasks with the conceptual models of effective leadership. The model uses leadership assessment and problem-based learning throughout nine curricular strands: change/future, leadership, research community, communication, assessment/program evaluation, management, diversity, curriculum, and professionalism/socialization. Students at both degree levels experience integrated coursework, performance-based assessment, and exit interviews on completion of the degree programs.

Programs: The M.Ed., Ed.S., Administrative Licensure, and Ed.D. are offered in education administration and supervision. Information regarding specific requirements and program options is available from the Phyllis J. Washington College of Education and Human Sciences. For more information, please refer to the University of Montana Graduate Programs and Admissions Catalog. Graduate programs are accredited by The National Council for Accreditation of Teacher Education (NCATE) and The Montana Board of Public Education (BPE).

Admission to Educational Leadership: The Program Admissions Committee has established policies and standards for admission which include the GRE (verbal and quantitative); three letters of recommendation (one from an immediate supervisor); official transcripts for all undergraduate and graduate coursework; qualifying examination; and interviews (doctoral). Contact the Department for details.

Certification Requirements: Education Leadership degree and administrative licensure programs lead to Montana Class 3 Administrative Licensure with either a K-12 Principal or Superintendent endorsement. Please note that in addition to the coursework and degree requirements, the State of Montana also requires licensed teaching, school counseling, or administrative experience for the Class 3 license.

Courses (Check master schedule for availability of all courses)

R- before the course description indicates the course may be repeated for credit to the maximum indicated after the R. Credits beyond this maximum do not count toward a degree.

Department Faculty

Professor

Bill McCaw, Professor

Associate Professor

Patty Kero, Associate Professor
John Matt, Department Chair / Associate Professor
Frances O'Reilly, Associate Professor

Assistant Professor

Dan Lee, Assistant Professor

Educational Leadership

Back to Top

- EDLD 295 - Special Topics in Ed Amin
  Credits: 1 TO 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors.Offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- EDLD 495 - Special Topics
  Credits: 1 TO 9. (R-9) Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- EDLD 502 - Philosophy of Education
  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Same as C&I 502. Major philosophical schools of thought and leading proponents of each. Concepts of society, the educative process, and the role of education. Level: Graduate
- EDLD 512 - Educational Futures
  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Predicting and projecting the near and more distant future of education. The

changing place and nature of education and leadership in tomorrow's society. Level: Graduate

- EDLD 519 - Analysis of Ed Data

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Explanation and practice in measurement and statistical analysis of educational data. Preparation in measurement and statistical analysis for educational research. Level: Graduate

- EDLD 520 - Educational Research

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Same as C&I and HHP 520. An understanding of basic quantitative and qualitative research methodology and terminology, particularly as they are used in studies presented in the professional literature. Level: Graduate

- EDLD 540 - Higher Education Finance

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Overview of how colleges and universities make financial and budgetary decisions; current trends in state and federal policy related to finance; contemporary problems in finance of education. Level: Graduate

- EDLD 542 - The College Student

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Survey of today’s college student including discussion of demographics, student development theories, learning theories, and contemporary issues on college campuses related to college students. Level: Graduate

- EDLD 544 - The College Curriculum

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Historical and contemporary development of college and university curriculum. Includes overview of pedagogical strategies, assessment, evaluation, and curricular change. Level: Graduate

- EDLD 546 - Fed & State Higher Ed Pol

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Overview of policies at the local, state, and national levels that affect the conduct of higher education; current trends in higher education policy; changes in educational policy; how policies affect different institutional types. Level: Graduate

- EDLD 550 - Found Educational Leadersh

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Basic functions of K-12 administration and supervision and how contemporary views have evolved; models of leadership style and practice compared; responsibilities and relationships of school boards and chief school officers. Level: Graduate

- EDLD 551 - Found Curric Leadership

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. The history and theoretical bases of current K-12 curriculum and instructional leadership. Level: Graduate

- EDLD 552 - Sup Eval Pub Sch Educators

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Conflicting views and models of supervision; supervision in relation to administration and evaluation. Development of instruments for the formative and summative evaluation of teaching and their use in simulated cases. Level: Graduate

- EDLD 554 - School Law

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Key Montana and national legislation regarding public education. Landmark cases of the U.S. Supreme Court and other federal, regional, and state courts as they affect the operation of public schools and the rights of school board members, administrators, teachers, students, and parents. Level: Graduate

- EDLD 556 - Finance of Publ Education

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Revenue sources for K-12 public schools; proper expenditures; Montana's foundation program and related legislation; major court cases and how they have affected ways of funding schools; developing effective school and district budgets. Level: Graduate

- EDLD 559 - School Pub Rel-Prins

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Investigation of the appropriate leadership and management roles of the modern school principal as they relate to public relations. Understanding of political theory as it relates to developing and maintaining relationships with internal and external publics. Level: Graduate

- EDLD 567 - K-12 Leadership

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Examination of the roles responsibilities, and relationships of educators relative to management and leadership considerations at all levels of the educational organization (elementary, middle, secondary, and central office). Level: Graduate

- EDLD 568 - K-12 Curriculum

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Major aspects of curriculum related to the duties and responsibilities of school administrators. Issues related to the development, review and evaluation o curriculum. Exploration of issues related to selected instructional models and practices; school improvement. Level: Graduate

- EDLD 583 - Strategic Plng For Tech

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Same as C&I 583. Leadership and strategic planning processes for technology integration within schools. Level: Graduate

- EDLD 585 - Fieldwork Ed Admin & Super

  Credits: 2 TO 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Fieldwork at the school level (when the student is not completing an internship), with the cooperation of the principal and under the guidance of a University of Montana professor. Level: Graduate

- EDLD 594 - Seminar

  Credits: 1 TO 9. (R-9) Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Group analysis of problems in specific areas of education. Level: Graduate

- EDLD 595 - Special Topics

  Credits: 1 TO 9. (R-9) Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate

- EDLD 596 - Independent Study

  Credits: 1 TO 6. (R-9) Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Consent of instructor. Course material appropriate to the needs and objectives of the individual student. Level: Graduate

- EDLD 597 - Research

  Credits: 1 TO 9. (R-10) Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Consent of instructor. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate

- EDLD 598 - Internship

  Credits: 1 TO 12. (R-10) Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Consent of instructor. Extended classroom experience which provides practical application of classroom learning during placements off campus. Level: Graduate

- EDLD 599 - Professional Paper

  Credits: 1 TO 9. (R-9) Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Consent of instructor. Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate

- EDLD 618 - Educational Statistics

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Same as C&I 618. Advanced statistical methods and use of the mainframe computer and microcomputer for data analysis. Use of a recognized statistical package for research applications. Level: Graduate

- EDLD 620 - Qualitative Research

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Same as C&I 620. In-depth review of qualitative research methods, designs, and approaches. The development of a research proposal. Level: Graduate

- EDLD 625 - Quantitative Research

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Same as C&I 625. Principles and technique of quantitative research in educational settings. Students prepare a draft of a research proposal and experience an abbreviated dissertation proposal defense. Level: Graduate

- EDLD 653 - School Personnel Admin

  Credits: 3. Prepreq., consent of instructor required. Administration of classified and certificated school employees; personnel-related laws, functions, and decisions; unions, bargaining contracts, grievances, etc. Level: Graduate

- EDLD 656 - The Economics of Education

  Credits: 3. Prepreq., consent of instructor required. School finance from a national perspective; alternative budgeting and school-revenue models; equity considerations. Level: Graduate

- EDLD 657 - Facil Plng/Schl Bus Func

  Credits: 3. Prepreq., consent of instructor required. Working with architects, school personnel, and others on educationally and financially sound plans for new and remodeled facilities; the school business official's responsibilities regarding buildings and grounds, maintenance and custodial services, transportation, food services, and the administration of classified personnel. Level: Graduate

- EDLD 658 - School Pub Rel-Supts

  Credits: 3. Prepreq., consent of instructor required. Enhancing site- and district-level internal and external relations; conducting needs assessments, inservice workshops, and funding campaigns; improving administrators' writing, listening, and speaking skills; composing press releases and newsletters; working with the media. Level: Graduate

- EDLD 660 - Adult Continuing Education

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Adult learning theory and the special needs and motivations of adult learners in postsecondary institutions; principles and practices of administering postsecondary continuing education programs. Level: Graduate

- EDLD 662 - History of Higher Educ

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Survey of the historical roots of higher education from world and comparative perspectives; examination of the historic and contemporary missions, organizational structures, governance, and administration of various types of postsecondary and higher education institutions in America and abroad. Level: Graduate

- EDLD 664 - The Community College

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. The organization and administration of American postsecondary education in two-year collegiate institutions; current trends in governance, finance, curriculum, faculty and students. Level: Graduate

- EDLD 667 - American College Professor

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Investigation of the prevailing curriculum and instruction in American undergraduate and graduate education and consideration of reform reports. Level: Graduate

- EDLD 668 - College & University Admin

  Credits: 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Administration of college and university programs, departments, and schools; the roles of program director or coordinator, department chairperson, dean, vice president, provost, president, chancellor, and commissioner. Level: Graduate

- EDLD 670 - Best Practices in IPL

  Credits: 3. Students explore the field of International Programs at the college or university level and seek current best practices. This course is designed to give students an understanding of the

leadership and management activities required of leaders in the field of international programs. Level: Graduate

- EDLD 672 - Itnl Prog Dev

  Credits: 3. This course prepares professionals with the knowledge and practical skills needed to develop programs, seek external funding, and write proposals to support student and professional exchanges, study abroad, ESL and intensive language programs, internships, student services, partnership agreements, and other education and training activities in the international field. Level: Graduate

- EDLD 673 - Lead./Cultures

  Credits: 3. The course introduces a methodology to support the emerging field of international and comparative educational leadership and management and is instrumental for students of educational leadership and management. Level: Graduate

- EDLD 674 - Internship in College Tchg

  Credits: 1 TO 3. Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Provides an opportunity for guided and supervised teaching at the college level and assistance to the aspiring college teacher in meeting the needs of a diverse student population; assistance provided in methods of teaching at the college level, theories of learning, use of technology, and evaluation and assessment techniques. Level: Graduate

- EDLD 676 - Internship Higher Ed Admin

  Credits: 1 TO 3. (R-6) Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Supervised and guided work in an administrative unit/department at the college/university level. Level: Graduate

- EDLD 677 - Globalization in Education

  Credits: 3. Course explores globalization of education from the perspective of International Programs at the post-secondary level. This course is designed to prepare students for leadership positions in the field of International Programs and other related fields. Level: Graduate

- EDLD 678 - Cultural Proficiency

  Credits: 3. Course explores the area of cultural proficiency through a variety of lenses. Students use interviews and self-reflection to develop a framework for understanding cultural issues and ethical approaches cultural issues. Level: Graduate

- EDLD 679 - Linguistic Diversity

  Credits: 3. Course explores policy issues related to linguistic diversity. This course is designed to help students develop a framework of global issues as they relate to, and are impacted by, linguistic diversity. Level: Graduate

- EDLD 680 - Pol./Int.l Ed.

  Credits: 3. Course explores political issues related to International Programs. This course is designed to prepare students for the dynamic nature of political arena surrounding the development and implementation of postsecondary International Programs. Level: Graduate

- EDLD 681 - Comp. Int.l Ed.

  Credits: 3. Course explores the field of international programs at the college or university level through a study of comparative education. This course is designed to familiarize students with the similarities and differences between educational systems across the globe. Level: Graduate

- EDLD 682 - Cross-Cultural Competence

  Credits: 3. Blending both the practical and theoretical, this course offers you the requisite knowledge, the appropriate motivations, and the relevant skills to function competently with culturally-different others. Level: Graduate

- EDLD 683 - Int.l Persp.

  Credits: 3. This course primarily focuses on international students sharing their perspectives (including international academics and experienced practitioners). Topics include adaptation challenges, and the role that international students and faculty play in broader internationalization and diversity agendas within US higher education. Level: Graduate

- EDLD 694 - Adv Sem: Ed Admin/Superv

  Credits: 1 TO 9. (R-9) Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. A review and discussion of current research. Topics vary. Level: Graduate

- EDLD 697 - Adv Research Ed Ad Super

  Credits: 1 TO 9. (R-9) Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate

- EDLD 699 - Prof Sem/Dissertation

  Credits: 1 TO 12. (R-12) Open to graduate level students in Education Leadership, Counseling or Curriculum and Instruction majors. A review and discussion of current research. Topics vary. Level: Graduate

Global Youth Development Department

Lindsey Nichols, Assistant Professor of Counselor Education, Director

Housed in the Department of Counselor Education, this interdisciplinary master's degree program is designed for students who wish to engage in culturally-relevant volunteer work or paid employment in the realm of child and family assistance. It is affiliated with the United States Peace Corps as a partner school for their master's international program. Requirements include one year of full-time instruction at UM, a significant period of time engaging in internship work in an applied intercultural setting, and a final professional paper or thesis. Internships will typically be 1-2 years and will involve work in a culture other than one's own. Students participating in this program are expected to gain the following background and competencies:

- important interculturally-informed helping skills for working with youth, women, families and communities in culture other than their own
- a solid background in issues, concerns, and critiques regarding assistance and interventions across culture, both historically and currently
- the opportunity to pursue and participate in a significant field experience, working with an established helping agency in another culture or country

Global Youth Development

Back to Top

- GYD 495 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- GYD 501 - Intercultural Dev't -I

  Credits: 3. Offered autumn. Explorations of child rearing practices, parenting beliefs, and cultural variations in infancy and early child development. Level: Graduate

- GYD 502 - Intercultural Dev't -II

  Credits: 3. Offered spring. Explorations of cultural variations in later childhood, adolescence and adulthood, with particular focus on issues such as multicultural adoption, identity, and the role of poverty. Level: Graduate

- GYD 510 - Intercultural Skills

  Credits: 3. Offered autumn. Focus on applied skills in two areas: crosscultural negotiation and conflict management; program development and grant writing. Level: Graduate

- GYD 520 - Critical Issues

  Credits: 3. Exploration of psychological, political, spiritual, ethical, and practical dimensions of offering assistance cross-culturally. This course includes discussion of ethical and personal issues related to intercultural work, gender and development, trauma, program evaluation, etc. Level: Graduate

- GYD 595 - Special Topics

  Credits: 2 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate

- GYD 596 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Directed readings and other individualized study topics guided by faculty. Level: Graduate

- GYD 598 - Internship

Credits: 1 TO 6. (R-6) Offered every term. Introduction to service learning in applied settings, usually local. Level: Graduate

- GYD 599 - Professional Projects
  Credits: 1 TO 2. (R-2) Offered every term. Final Master's project related to internship; may be presented as a grant proposal, policy analysis, or portfolio. Level: Graduate
- GYD 695 - Special Topics
  Credits: 1 TO 4. (R-4) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- GYD 698 - Intercultural Internship
  Credits: 1 TO 4. (R-4) Offered every term. Supervised intercultural experience through Peace Corps, VISTA, or other organization approved by program faculty. Level: Graduate
- GYD 699 - Thesis
  Credits: 1 TO 2. (R-2) Offered every term. Final master's thesis based on research related to internship placement. Level: Graduate

Human and Family Development Minor

Minor - Human and Family Development (Minor)

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 24

Required Cumulative GPA: 2.5

Note: To earn a minor the student must complete 24 credits, with 11 at the 300 level or above. All students are required to take a 12-credit core curriculum and, with the help of a faculty advisor, to develop a written statement of goals and interests along with a planned curriculum that includes 12 additional credits of electives consistent with the stated goals and interests. At least 6 credits of electives must be outside of the student's major.

Core Courses

Rule: Must complete the following subcategories

12 Total Credits Required

Subcategory 1

Rule: Must complete 1 of the following courses

	Course	Credits
	PSYX 230 - Developmental Psychology Offered autumn, spring, summer. Prereq., PSYX 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect. Appropriate for Social Work, Nursing, Addiction Studies, Education, and Psychology.	3 Credits
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits

Minimum Required Grade: C	3 Total Credits Required

Subcategory 2

Rule: Must complete all of the following courses:

Note: HFD 494 may be taken for 1 credit. HFD 498 must be taken for a minimum of 2 credits. Education majors may take EDEC 396 to fulfill this requirement.

	Course	Credits
	HFD 494 - Seminar in Human Development (R-3) Offered autumn. Discussion of selected problems in human development. Emphasis on integrating theory and practice.	1 To 3 Credits
	HFD 498 - Internship (R-4) Prereq., consent of chair. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 4 Credits
Minimum Required Grade: C		3 Total Credits Required

Subcategory 3

Rule: Must complete 1 of the following courses

	Course	Credits
	COMX 311 - Family Communication Offered yearly. An examination of communication in marriage/romantic partnership, parent-child, and extended family relationships. Topics include intimacy, power, decision-making, problem solving, identity formation, and interpersonal perception.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Subcategory 4

Rule: Must complete 1 of the following courses

	Course	Credits

	C&I 520 - Educational Research Offered every term. Same as EDLD 520. Open to graduate level students in Education Leadership, Counseling, or Curriculum and Instruction majors. An understanding of basic quantitative and qualitative research methodology and terminology, particularly as they are used in studies presented in the professional literature. Level: Graduate	3 Credits
	COMX 460 - Research Methods Offered autumn and spring. Open only to majors in COMM. Prereq., Grade of C- or better in EDLD 486 or PSYX 222 or SOCI 202 or STAT 216. Introduction to the major types of communication research and the foundations of quantitative research methods.	3 Credits
	PSYX 120 - Research Methods I Offered every term. Prereq., PSYX 100S. Experimental and other quantitative methods employed in the scientific study of behavior.	3 Credits
	PSYX 320 - Research Methods III Offered every term. Prereq., PSYX 222. An appreciation of the experimental approach to the scientific study of behavior through student-conducted experiments.	3 Credits
	S W 400 - Social Work Research Offered autumn and spring. Prereq., SW 360; Social Work major. Utilization of social research findings in social work practice. Techniques for the collection and analysis of clinical data. Special emphasis on research methodology for the assessment of practitioner and program effectiveness.	3 Credits
	SOCI 318 - Sociological Research Methods Offered every term. Prereq., SOCI 101S, Sociology majors only, or consent of instr. Methods of research in the social sciences including naturalistic observation, interviewing, measurement, experiments, surveys, content analysis, and basic data analysis. Required of all majors.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Elective Courses

Rule: Must complete 12 credits from any of the courses listed in the subcategories below; at least 6 credits must be taken outside of the student's major

Note: The list of electives is categorized to assist the student wishing to focus on one of these areas. Students may plan curricula which do not correspond to these categories, but should choose among courses from this list. Occasionally "special topics" courses are offered. Students may use these as electives with the consent of their advisors.
Check with departments regarding variable-credit 395 and 495-Special Topics listings.

12 Total Credits Required

Early Childhood

Rule: May complete any of the following courses

Note: Must complete all course work prior to taking HFD 498

	Course	**Credits**

	C&I 421 - Issues in Early Intervention Offered autumn odd-numbered years. Issues involved when serving young children with disabilities; family and child advocacy; least restrictive placements in early childhood settings; transitions concerning families, special education service providers and receiving schools; ;case management in rural communities; transdisciplinary teaming process; and preschool individualized education programs. Includes practicum hours in campus-based CO-TEACH preschool.	3 Credits
	CSD 210 - Speech & Lang Devel Offered autumn. Sophomore standing or greater. Topics include typical speech and language development, phonology, semantic, morphological, syntax, and pragmatics, along with individual differences, second language acquisition and literacy.	3 Credits
	EDEC 310 - Child in the Family Offered spring even-numbered years. Prereq., PSYX 100S. Physical, social, emotional and intellectual development, learning theories and child rearing practices related to children 0-6 years of age.	3 Credits
	EDEC 330 - Early Childhood Education Offered spring odd-numbered years. Theory and techniques of teaching in pre-school and primary levels of education. Observation and participation in pre-school programs. Recommended for kindergarten and primary teachers.	3 Credits
	EDEC 396 - EC Fieldwork/Practicum Offered autumn and spring. Practicum experiences including observational assessment of children, study of the planning process, team teaching of a one week unit plan, and planning and directing parent/teacher conferences. Students will complete selected readings and assignments on child development, early childhood ecological arrangements, and classroom management. Weekly seminars include early childhood pedagogy, adapted and regular physical education. Must attend mandatory meeting at 12:00 or 4:00 p.m. on first day of the semester.	3 Credits
	EDSP 403 - Curric/Mthds Early Spec Educ Offered autumn even-numbered years. Principles in selecting and adapting early childhood curriculum materials for young children with disabilities; development, implementation and evaluation of individualized education programs; and appropriate teaching strategies for the early childhood special education classroom. Includes a practicum.	3 Credits
	EDSP 462 - Spec Ed Law, Policy, Practice Offered autumn and even-numbered summers. Historic and current perspectives on laws, policies and practices of the special education and related fields. Coverage of all aspects of the special education process including collaborative practices.	3 Credits

	EDU 345 - Excptnlty & Clsrm Mgmt Offered autumn and spring. Prereq., Admission to the Teacher Education Program in secondary and K-12. Focus on classroom management and the characteristics and instructional adaptations for exceptional students in the regular classroom. Addresses the Individuals with Disabilities Education Act and subsequent reauthorizations, presents practices for working with students who are at-risk and students with disabilities in inclusive settings, and includes technological considerations.	3 Credits
	EDU 491 - Special Topics/Exp Courses (R-6) Offered intermittently. Special courses experimental in nature dealing with a relatively narrow, specialized topic of particular current interest. Credit not allowed toward a graduate degree.	1 To 6 Credits
	EDU 494 - Seminar:Refl Pract & App Rsrch (R-9) Required seminar during student teaching. Prereq., admission to the Teacher Education Program. Focuses on learning to conduct research on P-12 student performance to determine teaching effectiveness. Includes on-campus and/or on-line planning, conducting, and analyzing classroom practice.	1 To 9 Credits
	HFD 498 - Internship (R-4) Prereq., consent of chair. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 4 Credits
	PSYX 290 - Supervised Research (R-6) Offered every term. Prereq., consent of instr.	1 To 6 Credits
	PSYX 378 - Intro to Clinical Psyc Offered intermittently. Prereq., PSYX 340. Clinical psychology as a science and a profession. Theoretical models and techniques of assessment and intervention. Case illustrations.	3 Credits
Minimum Required Grade: C		0-12 Total Credits Required

School-Age

Rule: May complete any of the following courses

	Course	Credits
	EDU 221 - Ed Psych & Measuremnt Offered autumn and spring. Prereq., admission to Teacher Education program in secondary and K-12. Analysis of fundamental psychological concepts underlying classroom teaching and management, learning and evaluation including educational measurement. Emphasis on cognition, developmental, and motivational aspects of learning.	3 Credits

	EDU 345 - Excptnlty & Clsrm Mgmt Offered autumn and spring. Prereq., Admission to the Teacher Education Program in secondary and K-12. Focus on classroom management and the characteristics and instructional adaptations for exceptional students in the regular classroom. Addresses the Individuals with Disabilities Education Act and subsequent reauthorizations, presents practices for working with students who are at-risk and students with disabilities in inclusive settings, and includes technological considerations.	3 Credits
	PHAR 110N - Use & Abuse of Drugs Offered autumn and spring. Drug dependence and abuse.	3 Credits
	PSYX 339 - Curr Tpcs/Development Psyc Offered intermittently. Prereq., PSYC 240S or 245. Topical reviews of theories, research and applications in developmental psychology.	3 Credits
	PSYX 376 - Prin Cognit Behav Mod Offered intermittently. Prereq., PSYX 270S. Study of basic principles, assumptions, methodology and applications of behavior modification. Discussion of current literature relevant to behavioral assessment and treatment of major psychological disorders.	3 Credits
	PSYX 378 - Intro to Clinical Psyc Offered intermittently. Prereq., PSYX 340. Clinical psychology as a science and a profession. Theoretical models and techniques of assessment and intervention. Case illustrations.	3 Credits
	S W 300 - Hum Behav & Soc Environ Offered autumn and spring. Prereq., SW 100 and 200, and junior standing in Social Work. Using the ecological-social systems framework, the integration of knowledge and concepts from the social and behavioral sciences for analysis and assessment of problems and issues relevant to professional social work practice.	3 Credits
	S W 420 - Child Abuse/Child Welfare Offered autumn. Prereq., junior standing or consent of instr. Signs and symptoms of physical and sexual abuse and neglect, family dynamics in abuse and neglect, the legal context, programs of prevention and intervention, foster care, special needs adoptions and related issues in child welfare.	3 Credits
	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
Minimum Required Grade: C		0-12 Total Credits Required

Adolescence

Rule: May complete any of the following courses

	Course	Credits
	EDSP 462 - Spec Ed Law, Policy, Practice Offered autumn and even-numbered summers. Historic and current perspectives on laws, policies and practices of the special education and related fields. Coverage of all aspects of the special education process including collaborative practices.	3 Credits
	EDU 221 - Ed Psych & Measuremnt Offered autumn and spring. Prereq., admission to Teacher Education program in secondary and K-12. Analysis of fundamental psychological concepts underlying classroom teaching and management, learning and evaluation including educational measurement. Emphasis on cognition, developmental, and motivational aspects of learning.	3 Credits
	EDU 345 - Excptnlty & Clsrm Mgmt Offered autumn and spring. Prereq., Admission to the Teacher Education Program in secondary and K-12. Focus on classroom management and the characteristics and instructional adaptations for exceptional students in the regular classroom. Addresses the Individuals with Disabilities Education Act and subsequent reauthorizations, presents practices for working with students who are at-risk and students with disabilities in inclusive settings, and includes technological considerations.	3 Credits
	PHAR 110N - Use & Abuse of Drugs Offered autumn and spring. Drug dependence and abuse.	3 Credits
	PSYX 339 - Curr Tpcs/Development Psyc Offered intermittently. Prereq., PSYC 240S or 245. Topical reviews of theories, research and applications in developmental psychology.	3 Credits
	PSYX 345 - Child & Adolescent Psych Dis Offered intermittently. Prereq., PSYX 100S and 230. Study of causes, characteristics, assessment and treatment of emotional, social and intellectual disorders. The age span studied will range from infancy through adolescence.	3 Credits
	PSYX 376 - Prin Cognit Behav Mod Offered intermittently. Prereq., PSYX 270S. Study of basic principles, assumptions, methodology and applications of behavior modification. Discussion of current literature relevant to behavioral assessment and treatment of major psychological disorders.	3 Credits
	PSYX 378 - Intro to Clinical Psyc Offered intermittently. Prereq., PSYX 340. Clinical psychology as a science and a profession. Theoretical models and techniques of assessment and intervention. Case illustrations.	3 Credits

	S W 300 - Hum Behav & Soc Environ Offered autumn and spring. Prereq., SW 100 and 200, and junior standing in Social Work. Using the ecological-social systems framework, the integration of knowledge and concepts from the social and behavioral sciences for analysis and assessment of problems and issues relevant to professional social work practice.	3 Credits
	S W 450 - Children and Youth at Risk Offered autumn or spring. Focus on the aspects of society that pose a threat to today's youth and the ramification of those threats on youth development and behavior. Resilience and protective factors for youth at risk and strategies to work with those youth. Attention to related systems in Missoula and Montana, including juvenile justice, mental health, child protection, substance abuse, and education.	3 Credits
	SOCI 330 - Juvenile Delinquency Offered spring. Prereq., SOCI 101S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.	3 Credits
Minimum Required Grade: C		0-12 Total Credits Required

Gerontology

Rule: May complete any of the following courses

	Course	Credits
	AHHS 325 - Introduction to Gerontology Offered spring. Prereq., junior standing or consent of instr. An interdisciplinary discussion of the health and social issues of older persons, utilizing didactic presentations, clinical demonstrations, and curricular modules.	3 Credits
	AHHS 327 - MGS Meeting (R-3) Offered spring. Attendance and participation in the Montana Gerontology Society meeting held annually in April.	1 Credits
	AHHS 430 - Health Aspects of Aging Offered spring. Overview of the health aspects of aging in the United States including biological theories of aging, normal physiological changes associated with aging systems, common pathological problems associated with aging, cultural and ethnic differences in the health of elders, health promotion and healthy aging, and the health care continuum of care for older persons.	3 Credits
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits

	PSYX 339 - Curr Tpcs/Development Psyc Offered intermittently. Prereq., PSYC 240S or 245. Topical reviews of theories, research and applications in developmental psychology.	3 Credits
	S W 455 - Social Gerontology Offered autumn. Examination of the field of social gerontology, including an examination of the major bio/psycho/social/cultural/spiritual theories of aging, the service system, social and health issues, family and care-giving dynamics, social policy, and end of life concerns.	3 Credits
Minimum Required Grade: C		0-12 Total Credits Required

Family Development

Rule: May complete any of the following courses

	Course	Credits
	COMX 311 - Family Communication Offered yearly. An examination of communication in marriage/romantic partnership, parent-child, and extended family relationships. Topics include intimacy, power, decision-making, problem solving, identity formation, and interpersonal perception.	3 Credits
	COMX 414 - Comm in Personal Relationshps Offered yearly. Prerequisite, COMX 115S or consent of instructor. An examination of the functions, types, and historical context of close personal relationships with an in-depth study of the role of communication in friendships and romantic relationships.	3 Credits
	EDEC 310 - Child in the Family Offered spring even-numbered years. Prereq., PSYX 100S. Physical, social, emotional and intellectual development, learning theories and child rearing practices related to children 0-6 years of age.	3 Credits
	PSYX 348 - Psychology of Family Violence Offered spring. Prereq., PSYX 100S. Same as WGS 385. Exploration of theoretical explanations for the presence of violence in American families; research and interventions in such areas as child physical and sexual abuse, battering of women, marital rape, spousal homicide, etc.	3 Credits
	S W 423 - Addiction Studies Offered spring. Same as PSYX 441 and SOCI 433. Examination of chemical dependency and behavioral compulsions, including alcohol and other drugs, gambling, eating disorders, sexual addictions. Ecosystems perspective on etiology, treatment, prevention, family dynamics, community response, and societal contributors. Students engage in a service learning community project which is integrated into the classroom through initial training, regular reflection, and other activities.	3 Credits

	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
Minimum Required Grade: C		0-12 Total Credits Required

College of Forestry and Conservation

Tom DeLuca, Dean

Mike Patterson, Associate Dean

The undergraduate curricular programs at the College of Forestry and Conservation (CFC) provide the knowledge and skills for students to become effective natural resource professionals. They offer a sequence of learning experiences that build the necessary confidence and critical thinking capabilities to help solve some of humanity's most pressing problems in the stewardship of our shared natural heritage.

Undergraduate programs at the College of Forestry and Conservation have evolved into a unique action-oriented, interdisciplinary experience where students integrate real-world issues into their coursework. Students will utilize the latest technologies in the assessment and analysis of natural resource challenges, and they will simultaneously apply this learning in multiple field settings across the unparalleled natural settings of Montana.

The five undergraduate majors in the College are science degrees, leading to a Baccalaureate of Science (B.S.) degree. These majors are: Forestry; Parks, Tourism, and Recreation Management; Wildlife Biology; Resource Conservation; and Ecological Restoration. These majors provide a strong foundation in knowledge about natural systems, science, analytical skills, and policy, but each is tailored to the specialized needs of a particular career track or research discipline in the natural resources management professions. Students have an opportunity to emphasize the disciplinary concentration of their choosing, but all students will receive a balance of ecological, physical, and social sciences.

Students uncertain about which specific major best meets their interests and needs will find that the ability to move between majors early in their student career is facilitated by a common foundational core of coursework. Each major's curricular program is designed to fulfill the broad educational goals for all graduates of the University of Montana, as well as the specific disciplinary requirements of civil service and professional accrediting organizations.

Preparation to Enter the College of Forestry and Conservation

Students planning to enter the College of Forestry and Conservation should attain a sound background in English, social studies, mathematics, biology, and other sciences. Entering freshmen and non-resident transfer students will be admitted in accordance with general university admission requirements listed previously in this catalogue. Resident transfer students or current UM students wanting to change their major to the College of Forestry and Conservation must have a grade point average of 2.0 or higher to be admitted.

Educational Framework at the College of Forestry and Conservation

Students at the College of Forestry and Conservation are expected to demonstrate a range of capabilities before graduation so they can better address the multiple demands facing modern natural resource managers. The College fosters learning through a combination of innovative teaching and scholarship with a focus on state of the art knowledge in the major fields and emerging natural resource challenges. Each major's curriculum follows a similar seven part structure that encourages the sequenced development of foundational knowledge, applied skills, and creative problem-solving. The following description illustrates how the curricula are organized to present the most efficient and engaging pathway to the full development of student capabilities:

Foundations of Science

Students will be required to have a solid understanding of the primary physical, chemical, and biological drivers of natural systems. Required for all students are an introductory course in inorganic chemistry and a basic biological science course (there are several introductory biology classes that will apply, depending on a student's major). Students in the Wildland Restoration major and the Forest Operations option within the Forest Management major will also take an introductory course in physics. Parks, Tourism, and Recreation Management majors will take introductory coursework in psychology or sociology to understand social drivers in relation to natural systems. Additionally, all students are encouraged to take one of the four introductory courses offered by the College that draw together multiple disciplines to demonstrate the historical and cultural dimensions of conservation: The Nature of Montana (NRSM 121S); Careers in Natural Resources (NRSM 180); Wildlife and People (WILD 105N); or International Forestry (NRSM 170). In the sophomore year most students

will take an introductory course in soils to become familiar with the cycling of energy and nutrients in terrestrial ecosystems while students in the Wildlife Biology major will take coursework in molecular biology and genetics. In their junior year all students take an upper division ecology class. The University's general education requirements and specific College majors ensure all students take additional natural and social science classes to provide the foundations necessary to understand and manage the natural and social systems underlying human uses of natural resources.

Quantitative and Analytical Skills

All students at the College will attain the quantitative analytical and measurement foundations needed for their professional or research career path. The freshmen level quantitative requirement rests on a proficiency in mathematics that is obtained through one of two routes depending on major: a college algebra/linear math/probability track or an introductory calculus track. All sophomore students take a statistics class which many fulfill through a special course in the analysis of multiple forms of measurement of natural resource characteristics, called Biometrics. Although not required for all majors, most students decide to take a special course in mapping that combines the common applications of geographic information systems (GIS) and the basic attributes of spatial analysis.

Applied Field Skills

A tremendous advantage of an education at the College of Forestry and Conservation is the proximity of an unlimited field laboratory in both the managed and untrammeled landscapes of Montana. All undergraduates will have multiple opportunities to learn in field settings as a part of lab sections associated with many of CFC's courses. Some specific academic opportunities, such as the College's Wilderness and Civilization Program, will take students on extended backcountry trips to gain first-hand knowledge of wild settings. Exceptional hands-on learning experiences are provided at the College's Lubrecht Experimental Forest located less than 30 miles from campus on the Blackfoot River. Since students must demonstrate competency and confidence in outdoor field work to be a successful natural resource professional, students are required to select a sophomore-level field measurements course within their major. Although advanced transfer students (>59 transfer credits) to the College; Parks, Tourism, and Recreation Students; and Wildlife Biology students may apply other relevant experiences to their field training requirement, completion of a field measurements course is expected before students may enroll in upper division courses, as the needed skills to succeed in subsequent, more advanced field labs depend on a solid core of field capabilities.

Communication

Effectiveness in addressing our shared problems in natural resource management depends on a person's ability to communicate. College of Forestry and Conservation students will graduate with considerable training in written communication with both lower-division requirements at the 200-level and a series of upper division courses where writing constitutes the major part of course expectations. Each major in the College provides a "distributed writing" menu for students entering into upper-division courses, such that each student will take at least three classes where writing skills are evaluated. All students take a public speaking class. Students wishing to gain more experience in public speaking and communication can also take a special class Natural Resources Interpretation (PTRM 310 (RECM 310)).

Professional Specialization

Each academic major in the College contains a sequence of courses and learning experiences tailored to the student's specific professional aspirations. Clusters of courses within a major prepare students to obtain the necessary knowledge and professional competencies to perform the tasks of a modern resource manager or research scientist. Course work combines biophysical and social science training to allow students to recognize and navigate the complexities and context of conservation sciences and natural resources management. Thus, each major has courses representing both ecological and policy development processes, as well as a progression of classes covering the knowledge areas and topics of major natural resources disciplines. Students will take a core of required courses (described in the sections below) as well as a balanced selection of "professional electives" to acquire sufficient balance and depth in their chosen field to emerge with an identified professional specialty.

Work Experience and Service Learning

Students at the College of Forestry and Conservation will apply what they have learned in real-world settings prior to graduation. This work experience can be obtained in many ways, via internships, summer employment, study abroad opportunities, or specially designed "service learning" courses. Service experiences will allow students to obtain credit, learn new material, and offer critical work to established organizations to advance conservation goals. In general, requirements for work experience or internships will be counted based on the number of hours worked over the course of a student's entire undergraduate career, with 400 hours or more of work necessary for graduation.

Capstone Experience

Each academic major in the College offers an opportunity for students to synthesize previous learning in a real-world project via either an undergraduate research project or the completion of a special, integrative "capstone" course. Undergraduate research projects are designed through close supervision of a student's academic advisor, while the capstone courses bring together a team of faculty who facilitate student oriented problem solving through a focus on an applied management problem or real world case studies that offer vital experience in the preparation of students for their professional careers.

Other University-wide Requirements for Academic Achievement

The University of Montana has established standards for graduation of all students that include demonstrated proficiencies in oral and written communication and symbolic systems as well as a selection of diverse learning experiences identified as "general education courses." The College's expectations for writing and quantitative skills more than fulfill university-wide requirements for communication and symbolic systems, and many of the courses offered by CFC also fulfill the categories within general education requirements. All CFC majors also offer sufficient opportunity for students to choose among the full range of UM courses as "free electives," such that each person might be able to explore new areas of learning at their own discretion.

Student Advising

All College of Forestry and Conservation students will have a full-time faculty advisor as well as the extensive advising support provided by the College's Office of Student Services. Students are paired with a faculty advisor who matches their academic and professional interests and serves as a mentor and advocate for students as they progress through individual academic achievements. Students may change their advisor at any time as their specific interests develop or change. New students needing an advisor and current students who wish to change advisors should contact the College's Office of Student Services. Students are required to consult with their advisors before each registration period but remain responsible for ensuring they fulfill the published requirements for graduation.

Graduation Auditing

All students will complete a graduation audit in the semester prior to their graduation to make sure that they have a sure pathway for successful completion of their chosen major.

Name	Minor	Certificate	Associate	Bachelor
Climate Change Studies	Requirements			
Ecological Restoration	Requirements			
Ecological Sciences & Restorat				Requirements
Fire Sciences & Management	Requirements			
Forestry				Requirements
Parks, Tourism &Rec Management				Requirements
Resource Conservation				Requirements
Wilderness Studies	Requirements			
Wildlife Biology	Requirements			Requirements

Forestry

In addition to special degree requirements listed previously, students selecting the BS Forestry degree must complete the following required courses or their equivalent, if transferred from another college or university. Transference and equivalency will be determined by the University, College of Forestry and Conservation, and Forestry program. Electives may be taken at any time, keeping in mind these requirements as well as the University's General Education requirements for graduation.

Department Faculty

Professor

Edwin Burke, Professor of Wood Science & Technology
LLoyd Paul Queen, Professor of Remote Sensing; Director, National Center for Landscape Fire Analysis

Associate Professor

David Affleck, Associate Professor of Biometrics
Chair, Department of Forest Management
Director, Inland Northwest Growth & Yield Cooperative
Solomon Dobrowski, Associate Professor of Forest Landscape Ecology
Beth Dodson, Associate Professor of Integrated Natural Resource
John Goodburn, Associate Professor of Silviculture; Undergraduate Program Director, Forestry
Christopher R. Keyes, Research Professor of Silviculture
Peter Kolb, Associate Professor of Forest Ecology & Management
Carl Seielstad, Associate Research Professor; Fire/Fuels Program Manager, National Center for Landscape Fire Analysis

Assistant Professor

Kelsey Jencso, Assistant Professor, Watershed Hydrologist
Andrew Larson, Associate Professor of Forest Ecology
Alexander L. Metcalf, Research Assistant Professor

Adjunct

James Riddering, Adjunct Research Assistant Professor; Remote Sensing Program Manager, National Center for Landscape Fire Analysis

Forest Resources Management B.S.

Bachelor of Science - Forestry; Forest Resources Mgmt Option

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 90
Required Cumulative GPA: 2.0

Major Required Courses

Rule: Must take all courses

	Course	Credits
	FORS 130 - Intro Forestry Field Skills Offered autumn. Prereq., Forestry major or consent of instructor. This course is focused on developing introductory forestry field skills through experiential learning at the College's Lubrecht Experimental Forest. Classroom lecture and experiences that introduce students to orienteering, map reading, GPS, tree measurements, fire and fuels management, recreation, human dimensions, hydrology, wood products, and the careers possible with a Forestry degree.	2 Credits

	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 202 - Forest Mensuration Offered spring. Prereq., FORS 201 or STAT 216 or SOCI 202 or WILD 240; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. The theory and practice of timber inventory and growth projection, including field measurements, sampling procedures, statistical methods, inventory compilation, and stand growth simulation under specified management prescriptions. Stand growth under specified management prescriptions.	3 Credits
	FORS 240 - Tree Biology Offered autumn and spring. Suggested coreq., FORS 241N. The physical and biological requirements for the growth and development of trees. Discussions of: identification, classification, range, and economic importance of the major tree species of North America.	2 Credits
	FORS 241N - Dendrology Offered autumn and spring. Suggested coreq., FORS 240. Methods and techniques for identifying the major families of North American trees, based on gross morphological and anatomical features. Building and use of identification keys.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits

Minimum Required Grade: C-	22 Total Credits Required

Outside Major Courses Required

Rule: Must take all courses

Note: Can take THTR 120A Intro to Acting I in place of COMX 111A; Can take M 121 College Algebra AND M 122 College Trigonometry to satisfy M 151;Can take PHSX 205/206 College Physics I and Lab in place of M 162

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		24-27 Total Credits Required

Major Required Courses

Rule: Must take all courses

	Course	Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 340 - Forest Product Manufacturing Offered autumn. Survey of the manufacture of wood-based products generated from timber harvest. Laboratory field trips to several local manufacturing facilities.	2 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits

	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits
	FORS 481 - Forest Planning Offered spring. Prereq., FORS 320; FORS 347 or FORS 349 or consent of instr. Integrated multiple use planning at the forest-wide level: defining multi-resource management goals, generating management alternatives, projecting outcomes, assessing environmental impacts, and implementing preferred option.	3 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
Minimum Required Grade: C-		26 Total Credits Required

Professional Electives

Rule: Must take at least 18 total credits from the combined subcategories
Note: NOTE - Must take 6 credits beyond major requirements to earn a minor
Minimum Required Grade: C-
18 Total Credits Required

Biophysical Sciences

Rule: Must take at least one course from the list below

	Course	**Credits**

	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
	BIOO 433 - Plant Physiology Offered spring. Prereq., BIOB 260 or consent of the instructor. The molecular, biochemical and biophysical basis of plant function, from the subcellular to the whole organism level.	3 Credits
	FORS 333 - Basic&Applied Fire Ecology Offered spring. Prereq., FORS 230. A detailed, analysis of fire ecology in terrestrial ecosystems with a focus on the Rocky Mountains, including fire history, fire effects, landscape pattern, land use legacies, and management implications.	3 Credits
	FORS 342 - Wood Anatomy, Properties, & ID Offered spring. Prereq., BIOO 105N or FORS 240 or FORS 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.	3 Credits
	NRSM 335 - Environmental Entomology Offered autumn odd years. An introduction to the importance of insects in ecosystem function and process, and their use in ecological monitoring as indicators of ecological change, degradation, and the efficacy of ecological restoration efforts. This course also covers the effects of climate change and biological invasions in the context of both pest and beneficial insect species.	3 Credits
	NRSM 418 - Ecosystem Climatology Interactions between the biosphere and atmosphere to advanced undergraduate students and graduate students. This course will explore the interactions between Earth's biosphere and atmosphere and how they affect climate over a range of scales. We will focus on the exchange of energy, mass, and important elements between the biosphere and atmosphere and how this exchange can lead to fascinating feedbacks in Earth's climate system. Basic physics and math is not required but it is recommended.	3 Credits
	WILD 370 - Wildlife Habitat Cons & Mgmt Offered autumn and spring. Prereq., junior/senior standing in wildlife biology, BIOE 370, or consent of instr. Application of principles of wildlife biology to conservation and management of wild bird and mammal habitats including field applications.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Management Application

Rule: Must take at least two courses

	Course	Credits
	FORS 230 - Forest Fire Management Offered spring. Fire as an ecological factor in Western forests is presented. Fire weather, the measurement of fire weather, and the factors of fuel, weather and topography that influence fire behavior, and fire management decisions are included. NFDRS, state and national fire policy evolutions are discussed. Basic fire suppression tactics are also presented.	2 Credits
	FORS 232 - Forest Insects & Diseases Offered spring. Identification, significance of and remedies for insect infestations and infectious and non-infectious diseases of forests and forest products.	2 Credits
	FORS 331 - Wildland Fuel Management Offered autumn. Prereq., FORS 230 or consent of instr. The fire ecology of some western vegetation types is discussed. Elements of the principles of wildland fuel management are presented. Prescribed fire use and mechanical manipulation are matched to historic ecosystem processes. Smoke management considerations and health issues are also presented.	3 Credits
	FORS 434 - Advanced Forest Roads Offered autumn. Prereq., FORS 341. The purpose of this course is to help students understand the principles and skills of forest road design and the concepts of forest transportation planning. The course will cover the basic topics of road location, design, construction, and maintenance and provide students with techniques to identify the combination of roads, facilities and transport systems which minimize costs and negative environmental impacts.	2 Credits
	FORS 435 - Advaced Timber Harvesting Offered autumn. Prereqs., FORS 341. This course covers the fundamentals of logging feasibility and cost analyses of various timber harvesting systems including the characteristics and performance of ground vehicles, cable and aerial systems; cost factors and cost analysis procedures; safety issues; and environmental impacts of harvesting systems .	2 Credits
	NRSM 360 - Rangeland Mgt (equiv 260) Offered autumn. Prereq., junior standing or consent of instr. An introduction to rangelands and their management, grazing influences, class of animal, grazing capacity, control of livestock distribution, improvements, competition and interrelationships with wildlife. Laboratory exercises to gain on-site experience on topics and concepts presented in lectures.	3 Credits
	NRSM 485 - Watershed Management Offered intermittently. Prereq., NRSM 385 or consent of instr. Effects of land management practices on water and sediment yields from wildland watersheds. Introduction to statistical methods in hydrology. Introduction to water yield and sediment modeling techniques.	3 Credits

	WILD 275 - Wildlife Conservation Offered spring. Prereq., sophomore standing or consent of instr. Principles of animal ecology and framework of wildlife administration as a basis for the conservation of wild birds and animals, and biodiversity. Intended for non-wildlife biology majors.	2 Credits
Minimum Required Grade: C-		4-6 Total Credits Required

Policy and Social Science

Rule: Must take at least one course from the list below

	Course	Credits
	ENST 230H - Nature and Society UM campus course offered spring. Explores the relationship between ideas about nature and the development of political and social ideas, institutions, and practices, primarily in western (Euro-American) society. Complements ethics offerings in philosophy aimed at environmental studies majors.	3 Credits
	FORS 436 - Project Appraisal Offered autumn. Prereq., FORS 320 or consent of instructor. A suite of techniques, collectively referred to as project appraisal methods, facilitate evaluation of alternative projects. In this applied, computer laboratory-based course, students will become familiar with the use of discounted cash flow analysis and mathematical programing to evaluate proposed courses of action and recommend the economically efficient alternative. Skills will be developed applying these techniques to problems faced by natural resource managers and policy-makers.	3 Credits
	NASX 303E - Ecol Persp in Nat Amer Trad Offered Autumn and Spring. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.	3 Credits
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits

	NRSM 425 - Nat Res & Envir Economics Offered alternate spring. Prereq., ENSC 201S or FORS 320; and M 115, M 121, M 122, M 151, M 162, M 171, or 172. Introduction to analytical approaches for economic analysis of management of non-renewable resources, fisheries, forests, threatened and endangered species, and the atmosphere.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	PTRM 217S - Wildland Recreation Management Offered autumn and spring. The management of land as an environment for outdoor recreation. Understanding the relationship between the visitor, resource base and management policies. Recreation planning on multiple use forest lands, parks, wilderness areas and private lands.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	PTRM 310 - Nat Res Interp and Comm Offered autumn. Prereq., COMX 111A or THTR 120A, junior or senior standing in PTRM or RECM. Principles, concepts, techniques essential to providing high quality interpretive programs in natural or cultural history.	3 Credits
	PTRM 380 - Rec Admin & Leadership Offered spring. The theories, principles and practices that shape the administration of recreation opportunities offered through public, nonprofit and private agencies and organizations. Course content includes leadership roles of recreation managers, organizational structure, management, legality, risk management, staffing, communication and public relations.	3 Credits

	PTRM 451 - Tourism & Sustainability Offered spring. Prereq., PTRM 210, or consent of instructor. Theories and conceptual models are applied to analyzing relationships between the integration of planning theories to sustainability concepts.	3 Credits
	PTRM 482 - Wilderness & Protctd Area Mgt Offered spring. Prereq., PTRM 217S, or consent of instructor. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Measurement and Analysis

Rule: Must take at least one course from the list below

	Course	Credits
	FORS 307 - Forest Veg Mgt Models (R-6) Offered intermittently. Consent of instr. Hands on experience in applying the common simulation models used by forest managers in forecasting the development of forest vegetation. Includes elements of model building and evaluation.	3 Credits
	FORS 350 - Forestry Apps of GIS Offered spring. Prereq., FORS 250 or FORS 284 or GPHY 284. Introduction to the basic concepts and techniques of computerized spatial data management and analysis systems and application to natural resource management.	3 Credits
	FORS 351 - Env Remote Sensing Offered spring. The theory and application of photo- and electro-optical remote sensing for mapping resources and developing information systems.	3 Credits
	GEO 421 - Hydrology Offered autumn. Prereq. one semester college calculus and physics or consent of instructor. Introduction to the physical mechanisms that drive the water cycle at different scales. The course covers heat, momentum and mass transfer and storage mechanisms in turbulent systems and their role in the global and local climates. At the local scale, the equations that govern surface and subsurface water flows are studied. Along with the overarching goals, students will improve their quantitative skills, will gain experience accessing and reading the professional literature and will improve their capabilities to acquire knowledge independently.	3 Credits
	WILD 373 - Wildlife Techniques Offered spring. Prereq., any statistics course; one 300-level ecology or wildlife biology course. Lab and field oriented class in commonly-used wildlife research and management techniques.	2 Credits

Minimum Required Grade: C-	2-3 Total Credits Required

Writing within Major

Rule: Must complete the following subcategories

15 Total Credits Required

Lower Division Writing

Rule: All are required

	Course	Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Writing

Rule: Must take at least 3 of the following courses

	Course	Credits

	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 340 - Forest Product Manufacturing Offered autumn. Survey of the manufacture of wood-based products generated from timber harvest. Laboratory field trips to several local manufacturing facilities.	2 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Math within Major

Rule: All are required

Note: Two courses can be substituted for M 151: M 121 College Algebra AND M 122 College Trig

	Course	**Credits**
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits

Minimum Required Grade: C-	4-6 Total Credits Required

Symbolic System

Rule: Must take one of the following courses

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Expressive Arts Requirement

Rule: Must take one of the following courses

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science within Major

Rule: Must take the following course

	Course	Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Ethical & Human Values Elective within Major

Rule: Can take the elective course

	Course	Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences within Major

Rule: Must take at least 2 courses and include a lab course

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	FORS 241N - Dendrology Offered autumn and spring. Suggested coreq., FORS 240. Methods and techniques for identifying the major families of North American trees, based on gross morphological and anatomical features. Building and use of identification keys.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Forest Operations

In addition to special degree requirements listed previously, students selecting the BS Forestry degree must complete the following required courses or their equivalent, if transferred from another college or university. Transference and equivalency will be determined by the University, College of Forestry and Conservation, and Forestry program. Electives may be taken at any time, keeping in mind these requirements as well as the University's General Education requirements for graduation.

Bachelor of Science - Forestry; Forest Operations Option

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 82
Required Cumulative GPA: 2.0

Major Required Courses

Rule: Must take all courses

	Course	**Credits**
	FORS 130 - Intro Forestry Field Skills Offered autumn. Prereq., Forestry major or consent of instructor. This course is focused on developing introductory forestry field skills through experiential learning at the College's Lubrecht Experimental Forest. Classroom lecture and experiences that introduce students to orienteering, map reading, GPS, tree measurements, fire and fuels management, recreation, human dimensions, hydrology, wood products, and the careers possible with a Forestry degree.	2 Credits

	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 202 - Forest Mensuration Offered spring. Prereq., FORS 201 or STAT 216 or SOCI 202 or WILD 240; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. The theory and practice of timber inventory and growth projection, including field measurements, sampling procedures, statistical methods, inventory compilation, and stand growth simulation under specified management prescriptions. Stand growth under specified management prescriptions.	3 Credits
	FORS 240 - Tree Biology Offered autumn and spring. Suggested coreq., FORS 241N. The physical and biological requirements for the growth and development of trees. Discussions of: identification, classification, range, and economic importance of the major tree species of North America.	2 Credits
	FORS 241N - Dendrology Offered autumn and spring. Suggested coreq., FORS 240. Methods and techniques for identifying the major families of North American trees, based on gross morphological and anatomical features. Building and use of identification keys.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits

Minimum Required Grade: C-	22 Total Credits Required

Outside Major Courses Required

Rule: Must take all courses

Note: Can take THTR 120A Intro to acting in place of COMX 111A; Can take M 121 College Algebra AND M 122 College Trigonometry to satisfy M 151; Can take PHSX 205/206 College Physics I and Lab in place of M 162

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		22-24 Total Credits Required

Major Required Courses

Rule: Must take all courses

	Course	Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 340 - Forest Product Manufacturing Offered autumn. Survey of the manufacture of wood-based products generated from timber harvest. Laboratory field trips to several local manufacturing facilities.	2 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits

	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 434 - Advanced Forest Roads Offered autumn. Prereq., FORS 341. The purpose of this course is to help students understand the principles and skills of forest road design and the concepts of forest transportation planning. The course will cover the basic topics of road location, design, construction, and maintenance and provide students with techniques to identify the combination of roads, facilities and transport systems which minimize costs and negative environmental impacts.	2 Credits
	FORS 435 - Advaced Timber Harvesting Offered autumn. Prereqs., FORS 341. This course covers the fundamentals of logging feasibility and cost analyses of various timber harvesting systems including the characteristics and performance of ground vehicles, cable and aerial systems; cost factors and cost analysis procedures; safety issues; and environmental impacts of harvesting systems .	2 Credits
	FORS 436 - Project Appraisal Offered autumn. Prereq., FORS 320 or consent of instructor. A suite of techniques, collectively referred to as project appraisal methods, facilitate evaluation of alternative projects. In this applied, computer laboratory-based course, students will become familiar with the use of discounted cash flow analysis and mathematical programing to evaluate proposed courses of action and recommend the economically efficient alternative. Skills will be developed applying these techniques to problems faced by natural resource managers and policy-makers.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
Minimum Required Grade: C-		30 Total Credits Required

Forest Management Elective

Rule: Must take at least one course

	Course	Credits
	FORS 230 - Forest Fire Management Offered spring. Fire as an ecological factor in Western forests is presented. Fire weather, the measurement of fire weather, and the factors of fuel, weather and topography that influence fire behavior, and fire management decisions are included. NFDRS, state and national fire policy evolutions are discussed. Basic fire suppression tactics are also presented.	2 Credits
	FORS 232 - Forest Insects & Diseases Offered spring. Identification, significance of and remedies for insect infestations and infectious and non-infectious diseases of forests and forest products.	2 Credits
	NRSM 265 - Elements of Ecological Restora Offered autumn. Prereq., one course in the ecological or biological sciences: BIOO 105N, BIOB 160N, BIOB 170N, BIOB 172, BIOE 370, BIOE 428, BIOE 447 or BIOE 448; or FORS 330; or NRSM 271N or NRSM 462 or consent of instructor. Overview of the natural and social science elements of ecological restoration, including the ecological foundations of restoration, practices used to restore terrestrial and aquatic habitats, philosophical and ethical challenges involved, and current initiatives in Montana and the United States. Includes Saturday field trips.	3 Credits
	PTRM 217S - Wildland Recreation Management Offered autumn and spring. The management of land as an environment for outdoor recreation. Understanding the relationship between the visitor, resource base and management policies. Recreation planning on multiple use forest lands, parks, wilderness areas and private lands.	3 Credits
	WILD 275 - Wildlife Conservation Offered spring. Prereq., sophomore standing or consent of instr. Principles of animal ecology and framework of wildlife administration as a basis for the conservation of wild birds and animals, and biodiversity. Intended for non-wildlife biology majors.	2 Credits
Minimum Required Grade: C-		2-3 Total Credits Required

Resource Protection Electives

Rule: Must take one course from the list below

	Course	Credits
	FORS 331 - Wildland Fuel Management Offered autumn. Prereq., FORS 230 or consent of instr. The fire ecology of some western vegetation types is discussed. Elements of the principles of wildland fuel management are presented. Prescribed fire use and mechanical manipulation are matched to historic ecosystem processes. Smoke management considerations and health issues are also presented.	3 Credits

	NRSM 360 - Rangeland Mgt (equiv 260) Offered autumn. Prereq., junior standing or consent of instr. An introduction to rangelands and their management, grazing influences, class of animal, grazing capacity, control of livestock distribution, improvements, competition and interrelationships with wildlife. Laboratory exercises to gain on-site experience on topics and concepts presented in lectures.	3 Credits
	NRSM 415 - Environmental Soil Science Offered spring odd-numbered years Prereq., ENSC 245N or NRSM 210N or consent of instr. A detailed analysis of the physical, chemical and biological properties of soils and how they function, with a focus on soil processes and how they affect, and are affected by human activities. Specific topics include element cycling, water quality, the effects of environmental change soil biogeochemistry, plant-soil interactions, and the consequences of large-scale disturbances on soil processes.	3 Credits
	NRSM 455 - Riparian Ecology & Management Offered intermittently. Prereqs., successful completion or concurrent enrollment in NRSM 385 and completion of one of the following introductory ecology courses: BIOE 172, BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462. Importance of riparian/wetland areas and the complexities associated with their management for short and long term benefits.	3 Credits
	NRSM 485 - Watershed Management Offered intermittently. Prereq., NRSM 385 or consent of instr. Effects of land management practices on water and sediment yields from wildland watersheds. Introduction to statistical methods in hydrology. Introduction to water yield and sediment modeling techniques.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics and Social Science Elective

Rule: Must take one course from the list below

	Course	Credits
	NASX 303E - Ecol Persp in Nat Amer Trad Offered Autumn and Spring. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits

	NRSM 425 - Nat Res & Envir Economics Offered alternate spring. Prereq., ENSC 201S or FORS 320; and M 115, M 121, M 122, M 151, M 162, M 171, or 172. Introduction to analytical approaches for economic analysis of management of non-renewable resources, fisheries, forests, threatened and endangered species, and the atmosphere.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Writing Within Major

Rule: Must complete the following subcategories

15 Total Credits Required

Lower Division Writing

Rule: Need to take all listed

	Course	**Credits**
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Writing

Rule: Must take at least three courses

	Course	Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Math within Major

Rule: All are required

Note: Two courses can be substituted for M 151: M 121 College Algebra AND M 122 College Trig

	Course	Credits

	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
Minimum Required Grade: C-		4-6 Total Credits Required

Symbolic Systems

Rule: Must take the following course

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Expressive Arts within Major

Rule: Must take one of the following courses

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science within Major

Rule: Must take the following course

	Course	Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values Elective within Major

Rule: Can take the following elective course

	Course	Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Science within Major

Rule: Must take all courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Ecosystem Science and Restoration

Bachelor of Science in Ecosystem Science and Restoration

Ecological restoration — the process of assisting in the repair of damaged ecosystems— is one of the fastest growing areas of natural resource management. With increasing interest, there is a corresponding need for trained professionals who understand not only the science of restoration ecology but also the management practices and social factors that lead to successful project implementation. The College of Forestry and Conservation offers a Bachelor of Science and a minor in Ecosystem Science and Restoration. For more information see the Ecosystem Science and Restoration website.

Degree Options

Bachelor of Science in Ecosystem Science and Restoration (Aquatic and Terrestrial Options)

The major in Ecosystem Science and Restoration prepares students to tackle the complex challenges associated with repairing degraded ecosystems. Students select one of two options: the *Terrestrial Option*, which focuses on restoration of forests, grasslands, and other terrestrial ecosystems; or the *Aquatic Option* which focuses on stream, wetland, and groundwater restoration. Both options provide in-depth training in the science of restoration ecology and the management activities and human dimensions of restoration practice. Students engage in field-based learning, contribute to cutting-edge restoration projects, and are challenged to apply ecological theory to restoration practice. The major requires completion of a nine-credit restoration capstone, during which students gain hands-on real-world experience planning and implementing restoration projects in partnership with natural resource management agencies and organizations in western Montana.

A degree in Ecosystem Science and Restoration prepares students for careers as restoration practitioners with non-profit, private, or governmental agencies and for graduate school in ecology or natural resource management. Students who graduate with this major may qualify for the following federal civil service jobs: biological technician (Series 0404), ecologist (Series GS-408), forester (Series G-0460), hydrologist (Series GS-1315), range technician (Series GS-0455), and soil conservationist (Series GS-0457). More information on federal civil service requirements can be found at: http://www.opm.gov/qualifications/standards/indexes/alph-ndx.asp.

Minor in Ecosystem Science and Restoration

In addition to the major, the Ecosystem Science and Restoration program also offers a minor for students who wish to gain basic competency in restoration while pursuing another UM major.

Department Faculty

Professor

Cory Cleveland, Professor, Terrestrial Ecosystem Ecology; Chair, Department of Ecosystems & Conservation Sciences
F. Richard Hauer, UM Director-Institute on Ecosystems
Diana Six, Professor of Forest Entomology/Pathology

Associate Professor

Lisa Eby, Associate Professor of Aquatic Vertebrate Ecology; Undergraduate Program Director, Ecosystem Science & Restoration
Philip Higuera, Associate Professor of Fire Ecology
Cara Nelson, Associate Professor of Restoration Ecology

Assistant Professor

Ashley Ballantyne, Assistant Professor of Bioclimatology
Ben Colman, Assistant Professor of Aquatic Ecosystem Ecology
Kelsey Jencso, Assistant Professor, Watershed Hydrologist

Aquatic Ecosystem Sciences and Restoration

The major in Ecosystem Sciences and Restoration prepares students to tackle the complex challenges associated with repairing degraded ecosystems. Students can select one of two options: the terrestrial concentration, which focuses on the repair of terrestrial ecosystems; and the aquatic concentration, which focuses on stream, wetland, and groundwater restoration. Both options provide in-depth training in the science of restoration ecology and the management activities and human dimensions of restoration practice. Students engage in field-based learning, contribute to cutting-edge restoration projects, and are challenged to apply ecological theory to restoration practice. The major requires completion of a nine-credit restoration capstone, during which students gain hands-on real-world experience planning and implementing restoration projects in partnership with natural resource management agencies and organizations in western Montana.

A degree in Ecosystem Sciences and Restoration prepares students for careers as restoration practitioners with non-profit, private, or governmental agencies and for graduate school in ecology or natural resource management. Students who graduate with this major may qualify for the following federal civil service jobs: biological technician (Series 0404), ecologist (Series GS-408), forester (Series G-460), hydrologist (Series GS-1315) and soil conservationist (Series GS-457). More information on federal civil service requirements can be found at:http://www.opm.gov/qualifications/standards/indexes/alph-ndx.asp.

Bachelor of Science - Ecological Sciences & Restorat; Aquatic Option

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 89

Required Cumulative GPA: 2.0

Major Required Courses

Rule: Must take all courses

Note: Can take WRIT 325 Science Writing (honors) in place of NRSM 200; Can take NRSM 170 Intern'l Environ Change OR NRSM 180 Careers in Natural Resources in place of NRSM 121S

	Course	Credits
	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 265 - Elements of Ecological Restora Offered autumn. Prereq., one course in the ecological or biological sciences: BIOO 105N, BIOB 160N, BIOB 170N, BIOB 172, BIOE 370, BIOE 428, BIOE 447 or BIOE 448; or FORS 330; or NRSM 271N or NRSM 462 or consent of instructor. Overview of the natural and social science elements of ecological restoration, including the ecological foundations of restoration, practices used to restore terrestrial and aquatic habitats, philosophical and ethical challenges involved, and current initiatives in Montana and the United States. Includes Saturday field trips.	3 Credits

Minimum Required Grade: C-	9 Total Credits Required

Outside Major Required Courses

Rule: Must take all courses

Note: Can take FORS 201 Biometrics OR WILD 240 Into to Biostats in place of STAT 216; can take THTR 120 Acting I in place of COMX 111A

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits

	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits
	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		39 Total Credits Required

Major Required Courses

Rule: Must take all courses

Note: Can take NRSM 449 in place of NRSM 489E

	Course	Credits
	NRSM 344 - ESR Capstone Offered spring. Prereq., junior or senior standing in Ecological Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462.; and completion or concurrent enrollment in NRSM 465. This five-credit, service-learning course is the planning course for the capstone experience for students in the Ecosystem Science and Restoration major (although it is also open to students pursuing other majors). It is designed to get students active in research in ecosystem science and restoration ecology or in the application of ecological principles to restoration practice. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	NRSM 465 - Restoration Ecology Offered spring. Prereq., graduate or junior or senior standing and NRSM 265 and one 300-400 level ecology courses: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; or consent of instructor. This course covers the primary ecological theories that inform the practice of ecological restoration. Topics include the dynamic nature of ecological systems, community assembly, biodiversity and ecosystem functioning, food web dynamics, ecological engineering, macroecology, and statistical issues and study design.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	NRSM 494 - Seminar Offered spring. Prereq., senior standing and successful completion or concurrent enrollment in NRSM 495; and consent of instr. This seminar provides a forum for students to share the results of practicum projects conducted in NRSM 495. Each student will lead at least one seminar during the semester.	1 Credits

	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits
Minimum Required Grade: C-		21 Total Credits Required

Outside Major Required Courses

Rule: Must take all courses

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
Minimum Required Grade: C-		8 Total Credits Required

Restoration Aquatic Electives

Rule: Must take as least 9 credits

Note: WILD 485 Aquatic Macroinvertebrate Ecol. fall only

	Course	Credits
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOE 439 - Stream Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371, CHMY 121N. The biota and biogeochemical processes of running waters with unifying principles and contemporary research approaches.	3 Credits

	BIOE 451 - Landscape Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Biophysical processes that determine landscape and ecosystem structure and function using remote sensing tools, geographic information systems and dynamic models to demonstrate landscape change.	3 Credits
	BIOL 435 - Comparative Animal Physiology Offered spring. Prereq., BIOB 260 or equivalent. Animal physiology with emphasis on diversity of functional processes, with strong links to broader ecological and evolutionary contexts.	3 Credits
	BIOO 340 - Biology and Mgmnt of Fishes Offered autumn. Prereq., BIOB 272 and either STAT 216 or WILD 240. Diversity, adaptations and ecology of fishes. Analysis and management of fish populations and communities.	4 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	GEO 228 - Earth Surface Processes Spring semester. Prereq. GEO 101N-102N, M 121 and 122 or M 151. Introduction to the physical processes that affect the surface of the Earth, including global-scale energy distribution and balance, the hydrologic cycle, climate, weathering, transport mechanisms, and geomorphic processes.	2 Credits
	GEO 420 - Hydrogeology Offered spring. Prereq., GEO 101N-102N; PHSX 205N/206N or PHSX 215N/216N ; M 162 or 171 strongly recommended or consent of instr. Occurrence, movement, quality, and methods of quantification of groundwater. Geological framework and physics of groundwater flow. Supply, contamination, and management problems.	4 Credits
	GEO 421 - Hydrology Offered autumn. Prereq. one semester college calculus and physics or consent of instructor. Introduction to the physical mechanisms that drive the water cycle at different scales. The course covers heat, momentum and mass transfer and storage mechanisms in turbulent systems and their role in the global and local climates. At the local scale, the equations that govern surface and subsurface water flows are studied. Along with the overarching goals, students will improve their quantitative skills, will gain experience accessing and reading the professional literature and will improve their capabilities to acquire knowledge independently.	3 Credits
	GEO 460 - Process Geomorphology Offered autumn. Prereq., one semester college calculus and physics. Quantitative examination of landforms, runoff generation, weathering, mechanics of soil erosion by water and wind, mass wasting, glacial and periglacial processes and hillslope evolution.	4 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
	NRSM 408 - Global Cycles and Climate Offered spring even-numbered years. Same as CCS 408. An analysis of the earths major global biogeochemical cycles with a focus on the ways and extent to which each of them influences and interacts with the global climate system.	3 Credits
	NRSM 418 - Ecosystem Climatology Interactions between the biosphere and atmosphere to advanced undergraduate students and graduate students. This course will explore the interactions between Earth's biosphere and atmosphere and how they affect climate over a range of scales. We will focus on the exchange of energy, mass, and important elements between the biosphere and atmosphere and how this exchange can lead to fascinating feedbacks in Earth's climate system. Basic physics and math is not required but it is recommended.	3 Credits
	NRSM 455 - Riparian Ecology & Management Offered intermittently. Prereqs., successful completion or concurrent enrollment in NRSM 385 and completion of one of the following introductory ecology courses: BIOE 172, BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462. Importance of riparian/wetland areas and the complexities associated with their management for short and long term benefits.	3 Credits
	NRSM 485 - Watershed Management Offered intermittently. Prereq., NRSM 385 or consent of instr. Effects of land management practices on water and sediment yields from wildland watersheds. Introduction to statistical methods in hydrology. Introduction to water yield and sediment modeling techniques.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Social Science Elective Courses

Rule: must take at least 3 credits

	Course	**Credits**

	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Writing Requirements

Rule: Must complete the following subcategories

15 Total Credits Required

> ### *Lower Division Writing*
> **Rule:** Complete all courses

	Course	Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Writing

Rule: Must take at least three courses

	Course	Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits

	NRSM 344 - Ecol. RestorationCapstone Offered spring. Prereq., junior or senior standing in Ecological Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462.; and completion or concurrent enrollment in NRSM 465. This five-credit, service-learning course is the planning course for the capstone experience for students in the Ecosystem Science and Restoration major (although it is also open to students pursuing other majors). It is designed to get students active in research in ecosystem science and restoration ecology or in the application of ecological principles to restoration practice. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 495 - Ecological Restor Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	3 To 6 Credits
	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Math requirements for major

Rule: Must take all courses

	Course	Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits

	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Symbolic System

Rule: Must take one of the following courses

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WILD 240 - Intro to Biostatistics Offered autumn. Prereq., calculus and consent of instr. Introduction to statistical ecology: distributions, hypothesis testing, and fitting models to data with emphasis on problems in ecological sampling.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts Requirement for Major

Rule: must take one of the following course

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: May take the following course

	Course	Credits
	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values Elective within Major

Rule: must take one of the following course

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences within Major

Rule: Must take all courses

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits

	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Terrestrial Ecosystem Sciences and Restoration

The major in Ecosystem Sciences and Restoration prepares students to tackle the complex challenges associated with repairing degraded ecosystems. Students can select one of two options: the terrestrial concentration, which focuses on the repair of terrestrial ecosystems; and the aquatic concentration, which focuses on stream, wetland, and groundwater restoration. Both options provide in-depth training in the science of restoration ecology and the management activities and human dimensions of restoration practice. Students engage in field-based learning, contribute to cutting-edge restoration projects, and are challenged to apply ecological theory to restoration practice. The major requires completion of a nine-credit restoration capstone, during which students gain hands-on real-world experience planning and implementing restoration projects in partnership with natural resource management agencies and organizations in western Montana.

A degree in Ecosystem Sciences and Restoration Minor prepares students for careers as restoration practitioners with non-profit, private, or governmental agencies and for graduate school in ecology or natural resource management. Students who graduate with this major may qualify for the following federal civil service jobs: biological technician (Series 0404), ecologist (Series GS-408), forester (Series G-460), hydrologist (Series GS-1315) and soil conservationist (Series GS-457). More information on federal civil service requirements can be found at:http://www.opm.gov/qualifications/standards/indexes/alph-ndx.asp.

Bachelor of Science - Ecological Sciences & Restorat; Terrestrial Option

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 88

Required Cumulative GPA: 2.0

Major Required Courses

Rule: Must take all courses

Note: Can take WRIT 325 Science Writing (honors) in place of NRSM 200; Can take NRSM 170 Intern'l Environ Change OR NRSM 180 Careers in Natural Resources in place of NRSM 121S

	Course	**Credits**
	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
	NRSM 265 - Elements of Ecological Restora Offered autumn. Prereq., one course in the ecological or biological sciences: BIOO 105N, BIOB 160N, BIOB 170N, BIOB 172, BIOE 370, BIOE 428, BIOE 447 or BIOE 448; or FORS 330; or NRSM 271N or NRSM 462 or consent of instructor. Overview of the natural and social science elements of ecological restoration, including the ecological foundations of restoration, practices used to restore terrestrial and aquatic habitats, philosophical and ethical challenges involved, and current initiatives in Montana and the United States. Includes Saturday field trips.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Outside Major Required Courses

Rule: Must take all courses

Note: Can take FORS 201 Biometrics OR WILD 240 Into to Biostats in place of STAT 216; Can take THTR 120A Acting I in place of COMX 111A

	Course	**Credits**
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits

	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		31 Total Credits Required

Major Required Courses

Rule: Must take all courses

Note: Can take NRSM 449E in place of NRSM 489E

	Course	**Credits**
	NRSM 344 - ESR Capstone Offered spring. Prereq., junior or senior standing in Ecological Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462.; and completion or concurrent enrollment in NRSM 465. This five-credit, service-learning course is the planning course for the capstone experience for students in the Ecosystem Science and Restoration major (although it is also open to students pursuing other majors). It is designed to get students active in research in ecosystem science and restoration ecology or in the application of ecological principles to restoration practice. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits

	NRSM 465 - Restoration Ecology Offered spring. Prereq., graduate or junior or senior standing and NRSM 265 and one 300-400 level ecology courses: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; or consent of instructor. This course covers the primary ecological theories that inform the practice of ecological restoration. Topics include the dynamic nature of ecological systems, community assembly, biodiversity and ecosystem functioning, food web dynamics, ecological engineering, macroecology, and statistical issues and study design.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	NRSM 494 - Seminar Offered spring. Prereq., senior standing and successful completion or concurrent enrollment in NRSM 495; and consent of instr. This seminar provides a forum for students to share the results of practicum projects conducted in NRSM 495. Each student will lead at least one seminar during the semester.	1 Credits
	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits
Minimum Required Grade: C-		21 Total Credits Required

Outside Major Required Courses

Rule: Must take all courses

Note: Can take BIOE 448 terer. Plant Ecology OR FORS 330 Forest Ecology OR NRSM 462 Range Ecology

	Course	**Credits**
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 447 - Terrestrial Ecosystem Ecology Offered intermittently. Prereq., BIOB 160N and any ecology-themed course or consent of instr. Introduction to systems thinking and the ecosystem concept, review of water and energy balance, carbon cycling and production processes, nutrient cycling, trophic dynamics, and species effects on ecosystem functioning.	3 Credits

	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Restoration Terrestrial Electives

Rule: Must take as least 9 credits

Note: No Double Dipping with CORE courses

	Course	Credits
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOE 416 - Alpine Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Distribution, abundance and life cycles of plants and animals and their unique ecophysiological adaptations to life in the rigorous environments of the high mountains above the timberline, with emphasis on the Crown of the Continent area.	3 Credits
	BIOE 448 - Terrestrial Plant Ecology Offered alternate autumn. Prereq. BIOB 272N. The interrelationships between plants and plant communities and their natural environment.	4 Credits
	BIOE 451 - Landscape Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Biophysical processes that determine landscape and ecosystem structure and function using remote sensing tools, geographic information systems and dynamic models to demonstrate landscape change.	3 Credits
	BIOE 458 - Forest and Grassland Ecol Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Patterns and processes of the forests and grasslands of the northern Rocky Mountains in the context of principles of population community and ecosystem ecology.	3 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 433 - Plant Physiology Offered spring. Prereq., BIOB 260 or consent of the instructor. The molecular, biochemical and biophysical basis of plant function, from the subcellular to the whole organism level.	3 Credits

	FORS 202 - Forest Mensuration Offered spring. Prereq., FORS 201 or STAT 216 or SOCI 202 or WILD 240; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. The theory and practice of timber inventory and growth projection, including field measurements, sampling procedures, statistical methods, inventory compilation, and stand growth simulation under specified management prescriptions. Stand growth under specified management prescriptions.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 333 - Basic&Applied Fire Ecology Offered spring. Prereq., FORS 230. A detailed, analysis of fire ecology in terrestrial ecosystems with a focus on the Rocky Mountains, including fire history, fire effects, landscape pattern, land use legacies, and management implications.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	GEO 228 - Earth Surface Processes Spring semester. Prereq. GEO 101N-102N, M 121 and 122 or M 151. Introduction to the physical processes that affect the surface of the Earth, including global-scale energy distribution and balance, the hydrologic cycle, climate, weathering, transport mechanisms, and geomorphic processes.	2 Credits
	NRSM 408 - Global Cycles and Climate Offered spring even-numbered years. Same as CCS 408. An analysis of the earths major global biogeochemical cycles with a focus on the ways and extent to which each of them influences and interacts with the global climate system.	3 Credits
	NRSM 418 - Ecosystem Climatology Interactions between the biosphere and atmosphere to advanced undergraduate students and graduate students. This course will explore the interactions between Earth's biosphere and atmosphere and how they affect climate over a range of scales. We will focus on the exchange of energy, mass, and important elements between the biosphere and atmosphere and how this exchange can lead to fascinating feedbacks in Earth's climate system. Basic physics and math is not required but it is recommended.	3 Credits

Minimum Required Grade: C-	9 Total Credits Required

Restoration Social Science Elective Courses

Rule: Must take at least 3 credits

	Course	Credits
	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Writing Required for the Major

Rule: Must complete the following subcategories

15 Total Credits Required

> *Lower Division Writing*

Rule: must take the following courses

	Course	Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Writing

Rule: Must take at least three courses

	Course	Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits

	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 444 - Ecological RestorationCapstone Offered spring. Prereq., junior or senior standing in Wildland Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; and completion or concurrent enrollment in NRSM 365. This service-learning course teaches students about designing and implementing restoration and monitoring projects. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits
	NRSM 495 - Ecological Restor Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	3 To 6 Credits
	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Math requirement for major

Rule: Must take all courses

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Symbolic Systems

Rule: Must take one of the following courses

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WILD 240 - Intro to Biostatistics Offered autumn. Prereq., calculus and consent of instr. Introduction to statistical ecology: distributions, hypothesis testing, and fitting models to data with emphasis on problems in ecological sampling.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts Requirement for Major

Rule: must take one of the following course

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Scicnes

Rule: May take the below course

	Course	Credits
	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Ethical & Human Values Elective within Major

Rule: must take one of the following course

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences within Major

Rule: Must take all courses

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		7 Total Credits Required

Ecological Restoration Minor

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 24
Required Cumulative GPA: 2.0

Major Required Course

Rule: must take the following course
Note: FORS 201 can be substituted for either STATS 216 Into to Statistics OR WILD 240 Into to Biostatistics

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
	NRSM 265 - Elements of Ecological Restora Offered autumn. Prereq., one course in the ecological or biological sciences: BIOO 105N, BIOB 160N, BIOB 170N, BIOB 172, BIOE 370, BIOE 428, BIOE 447 or BIOE 448; or FORS 330; or NRSM 271N or NRSM 462 or consent of instructor. Overview of the natural and social science elements of ecological restoration, including the ecological foundations of restoration, practices used to restore terrestrial and aquatic habitats, philosophical and ethical challenges involved, and current initiatives in Montana and the United States. Includes Saturday field trips.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Required Courses

Rule: Must complete all of the following courses

Note: FORS 330 can be substituted for either BIOE 370 Genera Ecology OR BIOE 428 Freshwater Ecology OR NRSM 462 Range Ecology;
NRSM 385 can be substituted for BIOO 335 Rocky Mountain Flora

	Course	Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	NRSM 465 - Restoration Ecology Offered spring. Prereq., graduate or junior or senior standing and NRSM 265 and one 300-400 level ecology courses: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; or consent of instructor. This course covers the primary ecological theories that inform the practice of ecological restoration. Topics include the dynamic nature of ecological systems, community assembly, biodiversity and ecosystem functioning, food web dynamics, ecological engineering, macroecology, and statistical issues and study design.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Natural Science Electives

Rule: Must take one of the following courses, but not a course already used for a core or above requirement

	Course	Credits
	BIOE 342 - Field Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOB 272 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.	5 Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits

	BIOE 416 - Alpine Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Distribution, abundance and life cycles of plants and animals and their unique ecophysiological adaptations to life in the rigorous environments of the high mountains above the timberline, with emphasis on the Crown of the Continent area.	3 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOE 439 - Stream Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371, CHMY 121N. The biota and biogeochemical processes of running waters with unifying principles and contemporary research approaches.	3 Credits
	BIOE 448 - Terrestrial Plant Ecology Offered alternate autumn. Prereq. BIOB 272N. The interrelationships between plants and plant communities and their natural environment.	4 Credits
	BIOE 451 - Landscape Ecology Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Biophysical processes that determine landscape and ecosystem structure and function using remote sensing tools, geographic information systems and dynamic models to demonstrate landscape change.	3 Credits
	BIOE 453 - Ecology of Small & Large Lakes Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371, CHMY 121N and CHMY 123N. The physical, chemical and biological characteristics of lake ecosystems with an emphasis on nutrient cycling, food web interactions and water quality.	3 Credits
	BIOE 458 - Forest and Grassland Ecol Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Patterns and processes of the forests and grasslands of the northern Rocky Mountains in the context of principles of population community and ecosystem ecology.	3 Credits
	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
	BIOO 340 - Biology and Mgmnt of Fishes Offered autumn. Prereq., BIOB 272 and either STAT 216 or WILD 240. Diversity, adaptations and ecology of fishes. Analysis and management of fish populations and communities.	4 Credits
	BIOO 433 - Plant Physiology Offered spring. Prereq., BIOB 260 or consent of the instructor. The molecular, biochemical and biophysical basis of plant function, from the subcellular to the whole organism level.	3 Credits

	FORS 202 - Forest Mensuration Offered spring. Prereq., FORS 201 or STAT 216 or SOCI 202 or WILD 240; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. The theory and practice of timber inventory and growth projection, including field measurements, sampling procedures, statistical methods, inventory compilation, and stand growth simulation under specified management prescriptions. Stand growth under specified management prescriptions.	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 331 - Wildland Fuel Management Offered autumn. Prereq., FORS 230 or consent of instr. The fire ecology of some western vegetation types is discussed. Elements of the principles of wildland fuel management are presented. Prescribed fire use and mechanical manipulation are matched to historic ecosystem processes. Smoke management considerations and health issues are also presented.	3 Credits
	FORS 333 - Basic&Applied Fire Ecology Offered spring. Prereq., FORS 230. A detailed, analysis of fire ecology in terrestrial ecosystems with a focus on the Rocky Mountains, including fire history, fire effects, landscape pattern, land use legacies, and management implications.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	GEO 228 - Earth Surface Processes Spring semester. Prereq. GEO 101N-102N, M 121 and 122 or M 151. Introduction to the physical processes that affect the surface of the Earth, including global-scale energy distribution and balance, the hydrologic cycle, climate, weathering, transport mechanisms, and geomorphic processes.	2 Credits
	GEO 420 - Hydrogeology Offered spring. Prereq., GEO 101N-102N; PHSX 205N/206N or PHSX 215N/216N ; M 162 or 171 strongly recommended or consent of instr. Occurrence, movement, quality, and methods of quantification of groundwater. Geological framework and physics of groundwater flow. Supply, contamination, and management problems.	4 Credits
	GEO 460 - Process Geomorphology Offered autumn. Prereq., one semester college calculus and physics. Quantitative examination of landforms, runoff generation, weathering, mechanics of soil erosion by water and wind, mass wasting, glacial and periglacial processes and hillslope evolution.	4 Credits

	NRSM 335 - Environmental Entomology Offered autumn odd years. An introduction to the importance of insects in ecosystem function and process, and their use in ecological monitoring as indicators of ecological change, degradation, and the efficacy of ecological restoration efforts. This course also covers the effects of climate change and biological invasions in the context of both pest and beneficial insect species.	3 Credits
	NRSM 360 - Rangeland Mgt (equiv 260) Offered autumn. Prereq., junior standing or consent of instr. An introduction to rangelands and their management, grazing influences, class of animal, grazing capacity, control of livestock distribution, improvements, competition and interrelationships with wildlife. Laboratory exercises to gain on-site experience on topics and concepts presented in lectures.	3 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	NRSM 408 - Global Cycles and Climate Offered spring even-numbered years. Same as CCS 408. An analysis of the earths major global biogeochemical cycles with a focus on the ways and extent to which each of them influences and interacts with the global climate system.	3 Credits
	NRSM 415 - Environmental Soil Science Offered spring odd-numbered years Prereq., ENSC 245N or NRSM 210N or consent of instr. A detailed analysis of the physical, chemical and biological properties of soils and how they function, with a focus on soil processes and how they affect, and are affected by human activities. Specific topics include element cycling, water quality, the effects of environmental change soil biogeochemistry, plant-soil interactions, and the consequences of large-scale disturbances on soil processes.	3 Credits
	NRSM 418 - Ecosystem Climatology Interactions between the biosphere and atmosphere to advanced undergraduate students and graduate students. This course will explore the interactions between Earth's biosphere and atmosphere and how they affect climate over a range of scales. We will focus on the exchange of energy, mass, and important elements between the biosphere and atmosphere and how this exchange can lead to fascinating feedbacks in Earth's climate system. Basic physics and math is not required but it is recommended.	3 Credits
	NRSM 455 - Riparian Ecology & Management Offered intermittently. Prereqs., successful completion or concurrent enrollment in NRSM 385 and completion of one of the following introductory ecology courses: BIOE 172, BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462. Importance of riparian/wetland areas and the complexities associated with their management for short and long term benefits.	3 Credits

	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	NRSM 485 - Watershed Management Offered intermittently. Prereq., NRSM 385 or consent of instr. Effects of land management practices on water and sediment yields from wildland watersheds. Introduction to statistical methods in hydrology. Introduction to water yield and sediment modeling techniques.	3 Credits
	WILD 470 - Conserv of Wildlife Populatns Offered autumn and spring. Prereq., BIOE 370, M 162 or M 171, and senior standing in Biology, Forestry, Resource Conservation, Recreation Management or Wildlife Biology. Application of population ecology principles and theory to the conservation and management of wildlife populations.	3 Credits
	WILD 491 - Special Topics (R-12) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science Electives

Rule: take at least one course from the following, but if one of these courses are required for the major a second elective must be taken

	Course	**Credits**
	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits

	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	PTRM 482 - Wilderness & Protctd Area Mgt Offered spring. Prereq., PTRM 217S, or consent of instructor. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management.	3 Credits
Minimum Required Grade: C-		3-6 Total Credits Required

Ethical & Human Values Elective within Minor

Rule: Can take the elective courses

Note: can take these courses for Social Science Electives in the minor and will work for this General Education Requirement

	Course	**Credits**
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits

	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences within Minor

Rule: must take the following course

	Course	Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Parks, Tourism, and Recreation Management

The B.S. in Parks, Tourism & Recreation Management degree is designed to prepare students for professional positions developing and managing nature-based recreation experiences and park resources for public land management agencies, nonprofit organizations, and the nature-based tourism industry. Students pursuing this degree must choose between an option in Recreation Resources Management or Nature-Based Tourism. The Recreation Resources Management option provides the educational background necessary for evaluating and managing wild lands to protect their recreational, heritage, and ecological values. The Nature-Based Tourism option is designed to combine an understanding of social, cultural, political, environmental, and economic contexts surrounding tourism in a natural resource setting. All students learn the processes and conceptual skills needed to determine alternative management strategies, make management decisions, and carry out management programs. Included are courses leading to an understanding of the basic ecological characteristics of recreational lands. Students also take courses dealing with human behavior and management. Emphasis is placed on presenting problems that would be encountered while managing national parks and forests, state and regional parks, wilderness areas, and other recreation resources of international and national significance.

Department Faculty

Professor

Bill Borrie, Professor of Park and Recreation Management
Wayne Freimund, Professor, Parks and Protected Area Management

Norma Nickerson, Research Professor; Director of ITRR

Associate Professor

Keith Bosak, Associate Professor of Nature Based Tourism and Recreation
Elizabeth Covelli Metcalf, Associate Professor of Recreation Management & Human Dimensions of Natural Resources; Undergraduate Program Director, PTRM

Assistant Professor

Jennifer Thomsen, Assistant Professor of Park, Recreation, and Tourism Management

Emeritus

Steve McCool, Professor Emeritus of Wildland Recreation Management

Parks, Tourism, and Recreation Management B.S.

The B.S. in Parks, Tourism & Recreation Management degree is designed to prepare students for professional positions developing and managing nature-based recreation experiences and park resources for public land management agencies, nonprofit organizations, and the nature-based tourism industry. Students pursuing this degree must choose between an option in Recreation Resources Management or Nature-Based Tourism. The Recreation Resources Management option provides the educational background necessary for evaluating and managing wild lands to protect their recreational, heritage, and ecological values. The Nature-Based Tourism option is designed to combine an understanding of social, cultural, political, environmental, and economic contexts surrounding tourism in a natural resource setting. All students learn the processes and conceptual skills needed to determine alternative management strategies, make management decisions, and carry out management programs. Included are courses leading to an understanding of the basic ecological characteristics of recreational lands. Students also take courses dealing with human behavior and management. Emphasis is placed on presenting problems that would be encountered while managing national parks and forests, state and regional parks, wilderness areas, and other recreation resources of international and national significance.

Bachelor of Science - Parks, Tourism &Rec Management

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 75

Required Cumulative GPA: 2.0

Note: There are no longer "degree options". Students can design their own elective choices with an advisor.

Major Required Courses

Rule: Must take all courses

	Course	Credits
	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits

	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
	PTRM 210S - Nature Tourism & Comm Rec Offered autumn. Introduction to the tourism and commercial recreation industries. Provides initial link between the natural environment and business operations. Combination of introductory business philosophies, economics, and natural resource management into a framework for future reference and course work.	3 Credits
	PTRM 217S - Wildland Recreation Management Offered autumn and spring. The management of land as an environment for outdoor recreation. Understanding the relationship between the visitor, resource base and management policies. Recreation planning on multiple use forest lands, parks, wilderness areas and private lands.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Outside Major Required Courses

Rule: Must take all courses

Note: Can take SOCI 202 Social Statistics OR FORS 201 Biometrics in place of STATS 216; Can take THTR 120A Intro to Acting in place of COMX 111A; can take BIOE 172 Into to Ecology OR BIOO 105 Botany in place of BIOB 170

	Course	**Credits**
	ACTG 201 - Principles of Fin Acct Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.	3 Credits
	ACTG 202 - Principles of Mang Acct Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.	3 Credits

	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		29 Total Credits Required

Major Required Courses

Rule: Must take all courses

Note: Can take WILD 410 Wildlife Policy & Biopolitics in place of NRSM 422; Can take NRSM 462 Range Ecology in place of FORS 330; Can take PTRM 451 Tourism & Sustainability in place of PTRM 482.
In addition to the above requirements, students are also required to take at least 3 credits of skills classes. Students can choose from: ECP 120/121 Emergency Care Provider and lab (3)cr., NRSM 379 Collaboration (3)cr., BKMT 325, Principles of Marketing (3)cr., or FORS 250 Introduction to GIS. Alternatively, students can take two

semesters of a foreign language.

	Course	Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	PTRM 310 - Nat Res Interp and Comm Offered autumn. Prereq., COMX 111A or THTR 120A, junior or senior standing in PTRM or RECM. Principles, concepts, techniques essential to providing high quality interpretive programs in natural or cultural history.	3 Credits
	PTRM 380 - Rec Admin & Leadership Offered spring. The theories, principles and practices that shape the administration of recreation opportunities offered through public, nonprofit and private agencies and organizations. Course content includes leadership roles of recreation managers, organizational structure, management, legality, risk management, staffing, communication and public relations.	3 Credits
	PTRM 482 - Wilderness & Protctd Area Mgt Offered spring. Prereq., PTRM 217S, or consent of instructor. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management.	3 Credits
	PTRM 484 - PTRM Field Measurement Tech Offered autumn. Co-req. with either PTRM 485 or PTRM 451. Field measurement and management techniques critical in park, tourism & recreation management. Includes measurement of impacts on biophysical and social attributes of park, tourism & recreation settings.	3 Credits
	PTRM 485 - Recreation Planning Offered spring. Prereq., PTRM 217S and PTRM 300. Offered autumn. Needs of recreation opportunities and response to those needs through planning, demand assessment and resource analysis.	3 Credits

	PTRM 495 - Practicum in PTRM (R-15) Offered every term. Prereq., PTRM 380, PTRM 450, senior standing, and consent of instr. Supervised pre-professional practice in approved parks, tourism & recreation management agencies.	1 To 6 Credits
Minimum Required Grade: C-		28 Total Credits Required

Writing Within Major

Rule: Must complete the following subcategories

9 Total Credits Required

Lower Division Writing

Rule: Must take all courses

	Course	Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Writing

Rule: Must take one of the following courses

	Course	Credits

	PTRM 451 - Tourism & Sustainability Offered spring. Prereq., PTRM 210, or consent of instructor. Theories and conceptual models are applied to analyzing relationships between the integration of planning theories to sustainability concepts.	3 Credits
	PTRM 482 - Wilderness & Protctd Area Mgt Offered spring. Prereq., PTRM 217S, or consent of instructor. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Math within Major

Rule: Must take all courses

	Course	Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Symbolic Systems

Rule: Must take at least one of the following courses

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits

Minimum Required Grade: C-	3-4 Total Credits Required

Expressive Arts Requirement

Rule: must take one of the following courses

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science within Major

Rule: must take the following course

	Course	Credits
	PTRM 217S - Wildland Recreation Management Offered autumn and spring. The management of land as an environment for outdoor recreation. Understanding the relationship between the visitor, resource base and management policies. Recreation planning on multiple use forest lands, parks, wilderness areas and private lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values Elective within Major

Rule: CAN take the elective course

	Course	Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences within Major

Rule: Must take NRSM 210 and one of the biology courses

	Course	Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Recreation Resource Management

Bachelor of Science - Parks, Tourism &Rec Management; Track: Recreation Resource Mgmt

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 75

Required Cumulative GPA: 2.0

Note: There are no longer "degree options". This track allows students to work with a faculty advisor to select elective courses that will be more specific to their career choices.

Major Required Courses

Rule: Must take all courses

	Course	Credits

	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
	PTRM 210S - Nature Tourism & Comm Rec Offered autumn. Introduction to the tourism and commercial recreation industries. Provides initial link between the natural environment and business operations. Combination of introductory business philosophies, economics, and natural resource management into a framework for future reference and course work.	3 Credits
	PTRM 217S - Wildland Recreation Management Offered autumn and spring. The management of land as an environment for outdoor recreation. Understanding the relationship between the visitor, resource base and management policies. Recreation planning on multiple use forest lands, parks, wilderness areas and private lands.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Outside Major Required Courses

Rule: Must take all courses

Note: Can take SOCI 202 Social Statistics OR FORS 201 Biometrics in place of STATS 216; Can take THTR 120A Intro to Acting in place of COMX 111A; can take BIOE 172 Into to Ecology OR BIOO 105 Botany in place of BIOB 170

	Course	**Credits**

	ACTG 201 - Principles of Fin Acct Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.	3 Credits
	ACTG 202 - Principles of Mang Acct Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.	3 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		29 Total Credits Required

Major Required Courses

Rule: Must take all courses

Note: Can take WILD 410 Wildlife Policy & Biopolitics in place of NRSM 422; Can take NRSM 462 Range Ecology in place of FORS 330; Can take PTRM 451 Tourism & Sustainability in place of PTRM 482.
In addition to the above requirements, students are also required to take at least 3 credits of skills classes. Students can choose from: ECP 120/121 Emergency Care Provider and lab (3)cr., NRSM 379 Collaboration (3)cr., BKMT 325, Principles of Marketing (3)cr., or FORS 250 Introduction to GIS. Alternatively, students can take two semesters of a foreign language.

	Course	Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	PTRM 310 - Nat Res Interp and Comm Offered autumn. Prereq., COMX 111A or THTR 120A, junior or senior standing in PTRM or RECM. Principles, concepts, techniques essential to providing high quality interpretive programs in natural or cultural history.	3 Credits
	PTRM 380 - Rec Admin & Leadership Offered spring. The theories, principles and practices that shape the administration of recreation opportunities offered through public, nonprofit and private agencies and organizations. Course content includes leadership roles of recreation managers, organizational structure, management, legality, risk management, staffing, communication and public relations.	3 Credits
	PTRM 482 - Wilderness & Protctd Area Mgt Offered spring. Prereq., PTRM 217S, or consent of instructor. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management.	3 Credits

	PTRM 484 - PTRM Field Measurement Tech Offered autumn. Co-req. with either PTRM 485 or PTRM 451. Field measurement and management techniques critical in park, tourism & recreation management. Includes measurement of impacts on biophysical and social attributes of park, tourism & recreation settings.	3 Credits
	PTRM 485 - Recreation Planning Offered spring. Prereq., PTRM 217S and PTRM 300. Offered autumn. Needs of recreation opportunities and response to those needs through planning, demand assessment and resource analysis.	3 Credits
	PTRM 495 - Practicum in PTRM (R-15) Offered every term. Prereq., PTRM 380, PTRM 450, senior standing, and consent of instr. Supervised pre-professional practice in approved parks, tourism & recreation management agencies.	1 To 6 Credits
Minimum Required Grade: C-		28 Total Credits Required

Recreation Resource Management Track

Rule: Can take these track courses

Note: Courses are not required in this track - please talk to a faculty advisor on what classes will be best for your area of interest.

	Course	**Credits**
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	COMX 421 - Comm in Non-Profit Organizatns Offered yearly. Focuses on issues in nonprofit organizational communication at macro and micro levels. Topics include: organizational identity, change processes, public relations, fund-raising, advocacy, socialization, stress and burnout, board management and professionalization.	3 Credits
	FORS 230 - Forest Fire Management Offered spring. Fire as an ecological factor in Western forests is presented. Fire weather, the measurement of fire weather, and the factors of fuel, weather and topography that influence fire behavior, and fire management decisions are included. NFDRS, state and national fire policy evolutions are discussed. Basic fire suppression tactics are also presented.	2 Credits
	FORS 240 - Tree Biology Offered autumn and spring. Suggested coreq., FORS 241N. The physical and biological requirements for the growth and development of trees. Discussions of: identification, classification, range, and economic importance of the major tree species of North America.	2 Credits
	FORS 241N - Dendrology Offered autumn and spring. Suggested coreq., FORS 240. Methods and techniques for identifying the major families of North American trees, based on gross morphological and anatomical features. Building and use of identification keys.	3 Credits

	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	FORS 331 - Wildland Fuel Management Offered autumn. Prereq., FORS 230 or consent of instr. The fire ecology of some western vegetation types is discussed. Elements of the principles of wildland fuel management are presented. Prescribed fire use and mechanical manipulation are matched to historic ecosystem processes. Smoke management considerations and health issues are also presented.	3 Credits
	FORS 333 - Basic&Applied Fire Ecology Offered spring. Prereq., FORS 230. A detailed, analysis of fire ecology in terrestrial ecosystems with a focus on the Rocky Mountains, including fire history, fire effects, landscape pattern, land use legacies, and management implications.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits
	NRSM 265 - Elements of Ecological Restora Offered autumn. Prereq., one course in the ecological or biological sciences: BIOO 105N, BIOB 160N, BIOB 170N, BIOB 172, BIOE 370, BIOE 428, BIOE 447 or BIOE 448; or FORS 330; or NRSM 271N or NRSM 462 or consent of instructor. Overview of the natural and social science elements of ecological restoration, including the ecological foundations of restoration, practices used to restore terrestrial and aquatic habitats, philosophical and ethical challenges involved, and current initiatives in Montana and the United States. Includes Saturday field trips.	3 Credits

	NRSM 335 - Environmental Entomology Offered autumn odd years. An introduction to the importance of insects in ecosystem function and process, and their use in ecological monitoring as indicators of ecological change, degradation, and the efficacy of ecological restoration efforts. This course also covers the effects of climate change and biological invasions in the context of both pest and beneficial insect species.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	PTRM 150 - Current Issues in PTRM Offered autumn. This course will explore issues related to recreation and tourism in western Montana. This is a field based course designed to get students outside the classroom. Students will have a chance to visit outdoor recreation areas and meet recreation and tourism managers.	1 Credits
Minimum Required Grade: C-		

Writing Within Major

Rule: Must complete the following subcategories

9 Total Credits Required

Lower Division Writing

Rule: Must take all courses

	Course	Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Writing

Rule: Must take one of the following courses

	Course	Credits
	PTRM 451 - Tourism & Sustainability Offered spring. Prereq., PTRM 210, or consent of instructor. Theories and conceptual models are applied to analyzing relationships between the integration of planning theories to sustainability concepts.	3 Credits
	PTRM 482 - Wilderness & Protctd Area Mgt Offered spring. Prereq., PTRM 217S, or consent of instructor. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Math within Major

Rule: Must take all courses

	Course	Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits

Minimum Required Grade: C	3 Total Credits Required

Symbolic Systems

Rule: Must take at least one of the following courses

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts Requirement

Rule: must take one of the following courses

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science within Major

Rule: must take the following course

	Course	Credits

	PTRM 217S - Wildland Recreation Management Offered autumn and spring. The management of land as an environment for outdoor recreation. Understanding the relationship between the visitor, resource base and management policies. Recreation planning on multiple use forest lands, parks, wilderness areas and private lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values Elective within Major

Rule: CAN take the elective course

	Course	Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences within Major

Rule: Must take NRSM 210 and one of the biology courses

	Course	Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Nature Based Tourism

Bachelor of Science - Parks, Tourism &Rec Management; Track: Nature-Based Tourism

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 75

Required Cumulative GPA: 2.0

Note: There are no longer "degree options". This track allows students to work with a faculty advisor to select elective courses that will be more specific to their career choices.

Major Required Courses

Rule: Must take all courses

	Course	**Credits**
	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
	PTRM 210S - Nature Tourism & Comm Rec Offered autumn. Introduction to the tourism and commercial recreation industries. Provides initial link between the natural environment and business operations. Combination of introductory business philosophies, economics, and natural resource management into a framework for future reference and course work.	3 Credits
	PTRM 217S - Wildland Recreation Management Offered autumn and spring. The management of land as an environment for outdoor recreation. Understanding the relationship between the visitor, resource base and management policies. Recreation planning on multiple use forest lands, parks, wilderness areas and private lands.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Outside Major Required Courses

Rule: Must take all courses

Note: Can take SOCI 202 Social Statistics OR FORS 201 Biometrics in place of STATS 216; Can take THTR 120A Intro to Acting in place of COMX 111A

	Course	**Credits**
	ACTG 201 - Principles of Fin Acct Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.	3 Credits
	ACTG 202 - Principles of Mang Acct Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits

	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		29 Total Credits Required

Major Required Courses

Rule: Must take all courses

Note: null

Note: Can take WILD 410 Wildlife Policy & Biopolitics in place of NRSM 422; Can take NRSM 462 Range Ecology in place of FORS 330; Can take PTRM 451 Tourism & Sustainability in place of PTRM 482
In addition to the above requirements, students are also required to take at least 3 credits of skills classes. Students can choose from: ECP 120/121 Emergency Care Provider and lab (3)cr., NRSM 379 Collaboration (3)cr., BKMT 325, Principles of Marketing (3)cr., or FORS 250 Introduction to GIS. Alternatively, students can take two semesters of a foreign language.

	Course	Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	PTRM 310 - Nat Res Interp and Comm Offered autumn. Prereq., COMX 111A or THTR 120A, junior or senior standing in PTRM or RECM. Principles, concepts, techniques essential to providing high quality interpretive programs in natural or cultural history.	3 Credits
	PTRM 380 - Rec Admin & Leadership Offered spring. The theories, principles and practices that shape the administration of recreation opportunities offered through public, nonprofit and private agencies and organizations. Course content includes leadership roles of recreation managers, organizational structure, management, legality, risk management, staffing, communication and public relations.	3 Credits
	PTRM 482 - Wilderness & Protctd Area Mgt Offered spring. Prereq., PTRM 217S, or consent of instructor. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management.	3 Credits
	PTRM 484 - PTRM Field Measurement Tech Offered autumn. Co-req. with either PTRM 485 or PTRM 451. Field measurement and management techniques critical in park, tourism & recreation management. Includes measurement of impacts on biophysical and social attributes of park, tourism & recreation settings.	3 Credits
	PTRM 485 - Recreation Planning Offered spring. Prereq., PTRM 217S and PTRM 300. Offered autumn. Needs of recreation opportunities and response to those needs through planning, demand assessment and resource analysis.	3 Credits

	PTRM 495 - Practicum in PTRM (R-15) Offered every term. Prereq., PTRM 380, PTRM 450, senior standing, and consent of instr. Supervised pre-professional practice in approved parks, tourism & recreation management agencies.	1 To 6 Credits
Minimum Required Grade: C-		28 Total Credits Required

Nature Based Tourism Recommended Electives

Rule: Can take these track courses

Note: Courses are not required in this track - please talk to a faculty advisor on what classes will be best for your area of interest.

	Course	Credits
	ANTY 101H - Anthro & the Human Experience Offered autumn and spring. Offered intermittently in summer. A survey of anthropology which introduces the fundamental concepts, methods and perspectives of the field. The description and analysis of human culture, its growth and change. The nature and functions of social institutions.	3 Credits
	BMKT 325 - Principles of Marketing Offered autumn and spring. Prereq., junior standing in Business. The marketing environment, product, price, distribution, and promotion strategies including government regulation and marketing ethics.	3 Credits
	BMKT 337 - Consumer Behavior Offered autumn and spring. Prereq., junior standing in Business and BMKT 325; PSYX 100S and 230S recommended. A behavioral analysis of consumer decision making and of the factors influencing consumer decisions, i.e., those decisions directly involved with the obtaining of economic goods and services.	3 Credits
	COMX 220S - Intro to Organizational Comm Offered yearly. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.	3 Credits
	COMX 351 - Principles of Public Relations Offered yearly. The many uses of communication in the endeavor of public relations. Communication theories and models including interpersonal communication, organizational communication, and mass communication are applied to explore the internal and external communication behavior associated with public relations.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits

	FORS 202 - Forest Mensuration Offered spring. Prereq., FORS 201 or STAT 216 or SOCI 202 or WILD 240; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. The theory and practice of timber inventory and growth projection, including field measurements, sampling procedures, statistical methods, inventory compilation, and stand growth simulation under specified management prescriptions. Stand growth under specified management prescriptions.	3 Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits
	FORS 351 - Env Remote Sensing Offered spring. The theory and application of photo- and electro-optical remote sensing for mapping resources and developing information systems.	3 Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits
	GPHY 111N - Intro to Physical Geography Offered autumn and spring. Introduction to the earth's major natural environmental systems, their spatial distribution and interrelationships, including weather and climate, vegetation and ecosystems, soils, landforms, and earth-surface processes.	3 Credits
	GPHY 311N - Biogeography Offered intermittently. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, especially climatic change and human impacts.	3 Credits
	GPHY 433 - Cultural Ecology Offered most springs. Prereq., WRIT 101 or WRIT 201 and one Intermediate Writing Course or Consent of Instructor. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.	3 Credits
	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits

	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	PHL 112E - Intro Ethics and Environment Offered intermittently. An introductory-level ethics course with a special interest in the natural environment. The course will (a) introduce students to the three classical traditions in ethics - virtue, Kantianism, and utilitarianism, (b) ground these theories in questions about the moral status of non-humans and our moral duties to non-humans, (c) include an applied section that covers animal welfare, biotechnology, and other current topics.	3 Credits
	PTRM 150 - Current Issues in PTRM Offered autumn. This course will explore issues related to recreation and tourism in western Montana. This is a field based course designed to get students outside the classroom. Students will have a chance to visit outdoor recreation areas and meet recreation and tourism managers.	1 Credits
Minimum Required Grade: C-		

Writing Within Major

Rule: Must complete the following subcategories

9 Total Credits Required

Lower Division Writing

Rule: Must take all courses

	Course	Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Writing

Rule: Must take one of the following courses

	Course	Credits
	PTRM 451 - Tourism & Sustainability Offered spring. Prereq., PTRM 210, or consent of instructor. Theories and conceptual models are applied to analyzing relationships between the integration of planning theories to sustainability concepts.	3 Credits
	PTRM 482 - Wilderness & Protctd Area Mgt Offered spring. Prereq., PTRM 217S, or consent of instructor. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Math within Major

Rule: Must take all courses

	Course	Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits

Minimum Required Grade: C	3 Total Credits Required

Symbolic Systems

Rule: Must take at least one of the following courses

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts Requirement

Rule: must take one of the following courses

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science within Major

Rule: must take the following course

	Course	Credits

	PTRM 217S - Wildland Recreation Management Offered autumn and spring. The management of land as an environment for outdoor recreation. Understanding the relationship between the visitor, resource base and management policies. Recreation planning on multiple use forest lands, parks, wilderness areas and private lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values Elective within Major

Rule: CAN take the elective course

	Course	Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences within Major

Rule: Must take NRSM 210 and one of the biology courses

	Course	Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Outdoor Recreation Services

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Science - Parks, Tourism &Rec Management; Track: Outdoor Recreation Services

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 75

Required Cumulative GPA: 2.0

Note: There are no longer "degree options". Students can design their own elective choices with an advisor.

Major Required Courses

Rule: Must take all courses

	Course	**Credits**
	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits

	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
	PTRM 210S - Nature Tourism & Comm Rec Offered autumn. Introduction to the tourism and commercial recreation industries. Provides initial link between the natural environment and business operations. Combination of introductory business philosophies, economics, and natural resource management into a framework for future reference and course work.	3 Credits
	PTRM 217S - Wildland Recreation Management Offered autumn and spring. The management of land as an environment for outdoor recreation. Understanding the relationship between the visitor, resource base and management policies. Recreation planning on multiple use forest lands, parks, wilderness areas and private lands.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Outside Major Required Courses

Rule: Must take all courses

Note: Can take SOCI 202 Social Statistics OR FORS 201 Biometrics in place of STATS 216; Can take THTR 120A Intro to Acting in place of COMX 111A; can take BIOE 172 Into to Ecology OR BIOO 105 Botany in place of BIOB 170

	Course	**Credits**
	ACTG 201 - Principles of Fin Acct Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.	3 Credits
	ACTG 202 - Principles of Mang Acct Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.	3 Credits

	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		29 Total Credits Required

Major Required Courses

Rule: Must take all courses

Note: Can take WILD 410 Wildlife Policy & Biopolitics in place of NRSM 422; Can take NRSM 462 Range Ecology in place of FORS 330; Can take PTRM 451 Tourism & Sustainability in place of PTRM 482
In addition to the above requirements, students are also required to take at least 3 credits of skills classes. Students can choose from: ECP 120/121 Emergency Care Provider and lab (3)cr., NRSM 379 Collaboration (3)cr., BKMT 325, Principles of Marketing (3)cr., or FORS 250 Introduction to GIS. Alternatively, students can take two semesters of a foreign language.

	Course	Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	PTRM 310 - Nat Res Interp and Comm Offered autumn. Prereq., COMX 111A or THTR 120A, junior or senior standing in PTRM or RECM. Principles, concepts, techniques essential to providing high quality interpretive programs in natural or cultural history.	3 Credits
	PTRM 380 - Rec Admin & Leadership Offered spring. The theories, principles and practices that shape the administration of recreation opportunities offered through public, nonprofit and private agencies and organizations. Course content includes leadership roles of recreation managers, organizational structure, management, legality, risk management, staffing, communication and public relations.	3 Credits
	PTRM 482 - Wilderness & Protctd Area Mgt Offered spring. Prereq., PTRM 217S, or consent of instructor. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management.	3 Credits
	PTRM 484 - PTRM Field Measurement Tech Offered autumn. Co-req. with either PTRM 485 or PTRM 451. Field measurement and management techniques critical in park, tourism & recreation management. Includes measurement of impacts on biophysical and social attributes of park, tourism & recreation settings.	3 Credits
	PTRM 485 - Recreation Planning Offered spring. Prereq., PTRM 217S and PTRM 300. Offered autumn. Needs of recreation opportunities and response to those needs through planning, demand assessment and resource analysis.	4 Credits

	PTRM 495 - Practicum in PTRM (R-15) Offered every term. Prereq., PTRM 380, PTRM 450, senior standing, and consent of instr. Supervised pre-professional practice in approved parks, tourism & recreation management agencies.	1 To 6 Credits
Minimum Required Grade: C-		28 Total Credits Required

Outdoor Recreation Services

Rule: Can take these track courses

Note: Courses are not required in this track - please talk to a faculty advisor on what classes will be best for your area of interest.

	Course	Credits
	BMGT 401 - Event Management Offered autumn. Prereq., junior standing; open to non-business majors. Students are introduced to skills that are necessary for managing entertainment events. Topics include: market research; artist research; negotiating events; producing live events; and working with community and non-profit organizations. Students will develop and participate in several live events throughout the semester.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	COMX 220S - Intro to Organizational Comm Offered yearly. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.	3 Credits
	COMX 421 - Comm in Non-Profit Organizatns Offered yearly. Focuses on issues in nonprofit organizational communication at macro and micro levels. Topics include: organizational identity, change processes, public relations, fund-raising, advocacy, socialization, stress and burnout, board management and professionalization.	3 Credits
	ENST 225 - Community & Enviornment Offered autumn. Same as SOCI 225. Exploration of the ways that communities address their environmental concerns. Introduction of relevant social science concepts.	3 Credits
	ENST 230H - Nature and Society UM campus course offered spring. Explores the relationship between ideas about nature and the development of political and social ideas, institutions, and practices, primarily in western (Euro-American) society. Complements ethics offerings in philosophy aimed at environmental studies majors.	3 Credits

	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
	HEE 233 - Health Issues Child/Adol Offered every term. Overview of current health issues affecting children and adolescents. Focus is on educational and preventive measures that can be implemented by teachers and schools through comprehensive school health education programs.	3 Credits
	NASX 180 - Event Planning Offered spring semester. This course is intended for students to learn the skills necessary to put on a large event. The course is intended as a hands-on experiential learning course. The culmination of the course will be putting on the annual Kyi-Yo contest pow-wow, the first large regional pow-wow of the year on the circuit.	3 Credits
	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	PSCI 460 - Exp Offering: Public Admin (R-9) Offered intermittently. Prereq., junior standing. Experimental or onetime offerings in the subfield of public administration or policy.	1 To 9 Credits
	PSCI 467 - Adv Nonprofit Adm Offered spring. Prereq., PSCI 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.	3 Credits
	PTRM 150 - Current Issues in PTRM Offered autumn. This course will explore issues related to recreation and tourism in western Montana. This is a field based course designed to get students outside the classroom. Students will have a chance to visit outdoor recreation areas and meet recreation and tourism managers.	1 Credits
	S W 300 - Hum Behav & Soc Environ Offered autumn and spring. Prereq., SW 100 and 200, and junior standing in Social Work. Using the ecological-social systems framework, the integration of knowledge and concepts from the social and behavioral sciences for analysis and assessment of problems and issues relevant to professional social work practice.	3 Credits

	SOCI 308 - Soc of Education Offered intermittently. Prereq., SOCI 101S. The structure and operation of the educational system in the United States, with special attention to the organization and effectiveness of schools.	3 Credits
	SOCI 342 - Urban/Metropolital Soc Offered intermittently. Prereq., SOCI 101S. Classical social theories of urban growth. Contemporary urbanization in local, regional, national and global contexts. Internal urban/metropolitan social organization in terms of race, ethnicity, social class and gender.	3 Credits
	SOCI 346 - Rural Sociology Offered intermittently. Prereq., SOCI 101S recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.	3 Credits
	SOCI 350 - The Community Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.	3 Credits
Minimum Required Grade: C-		

Writing Within Major

Rule: Must complete the following subcategories

9 Total Credits Required

Lower Division Writing

Rule: Must take all courses

	Course	Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Writing

Rule: Must take one of the following courses

	Course	Credits
	PTRM 451 - Tourism & Sustainability Offered spring. Prereq., PTRM 210, or consent of instructor. Theories and conceptual models are applied to analyzing relationships between the integration of planning theories to sustainability concepts.	3 Credits
	PTRM 482 - Wilderness & Protctd Area Mgt Offered spring. Prereq., PTRM 217S, or consent of instructor. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Math within Major

Rule: Must take all courses

	Course	Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits

Minimum Required Grade: C	3 Total Credits Required

Symbolic Systems

Rule: Must take at least one of the following courses

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts Requirement

Rule: must take one of the following courses

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science within Major

Rule: must take the following course

	Course	Credits

	PTRM 217S - Wildland Recreation Management Offered autumn and spring. The management of land as an environment for outdoor recreation. Understanding the relationship between the visitor, resource base and management policies. Recreation planning on multiple use forest lands, parks, wilderness areas and private lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values Elective within Major

Rule: CAN take the elective course

	Course	Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences within Major

Rule: Must take NRSM 210 and one of the biology courses

	Course	Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Resource Conservation

Laurie Yung, Associate Professor, Resource Conservation Program Director

The challenging and rapidly evolving field of environmental conservation requires broad training and the ability to integrate and communicate across disciplines. Resource Conservation is an interdepartmental undergraduate major that prepares students for the diverse opportunities that now exist in environmental conservation, natural resource management, and sustainable livelihoods and communities. Students can choose a more structured area of study in the natural sciences, such as ecology or hydrology, or emphasize emerging sub-disciplines such as wildland fire management, natural resource economics, or climate and environmental change. Students can also integrate across disciplines and focus on environmental policy and natural resources planning, wilderness studies, sustainable livelihoods and community conservation, or international conservation. For more information on different curricular tracks within the Resource Conservation major, please see: www.cfc.umt.edu/rc. In addition to degree requirements listed below, students selecting the Bachelor of Science in Resource Conservation should contact their faculty advisor to approve their curriculum.

Department Faculty

Professor

Jill M. Belsky, Professor of Rural & Environmental Sociology; Chair, Department of Society & Conservation
Martin Nie, Professor, Natural Resource Policy; Director, Bolle Center for People & Forests
Stephen F. Siebert, Professor of Tropical Forest Conservation & Management

Associate Professor

Keith Bosak, Associate Professor of Nature Based Tourism and Recreation
Dane Scott, Associate Professor of Ethics; Director of the Center for Ethics
Carl Seielstad, Associate Research Professor; Fire/Fuels Program Manager, National Center for Landscape Fire Analysis
Laurie Yung, Associate Professor of Natural Resource Social Science; Undergraduate Program Director, Resource Conservation

Assistant Professor

Brady Allred, Assistant Professor of Rangeland Ecology
Brian Chaffin, Assistant Professor of Water Policy
Andrew Larson, Associate Professor of Forest Ecology
Alexander L. Metcalf, Research Assistant Professor

Emeritus

Paul Alaback, Professor Emeritus of Forest Ecology

Resource Conservation B.S.

Laurie Yung, Associate Professor, Resource Conservation Program Director

The challenging and rapidly evolving field of environmental conservation requires broad training and the ability to integrate and communicate across disciplines. Resource Conservation is an interdepartmental undergraduate major that prepares students for the diverse opportunities that now exist in environmental conservation, natural resource management, and sustainable livelihoods and communities. Students can choose a more structured area of study in the natural sciences, such as ecology or hydrology, or emphasize emerging sub-disciplines such as wildland fire management, natural resource economics, or climate and environmental change. Students can also integrate across disciplines and focus on environmental policy and natural resources planning, wilderness studies, sustainable livelihoods and community conservation, or international conservation. For more information on different curricular tracks within the Resource Conservation major, please see: www.cfc.umt.edu/rc. In addition to degree requirements listed below, students selecting the Bachelor of Science in Resource Conservation should contact their faculty advisor to approve their curriculum.

Bachelor of Science - Resource Conservation

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Professional Writing

Rule: Must take the following course

	Course	Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Chemistry

Rule: Must take the following course

Note: null

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Quantitative and Spatial Analysis

Rule: Must take three of the following courses and one must be a statistics course (FORS 201, STAT 216 or SOCI 202)

Note: FORS 250 is highly recommended
Can take STAT 216 Statistics or SOCI 202 Social Statistics in place of FORS 201

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		9 Total Credits Required

Biology

Rule: Must take one couse from below

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Communication

Rule: Must take one course from below

	Course	Credits

	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Science

Rule: Must take the following course

	Course	Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ecology

Rule: Must take one course from below

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits

	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Policy

Rule: Must take one course from below

	Course	**Credits**
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: Must take one course from below

	Course	**Credits**

	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Must take one course from below

	Course	**Credits**
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Additional Required Courses

Rule: Must take at least 36 traditional letter-graded credits from the College of Forestry and Conservation (NRSM, WILD, FORS, PTRM, CCS 103, CCS 352, CCS 391)

Note: In addition to the above requirements, Resource Conservation students are also required to take at least 10 additional credits in their area of emphasis. Students can choose courses from the following prefixes: BIOO, BIOE, CHMY, ENSC, FORS, GEOS, M, NRSM, PHSX, and WILD. Alternatively, students can take two semesters of a foreign language (or otherwise demonstrate foreign language proficiency).
All students must take at least 49 approved credits in the major.
Students double majoring with Resource Conservation and Ecological Restoration, Forestry, Wildlife Biology, and Parks, Tourism and Recreation Management must take an additional 9.0 credits in FORS, NRSM, PTRM, and WILD in addition to courses required by either of their majors. These additional 9.0 credits will be relevant to the student's track/emphasis with the major.

Minimum Required Grade: C-

Writing

Rule: Must take both lower-division courses (WRIT 101 and NRSM 200) and at least 3 courses at the upper-division level listed below

Note: The following courses count for the entire upper-division writing requirement (only one course is required): PTRM 451W Tourism and Sustainability, PTRM 482W Wilderness and Protected Area Mgmt.

	Course	Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits

	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits
	FORS 499 - Senior Thesis Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 444 - Ecological RestorationCapstone Offered spring. Prereq., junior or senior standing in Wildland Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; and completion or concurrent enrollment in NRSM 365. This service-learning course teaches students about designing and implementing restoration and monitoring projects. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits

	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits
	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits

	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Math

Rule: Must take one course from below

	Course	Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits

	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Symbolic System

Rule: Must take one course from below

	Course	**Credits**
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts

Rule: Must take the one course from below

Note: null

	Course	**Credits**

	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences in Major

Rule: Must take all courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Climate & Environment

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Science - Resource Conservation; Track: Climate & Environmental Change

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Note: More detailed information about the Climate & Environmental Change track can be found on our website: www.cfc.umt.edu/rc. Students in this track typically complete the Climate Change Minor (www.cfc.umt.edu/ccs). Please talk with your faculty advisor about which courses to take in this track.

Professional Writing

Rule: Must take the following course

	Course	**Credits**
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Chemistry

Rule: Must take the following course

Note: null

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Quantitative and Spatial Analysis

Rule: Must take three of the following courses and one must be a statistics course (FORS 201, STAT 216 or SOCI 202)

Note: FORS 250 is highly recommended
Can take STAT 216 Statistics or SOCI 202 Social Statistics in place of FORS 201

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits

	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		9 Total Credits Required

Biology

Rule: Must take one course from below

	Course	**Credits**
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Communications

Rule: Must take one course from below

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Science

Rule: Must take the following course

	Course	Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ecology

Rule: Must take one course from below

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits

	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Policy

Rule: Must take one course from below

	Course	**Credits**
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: Must take one course from below

	Course	**Credits**

	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Additional Coursework

Rule: Must take at least 36 traditional letter-graded credits from the College of Forestry and Conservation (NRSM, WILD, FORS, PTRM, CCS 103, CCS 352, CCS 391)

Note: Must take 10 credits of foreign language, unless a student tests out of one or more semester, OR 9.0 credits additional coursework in natural resource management, environmental science, or conservation relevant to the student's track/emphasis within the major (these 9.0 credits are in addition to the 36 traditional letter-graded College of Forestry and Conservation credits described just above.
Students double majoring with Resource Conservation and Ecological Restoration, Forestry, Wildlife Biology, and Parks, Tourism and Recreation Management must take an additional 9.0 credits in FORS, NRSM, PTRM, and WILD in addition to courses required by either of their majors. These additional 9.0 credits will be relevant to the student's track/emphasis with the major.

Minimum Required Grade: C-

Climate & Environmental Change

Rule: Can take these track courses

Note: More detailed information about the Climate & Environmental Change track can be found on our website: www.cfc.umt.edu/rc. Students in this track typically complete the Climate Change Minor (www.cfc.umt.edu/ccs). Please talk with your faculty advisor about which courses to take in this track.

	Course	Credits
	CCS 103X - Intro Climate Change:Sci & Soc Offered autumn. This is an introductory and foundational course on the scientific and social dimensions of global climate change. The goal of this course is to provide students with a basic understanding of the fundamental scientific, social, political and technological issues arising from rapid climatic change. As a result, it provides students with a breadth of knowledge and builds connectedness across these varied dimensions of the complex global issue.	3 Credits
	CCS 352 - Climate Field Studies Offered summer. This is an interdisciplinary field course focused on climate change impacts and adaptation. Through site visits and meetings with key decision-makers, students gain knowledge of projected impacts due to climate change (water availability, wildfire, beetle kill, biodiversity), the impacts to various sectors of human society (land management, food and water security, economic stability, and livelihoods), and different mitigation and adaptation responses.	3 Credits
	CCS 398 - Clmt Change Internship/SERV (R-6) Offered autumn and spring. This course gives students an opportunity to gain hands-on, "real world" experience working with a local, regional, national or international group to address climate change. Students gain supervised, practical work experience with specific projects and organizations; create a network of professional contacts; and have opportunity to apply ideas and approaches studied in the Climate Change Studies minor.	2 To 4 Credits

	COMX 349 - Comm Consump & Climate Offered every other year. Same as CCS 349. Analyzes consumption as a communication practice, investigates discourses that promote consumption, and illuminates environmental impacts on consumption.	3 Credits
	ECNS 445 - Int Env Econ & Clim Change Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.	3 Credits
	FORS 232 - Forest Insects & Diseases Offered spring. Identification, significance of and remedies for insect infestations and infectious and non-infectious diseases of forests and forest products.	2 Credits
	FORS 333 - Basic&Applied Fire Ecology Offered spring. Prereq., FORS 230. A detailed, analysis of fire ecology in terrestrial ecosystems with a focus on the Rocky Mountains, including fire history, fire effects, landscape pattern, land use legacies, and management implications.	3 Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	NRSM 408 - Global Cycles and Climate Offered spring even-numbered years. Same as CCS 408. An analysis of the earths major global biogeochemical cycles with a focus on the ways and extent to which each of them influences and interacts with the global climate system.	3 Credits
	NRSM 415 - Environmental Soil Science Offered spring odd-numbered years Prereq., ENSC 245N or NRSM 210N or consent of instr. A detailed analysis of the physical, chemical and biological properties of soils and how they function, with a focus on soil processes and how they affect, and are affected by human activities. Specific topics include element cycling, water quality, the effects of environmental change soil biogeochemistry, plant-soil interactions, and the consequences of large-scale disturbances on soil processes.	3 Credits

	NRSM 418 - Ecosystem Climatology Interactions between the biosphere and atmosphere to advanced undergraduate students and graduate students. This course will explore the interactions between Earth's biosphere and atmosphere and how they affect climate over a range of scales. We will focus on the exchange of energy, mass, and important elements between the biosphere and atmosphere and how this exchange can lead to fascinating feedbacks in Earth's climate system. Basic physics and math is not required but it is recommended.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits
Minimum Required Grade: C-		49 Total Credits Required

Writing

Rule: Must take both lower-division courses (WRIT 101 and NRSM 200) and at least 3 courses at the upper-division level listed below

Note: The following courses count for the entire upper-division writing requirement (only one course is required): PTRM 451W Tourism and Sustainability, PTRM 482W Wilderness and Protected Area Mgmt.

	Course	**Credits**
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits

	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 342 - Wood Anatomy, Properties, & ID Offered spring. Prereq., BIOO 105N or FORS 240 or FORS 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits
	FORS 499 - Senior Thesis Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits

	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 444 - Ecological RestorationCapstone Offered spring. Prereq., junior or senior standing in Wildland Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; and completion or concurrent enrollment in NRSM 365. This service-learning course teaches students about designing and implementing restoration and monitoring projects. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits

	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Math

Rule: Must take one course from below

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits

	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Symbolic System

Rule: Must take one course from below

	Course	**Credits**
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts

Rule: Must take one course from below

Note: null

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences in Major

Rule: Must take all courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Ecology of Terrestrial Ecosystems

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Science - Resource Conservation; Track: Ecology of Terrestrial Ecosystems

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Note: More detailed information about Ecology of Terrestrial Ecosystems track can be found on our website: www.cfc.umt.edu/rc. Please talk with your faculty advisor about which courses to take in this track.

Professionla Writing

Rule: Must take the following course

	Course	**Credits**
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Chemistry

Rule: Must take the following course

Note: null

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Quantitative and Spatial Analysis

Rule: Must take three of the following courses and one must be a statistics course (FORS 201, STAT 216 or SOCI 202)

Note: Can take STAT 216 Statistics or SOCI 202 Social Statistics in place of FORS 201.

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits

	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		9 Total Credits Required

Biology

Rule: Must take one course from below

	Course	**Credits**
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Communications

Rule: Must take one course from below

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Science

Rule: Must take the following course

	Course	Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ecology

Rule: Must take one course from below

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits

	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Policy

Rule: Must take one course from below

	Course	Credits
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: Must take one course from below

	Course	Credits

	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Must take one course from below

	Course	**Credits**
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Additional Coursework

Rule: Must take at least 36 traditional letter-graded credits from the College of Forestry and Conservation (NRSM, WILD, FORS, PTRM, CCS 103, CCS 352, CCS 391)

Note: Must take 10 credits of foreign language, unless a student tests out of one or more semester, OR 9.0 credits additional coursework in natural resource management, environmental science, or conservation relevant to the student's track/emphasis within the major (these 9.0 credits are in addition to the 36 traditional letter-graded College of Forestry and Conservation credits described just above.
Students double majoring with Resource Conservation and Ecological Restoration, Forestry, Wildlife Biology, and Parks, Tourism and Recreation Management must take an additional 9.0 credits in FORS, NRSM, PTRM, and WILD in addition to courses required by either of their majors. These additional 9.0 credits will be relevant to the student's track/emphasis with the major.

Minimum Required Grade: C-

Ecology of Terrestrial Ecosystems

Rule: Can take these track courses

Note: Suggested courses for Ecology of Terrestrial Ecosystems. Please see more detailed description of this track online and talk with your faculty advisor about which courses to take in this track.

	Course	Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
	BIOB 480 - Conservation Genetics Offered intermittently. Prereq., BIOB 272. Genetic basis for solving biological problems in conservation including the genetics of small populations, the application of molecular genetic techniques to conservation biology and case studies of the application of genetics to conservation problems.	3 Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOE 449 - Plant Biogeography Offered intermittently. Prereq., consent of instr. Description of the distribution of plants and animals at global, continental and regional scales. Analysis of ecological and historical factors influencing distribution and association.	3 Credits

	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
	BIOO 433 - Plant Physiology Offered spring. Prereq., BIOB 260 or consent of the instructor. The molecular, biochemical and biophysical basis of plant function, from the subcellular to the whole organism level.	3 Credits
	CHMY 123 - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or CHMY 141N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	FORS 240 - Tree Biology Offered autumn and spring. Suggested coreq., FORS 241N. The physical and biological requirements for the growth and development of trees. Discussions of: identification, classification, range, and economic importance of the major tree species of North America.	2 Credits
	FORS 241N - Dendrology Offered autumn and spring. Suggested coreq., FORS 240. Methods and techniques for identifying the major families of North American trees, based on gross morphological and anatomical features. Building and use of identification keys.	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	NRSM 265 - Elements of Ecological Restora Offered autumn. Prereq., one course in the ecological or biological sciences: BIOO 105N, BIOB 160N, BIOB 170N, BIOB 172, BIOE 370, BIOE 428, BIOE 447 or BIOE 448; or FORS 330; or NRSM 271N or NRSM 462 or consent of instructor. Overview of the natural and social science elements of ecological restoration, including the ecological foundations of restoration, practices used to restore terrestrial and aquatic habitats, philosophical and ethical challenges involved, and current initiatives in Montana and the United States. Includes Saturday field trips.	3 Credits
	NRSM 335 - Environmental Entomology Offered autumn odd years. An introduction to the importance of insects in ecosystem function and process, and their use in ecological monitoring as indicators of ecological change, degradation, and the efficacy of ecological restoration efforts. This course also covers the effects of climate change and biological invasions in the context of both pest and beneficial insect species.	3 Credits
	NRSM 365 - Foundations of Restoration Ec Offered spring. Prereq., junior or senior standing and NRSM 265 and one 300-400 level ecology courses: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462. This course covers the primary ecological theories that inform the practice of ecological restoration. Topics include the dynamic nature of ecological systems,community assembly, biodiversity and ecosystem functioning food web dynamics, ecological engineering, macroecology, and statistical issues and study design.	3 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	NRSM 408 - Global Cycles and Climate Offered spring even-numbered years. Same as CCS 408. An analysis of the earths major global biogeochemical cycles with a focus on the ways and extent to which each of them influences and interacts with the global climate system.	3 Credits
	NRSM 415 - Environmental Soil Science Offered spring odd-numbered years Prereq., ENSC 245N or NRSM 210N or consent of instr. A detailed analysis of the physical, chemical and biological properties of soils and how they function, with a focus on soil processes and how they affect, and are affected by human activities. Specific topics include element cycling, water quality, the effects of environmental change soil biogeochemistry, plant-soil interactions, and the consequences of large-scale disturbances on soil processes.	3 Credits

	NRSM 418 - Ecosystem Climatology Interactions between the biosphere and atmosphere to advanced undergraduate students and graduate students. This course will explore the interactions between Earth's biosphere and atmosphere and how they affect climate over a range of scales. We will focus on the exchange of energy, mass, and important elements between the biosphere and atmosphere and how this exchange can lead to fascinating feedbacks in Earth's climate system. Basic physics and math is not required but it is recommended.	3 Credits
	NRSM 455 - Riparian Ecology & Management Offered intermittently. Prereqs., successful completion or concurrent enrollment in NRSM 385 and completion of one of the following introductory ecology courses: BIOE 172, BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462. Importance of riparian/wetland areas and the complexities associated with their management for short and long term benefits.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WILD 275 - Wildlife Conservation Offered spring. Prereq., sophomore standing or consent of instr. Principles of animal ecology and framework of wildlife administration as a basis for the conservation of wild birds and animals, and biodiversity. Intended for non-wildlife biology majors.	2 Credits
Minimum Required Grade: C-		94 Total Credits Required

Writing

Rule: Must take both lower-division courses (WRIT 101 and NRSM 200) and at least 3 courses at the upper-division level listed below

Note: The following courses count for the entire upper-division writing requirement (only one course is required): PTRM 451W Tourism and Sustainability, PTRM 482W Wilderness and Protected Area Mgmt.

	Course	Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 342 - Wood Anatomy, Properties, & ID Offered spring. Prereq., BIOO 105N or FORS 240 or FORS 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits

	FORS 499 - Senior Thesis Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 444 - Ecological RestorationCapstone Offered spring. Prereq., junior or senior standing in Wildland Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; and completion or concurrent enrollment in NRSM 365. This service-learning course teaches students about designing and implementing restoration and monitoring projects. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits

	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits
	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Math

Rule: Must take one course from below

	Course	**Credits**

	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Symbolic System

Rule: Must take one course from below

	Course	**Credits**
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits

	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts

Rule: Must tkae one course from below

Note: null

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values

Rule: Must take one coure from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences in Major

Rule: Must take all courses

	Course	Credits

	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Environmental Policy & Resources Planning

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Science - Resource Conservation; Track: Environmental Policy & Resources Planning

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Note: More detailed information about the Environmental Policy & Resource Planning track can be found on our website: www.cfc.umt.edu/rc. Please talk with your faculty advisor about which courses to take in this track.

Professional Writing

Rule: Must take the following course

	Course	**Credits**
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Chemistry

Rule: Must take the following course

Note: null

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Quantitative and Spatial Analysis

Rule: Must take three of the following courses and one must be a statistics course (FORS 201, STAT 216, SOCI 202)

Note: FORS 250 is highly recommended
Can take STAT 216 Statistics or SOCI 202 Social Statistics in place of FORS 201.

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits

	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		9 Total Credits Required

Biology

Rule: Must take one cousre from below

	Course	**Credits**
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits

	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Communications

Rule: Must take one course from below

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Scince

Rule: Must take the following course

	Course	Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ecology

Rule: Must take one course from below

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Policy

Rule: Must take one course from below

	Course	Credits
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: Must take one course from below

	Course	Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits

	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Additional Coursework

Rule: Must take at least 36 traditional letter-graded credits from the College of Forestry and Conservation (NRSM, WILD, FORS, PTRM, CCS 103, CCS 352, CCS 391)

Note: Must take 10 credits of foreign language, unless a student tests out of one or more semester, OR 9.0 credits additional coursework in natural resource management, environmental science, or conservation relevant to the student's track/emphasis within the major (these 9.0 credits are in addition to the 36 traditional letter-graded College of Forestry and Conservation credits described just above.
Students double majoring with Resource Conservation and Ecological Restoration, Forestry, Wildlife Biology, and Parks, Tourism and Recreation Management must take an additional 9.0 credits in FORS, NRSM, PTRM, and WILD in addition to courses required by either of their majors. These additional 9.0 credits will be relevant to the student's track/emphasis with the major.

Minimum Required Grade: C-

Environmental Policy & Resources Planning

Rule: Can take these track courses

Note: Suggested courses in Environmental Policy and Resources Planning. Please see more detailed description of this track online and talk with your faculty advisor about which courses to take in this track.

	Course	**Credits**
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits
	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	ENST 367 - Envr Politics & Policies Offered autumn. Foundation in public lands history, bedrock environmental laws, policy processes and institutions. Research and analysis of current environmental and natural resource policy issues. Focus is domestic illustrated by case studies.	3 Credits

	ENST 382 - Environmental Law Offered spring. Introduction to the history, law and theory of environmental regulation in the United States using public and private land regulation mechanisms as case studies. Basic principles of constitutional and administrative law relevant to environmental regulation, substantive public and private land use law and the history of environmental problems and their regulation.	3 Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	GPHY 465 - Planning Princ & Processes Offered autumn even-numbered years. Prereq., upper-division or graduate standing. Surveys planning principles, practices and issues in urban and rural environments. Attention is devoted to Montana, state planning programs in the United States., and federal programs and policies that influence land-use planning. Emphasizes skills and techniques used in plan development and implementation.	3 Credits
	GPHY 466 - Environmental Planning Offered autumn odd-numbered years. Introduction to practice of environmental planning which includes elements of physical planning, planning design at the landscape scale, and conservation planning. Includes field visits and project-based work.	3 Credits
	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits

	NRSM 425 - Nat Res & Envir Economics Offered alternate spring. Prereq., ENSC 201S or FORS 320; and M 115, M 121, M 122, M 151, M 162, M 171, or 172. Introduction to analytical approaches for economic analysis of management of non-renewable resources, fisheries, forests, threatened and endangered species, and the atmosphere.	3 Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
	PSCI 332 - Global Environmental Pol. Offered fall. Prereq. PSCI 230X and junior standing or consent of instructor. This course focuses on the unique set of collective action problems faced by global actors in the governance of the environment and the institutions they use to overcome those problems. Themes include the tragedy of the commons, climate change, and environmental security.	3 Credits
	PSCI 361 - Public Administration Offered autumn. Prereq., PSCI 210S and junior standing. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.	3 Credits
	PSCI 461 - Administrative Law Offered autumn. Prereq., PSCI 210S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.	3 Credits
	WILD 275 - Wildlife Conservation Offered spring. Prereq., sophomore standing or consent of instr. Principles of animal ecology and framework of wildlife administration as a basis for the conservation of wild birds and animals, and biodiversity. Intended for non-wildlife biology majors.	2 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
Minimum Required Grade: C-		64 Total Credits Required

Writing

Rule: Must take both lower-division courses (WRIT 101 and NRSM 200) and at least 3 courses at the upper-division level listed below

Note: The following courses count for the entire upper-division writing requirement (only one course is required): PTRM 451W Tourism and Sustainability, PTRM 482W Wilderness and Protected Area Mgmt.

	Course	Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 342 - Wood Anatomy, Properties, & ID Offered spring. Prereq., BIOO 105N or FORS 240 or FORS 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits

	FORS 499 - Senior Thesis Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 444 - Ecological RestorationCapstone Offered spring. Prereq., junior or senior standing in Wildland Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; and completion or concurrent enrollment in NRSM 365. This service-learning course teaches students about designing and implementing restoration and monitoring projects. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits

	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits
	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Math

Rule: Must take one course from below

	Course	**Credits**

	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Symbolic System

Rule: Must take one course from below

	Course	**Credits**
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits

	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts

Rule: Must take one course from below

Note:

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences in Major

Rule: Must take all courses

	Course	Credits

	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

International Conservation

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Science - Resource Conservation; Track: International Conservation

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Note: Students in this track typically complete the International Development Studies Minor (www.cas.umt.edu/IDS). More detailed information about the International Conservation track can be found on our website: www.cfc.umt.edu/rc. Please talk with your faculty advisor about which courses to take in this track.

Professional Writing

Rule: Must take the following course

	Course	**Credits**
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Chemistry

Rule: Must take the following course

Note: null

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Quantitative and Spatial Analysis

Rule: Must take three of the following courses and one must be a statistics course (FORS 201, STAT 216, SOCI 202)

Note: FORS 250 is highly recommended
Can take STAT 216 Statistics or SOCI 202 Social Statistics in place of FORS 201.

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits

	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		9 Total Credits Required

Biology

Rule: Must take one course from below

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits

	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Communications

Rule: Must take one course from below

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Science

Rule: Must take the following course

	Course	Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ecology

Rule: Must take one course from below

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Policy

Rule: Must take one course from below

	Course	Credits
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: Must take one course from below

	Course	Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits

	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Additional Coursework

Rule: Must take at least 36 traditional letter-graded credits from the College of Forestry and Conservation (NRSM, WILD, FORS, PTRM, CCS 103, CCS 352, CCS 391)

Note: Must take 10 credits of foreign language, unless a student tests out of one or more semester, OR 9.0 credits additional coursework in natural resource management, environmental science, or conservation relevant to the student's track/emphasis within the major (these 9.0 credits are in addition to the 36 traditional letter-graded College of Forestry and Conservation credits described just above.
Students double majoring with Resource Conservation and Ecological Restoration, Forestry, Wildlife Biology, and Parks, Tourism and Recreation Management must take an additional 9.0 credits in FORS, NRSM, PTRM, and WILD in addition to courses required by either of their majors. These additional 9.0 credits will be relevant to the student's track/emphasis with the major.

Minimum Required Grade: C-

International Conservation

Rule: Can take these track courses

Note: Students in this track typically complete the International Development Studies Minor (www.cas.umt.edu/IDS). More detailed information about the International Conservation track can be found on our website: www.cfc.umt.edu/rc. Please talk with your faculty advisor about which courses to take in this track.

	Course	**Credits**
	ENST 225 - Community & Enviornment Offered autumn. Same as SOCI 225. Exploration of the ways that communities address their environmental concerns. Introduction of relevant social science concepts.	3 Credits
	ENST 396 - Supervised Internship (PEAS) (R-10) Offered Fall (2 cr.), Spring (2 cr.); Summer intensive, (6 cr.). Students learn small scale sustainable vegetable farming in a hands-on work environment at the PEAS farm (15 minute bike ride from campus). Lectures, readings and reflection inform the work. Summer students also visit local farms on once-a-week field trips. PEAS is repeatable, as the curriculum changes across the season, and students can attend any semester, though the 6 credit summer intensive course is the heart of the program.	0 To 10 Credits
	ENST 480 - Food, Agriculture, Environment Offered spring. Exploration of the premise that agricultural sustainability requires practices, policies, and social arrangements that balance concerns of environmental soundness, economic viability, and social justice among all sectors of society.	3 Credits

	ENST 487 - Globalization, Justice & Envir Offered autumn. Study of current trends in economic globalization and its effects on efforts to work for social justice and environmental sustainability, particularly in the Global South. Examination of different models and theories of globalization, analysis of ethical issues raised, and assessment of alternatives proposed.	3 Credits
	ENST 493 - Study Abroad: Envir Justice LA Offered intermittently. Two week travel seminar to one or more Latin American countries to examine Latin American perspectives on environmental justice and efforts toward sustainable development within the context of the global economy and U. S. foreign policy. Required one-credit seminar offered spring semester to provide background readings.	3 Credits
	GPHY 432 - Human Role Environ Change Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.	3 Credits
	GPHY 434 - Food and Famine Offered intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.	3 Credits
	NRSM 170 - International Envir. Change Offered spring. An introduction to natural and anthropogenic environmental change from ancient to contemporary times. Exploration of the historical role and importance of ecological disturbance on the development and maintenance of terrestrial ecosystems around the world. Introduction to fields of study available in the College of Forestry and Conservation.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits

	PTRM 345X - Sustaining Human Soc & Nat Env Offered Winter and Summer. These field-based, experiential classes focus on the environmental and conservation concerns, as well as the modern and traditional cultures, of Australia, New Zealand, or Fiji.	3 To 6 Credits
	PTRM 353 - Tourism & Sustnbility Himalaya Offered summer only. Coreq. NRSM 352. In this course we will explore the opportunities and challenges of development with particular reference to nature-based tourism and sustainability in an isolated but rapidly globalizing region of the Himalaya. Students will learn through extensive readings, class discussions, direct field experience (including living in a remote mountain village), meetings with development officials, sustainability activists and stakeholders in the region.	3 Credits
	PTRM 451 - Tourism & Sustainability Offered spring. Prereq., PTRM 210, or consent of instructor. Theories and conceptual models are applied to analyzing relationships between the integration of planning theories to sustainability concepts.	3 Credits
	WILD 460 - Internat Wildlife Cons Issues Offered spring. Prereq., a course in wildlife biology and/or conservation biology. Review of major international wildlife conservation issues with emphasis on the social context of the issues and applied solutions.	2 Credits
Minimum Required Grade: C-		44 Total Credits Required

Writing

Rule: Must take both lower-division courses (WRIT 101 and NRSM 200) and at least 3 courses at the upper-division level listed below

Note: The following courses count for the entire upper-division writing requirement (only one course is required): PTRM 451W Tourism and Sustainability, PTRM 482W Wilderness and Protected Area Mgmt.

	Course	**Credits**
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits

	FORS 342 - Wood Anatomy, Properties, & ID Offered spring. Prereq., BIOO 105N or FORS 240 or FORS 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits
	FORS 499 - Senior Thesis Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits

	NRSM 444 - Ecological RestorationCapstone Offered spring. Prereq., junior or senior standing in Wildland Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; and completion or concurrent enrollment in NRSM 365. This service-learning course teaches students about designing and implementing restoration and monitoring projects. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits
	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits

	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Math

Rule: Must take one course from below

	Course	Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits

	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Symbolic System

Rule: Must take one course from below

	Course	**Credits**
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts

Rule: Must take one course from below

Note: null

	Course	**Credits**

	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences in Major

Rule: Must take all courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Natural Resource Economics

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Science - Resource Conservation; Track: Natural Resource Economics

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Note: More detailed information about the Natural Resource Economics track can be found on our website: www.cfc.umt.edu/rc. Please talk with your faculty advisor about which courses to take in this track.

Professional Writing

Rule: Must take the following course

	Course	**Credits**
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Chemistry

Rule: Must take the following course

Note: null

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Quantitative and Spatial Analysis

Rule: Must take three of the following courses and one must be a statistics course (FORS 201, STAT 216 or SOCI 202)

Note: FORS 250 is highly recommended
Can take STAT 216 Statistics or SOCI 202 Social Statistics in place of FORS 201.

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits

	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		9 Total Credits Required

Biology

Rule: Must take one course from below

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Communications

Rule: Must take one course from below

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Science

Rule: Must take the following course

	Course	Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ecology

Rule: Must take one course from below

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits

	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Policy

Rule: Must take one course from below

	Course	**Credits**
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: Must take one course from below

	Course	**Credits**

	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Must take one course from below

	Course	**Credits**
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Additional Coursework

Rule: Must take at least 36 traditional letter-graded credits from the College of Forestry and Conservation (NRSM, WILD, FORS, PTRM, CCS 103, CCS 352, CCS 391)

Note: Must take 10 credits of foreign language, unless a student tests out of one or more semester, OR 9.0 credits additional coursework in natural resource management, environmental science, or conservation relevant to the student's track/emphasis within the major (these 9.0 credits are in addition to the 36 traditional letter-graded College of Forestry and Conservation credits described just above.
Students double majoring with Resource Conservation and Ecological Restoration, Forestry, Wildlife Biology, and Parks, Tourism and Recreation Management must take an additional 9.0 credits in FORS, NRSM, PTRM, and WILD in addition to courses required by either of their majors. These additional 9.0 credits will be relevant to the student's track/emphasis with the major.

Minimum Required Grade: C-

Natural Resource Economics

Rule: Can take these track courses

Note: Suggested courses in Natural Resource Economics. Please see ore detailed description of this track online and talk with your faculty advisor about which courses to take in this track.

	Course	Credits
	ANTY 326E - Indigenous Peoples & Globl Dev Offered spring odd-numbered years. This class will examine the impact of global development on tribal and Indigenous peoples. Topics will include land issues, health, employment, and cultural change caused by global development and explore how these societies are resisting and adapting to their changing world.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits
	ECNS 217X - Issues in Economic Development Offered intermittently. Prereq., ECNS 201S. Study of the processes of economic growth and development in the less developed world.	3 Credits
	ECNS 301 - Intermediate Micro with Calc Offered spring and autumn. Prereq., ECNS 201S and M 162 or equiv. Analysis of consumer behavior, production, factor pricing, externalities and public goods.	3 Credits
	ECNS 302 - Intermediate Macroeconomics Offered autumn and spring. Prereq., ECNS 202S. Analysis of national income determination, unemployment, and inflation with emphasis on the role of fiscal and monetary policy.	3 Credits
	ECNS 403 - Introduction to Econometrics Offered autumn. Prereq., an introductory statistics course. Quantitative methods in economics with emphasis on regression analysis.	4 Credits

	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	ECNS 445 - Int Env Econ & Clim Change Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.	3 Credits
	ENST 230H - Nature and Society UM campus course offered spring. Explores the relationship between ideas about nature and the development of political and social ideas, institutions, and practices, primarily in western (Euro-American) society. Complements ethics offerings in philosophy aimed at environmental studies majors.	3 Credits
	ENST 480 - Food, Agriculture, Environment Offered spring. Exploration of the premise that agricultural sustainability requires practices, policies, and social arrangements that balance concerns of environmental soundness, economic viability, and social justice among all sectors of society.	3 Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits
	FORS 436 - Project Appraisal Offered autumn. Prereq., FORS 320 or consent of instructor. A suite of techniques, collectively referred to as project appraisal methods, facilitate evaluation of alternative projects. In this applied, computer laboratory-based course, students will become familiar with the use of discounted cash flow analysis and mathematical programing to evaluate proposed courses of action and recommend the economically efficient alternative. Skills will be developed applying these techniques to problems faced by natural resource managers and policy-makers.	3 Credits
	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits

	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 425 - Nat Res & Envir Economics Offered alternate spring. Prereq., ENSC 201S or FORS 320; and M 115, M 121, M 122, M 151, M 162, M 171, or 172. Introduction to analytical approaches for economic analysis of management of non-renewable resources, fisheries, forests, threatened and endangered species, and the atmosphere.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	SOCI 101S - Introduction to Sociology Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.	3 Credits
	SOCI 470 - Environmental Sociology Offered autumn. Introduction to environmental sociology and the social dimensions of environmental change. Case studies of major environmental problems as applications of environmental sociological perspectives.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
	WILD 275 - Wildlife Conservation Offered spring. Prereq., sophomore standing or consent of instr. Principles of animal ecology and framework of wildlife administration as a basis for the conservation of wild birds and animals, and biodiversity. Intended for non-wildlife biology majors.	2 Credits
Minimum Required Grade: C-		64 Total Credits Required

Writing

Rule: Must take both lower-division courses (WRIT 101 and NRSM 200) and at least 3 courses at the upper-division level listed below

Note: The following courses count for the entire upper-division writing requirement (only one course is required): PTRM 451W Tourism and Sustainability, PTRM 482W Wilderness and Protected Area Mgmt.

	Course	Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 342 - Wood Anatomy, Properties, & ID Offered spring. Prereq., BIOO 105N or FORS 240 or FORS 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits

	FORS 499 - Senior Thesis Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 444 - Ecological RestorationCapstone Offered spring. Prereq., junior or senior standing in Wildland Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; and completion or concurrent enrollment in NRSM 365. This service-learning course teaches students about designing and implementing restoration and monitoring projects. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits

	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits
	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Math

Rule: Must take one course from below

	Course	**Credits**

	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Symbolic System

Rule: Must take one course from below

	Course	**Credits**
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits

	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts

Rule: Must take one course from below

Note: null

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences in Major

Rule: Must take all courses

	Course	Credits

	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Sustainable Livelihoods & Community Conservation

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Science - Resource Conservation; Track: Sustainable Livelihoods & Community Conservation

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Note: More detailed information about the Sustainable Livelihoods & Community Conservation track can be found on our website: www.cfc.umt.edu/rc. Please talk with your faculty advisor about which courses to take in this track.

Professional Writing

Rule: Must take the following course

	Course	**Credits**
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Chemistry

Rule: Must take the following couse

Note: null

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Quantitative and Spatial Analysis

Rule: Must take three of the following courses and one must be a statistics course (FORS 201, STAT 216 or SOCI 202)

Note: FORS 250 is highly recommended
Can take STAT 216 Statistics or SOCI 202 Social Statistics in place of FORS 201

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits

	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		9 Total Credits Required

Biology

Rule: Must take one course from below

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits

	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Communications

Rule: Must take one course from below

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Science

Rule: Must take the following course

	Course	Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ecology

Rule: Must take one course from below

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Policy

Rule: Must take one course from below

	Course	Credits
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: Must take one course from below

	Course	Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits

	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Additional Coursework

Rule: Must take at least 36 traditional letter-graded credits from the College of Forestry and Conservation (NRSM, WILD, FORS, PTRM, CCS 103, CCS 352, CCS 391)

Note: Must take 10 credits of foreign language, unless a student tests out of one or more semester, OR 9.0 credits additional coursework in natural resource management, environmental science, or conservation relevant to the student's track/emphasis within the major (these 9.0 credits are in addition to the 36 traditional letter-graded College of Forestry and Conservation credits described just above.
Students double majoring with Resource Conservation and Ecological Restoration, Forestry, Wildlife Biology, and Parks, Tourism and Recreation Management must take an additional 9.0 credits in FORS, NRSM, PTRM, and WILD in addition to courses required by either of their majors. These additional 9.0 credits will be relevant to the student's track/emphasis with the major.

Minimum Required Grade: C-

Sustainable livelihoods and Community Conservation

Rule: Can take these track courses

Note: Suggested courses in Sustainable Livelihoods and Community Conservation. Please see more detailed description of this track online and talk with your faculty advisor about which courses to take in this track.

	Course	**Credits**
	COMX 347 - Rhetoric Nature & Environmtlsm Offered every other year. Same as ENST 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.	3 Credits
	ECNS 433 - Economics of the Environment Offered intermittently. Prereq., ECNS 201S. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species. Formally cross-listed with EVST 440.	3 Credits
	ENST 225 - Community & Enviornment Offered autumn. Same as SOCI 225. Exploration of the ways that communities address their environmental concerns. Introduction of relevant social science concepts.	3 Credits
	ENST 480 - Food, Agriculture, Environment Offered spring. Exploration of the premise that agricultural sustainability requires practices, policies, and social arrangements that balance concerns of environmental soundness, economic viability, and social justice among all sectors of society.	3 Credits

	ENST 489S - Env. Justice Iss & Solut Offered autumn. Examination of evidence, causes and consequences of social inequality in the distribution of environmental risks and in access to natural resources and environmental amenities. Community, government and industry responses and service approaches for addressing environmental inequities.	3 Credits
	GPHY 323S - Econ. Geog. of Rural Areas Offered spring odd-numbered years. Study of the location of economic activities, including agriculture, industry, and services. Focus on the changing nature of rural areas.	3 Credits
	GPHY 432 - Human Role Environ Change Offered intermittently. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.	3 Credits
	GPHY 468 - Community & Regional Analysis Offered autumn. Coreq., GPHY 469. Socio-demographic analysis of communities and regions: population, employment, and spatial interaction. Hands-on course designed for future planners, GIS analysts, and others interested in socio-demographic change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	NRSM 170 - International Envir. Change Offered spring. An introduction to natural and anthropogenic environmental change from ancient to contemporary times. Exploration of the historical role and importance of ecological disturbance on the development and maintenance of terrestrial ecosystems around the world. Introduction to fields of study available in the College of Forestry and Conservation.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	PHL 422 - Environmental Philosophy Offered intermittently. Prereq., upper-division standing and PHL 210E, or consent of instr. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment.	3 Credits

	PTRM 451 - Tourism & Sustainability Offered spring. Prereq., PTRM 210, or consent of instructor. Theories and conceptual models are applied to analyzing relationships between the integration of planning theories to sustainability concepts.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
	SOCI 270 - Intro Development Sociology Offered autumn. Introduction to sociological perspectives on international development, globalization, and sustainability. Rural and environmental issues emphasized.	3 Credits
	SOCI 350 - The Community Offered intermittently. Prereq., SOCI 101S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.	3 Credits
	SOCI 443 - Sociology of Poverty Offered autumn. Prereq. junior or senior standing or consent of instr. An examination of the roots, prevalence, and social characteristics of poverty. Analysis of policies intended to end poverty.	3 Credits
	SOCI 470 - Environmental Sociology Offered autumn. Introduction to environmental sociology and the social dimensions of environmental change. Case studies of major environmental problems as applications of environmental sociological perspectives.	3 Credits
	SOCI 471 - Gender and Global Development Offered every other year. Prereq., SOCI 270 or consent of instructor. Advanced perspectives on the relationships between gender and colonization, international development, and globalization.	3 Credits
Minimum Required Grade: C-		54 Total Credits Required

Writing

Rule: Must take both lower-division courses (WRIT 101 and NRSM 200) and at least 3 courses at the upper-division level listed below

Note: The following courses count for the entire upper-division writing requirement (only one course is required): PTRM 451W Tourism and Sustainability, PTRM 482W Wilderness and Protected Area Mgmt.

	Course	**Credits**
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits

	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 342 - Wood Anatomy, Properties, & ID Offered spring. Prereq., BIOO 105N or FORS 240 or FORS 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits
	FORS 499 - Senior Thesis Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits

	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 444 - Ecological RestorationCapstone Offered spring. Prereq., junior or senior standing in Wildland Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; and completion or concurrent enrollment in NRSM 365. This service-learning course teaches students about designing and implementing restoration and monitoring projects. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits

	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Math

Rule: Must take one course from below

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits

	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Symbolic System

Rule: Must take one course from below

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts

Rule: Must take one course from below

Note: null

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences in Major

Rule: Must take all courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Watershed Hydrology

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Science - Resource Conservation; Track: Watershed Hydrology

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Note: More detailed information about the Watershed Hydrology track can be found on our website: www.cfc.umt.edu/rc. Please talk with your faculty advisor about which courses to take in this track.

Professional Writing

Rule: Must take the following course

	Course	**Credits**
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Chemistry

Rule: Must take the following course

Note: null

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Quantitative and Spatial Analysis

Rule: Must take three of the following courses and one must be a statistics course (FORS 201, STAT 216 or SOCI 202)

Note: FORS 250 is highly recommended
Can take STAT 216 Statistics or SOCI 202 Social Statistics in place of FORS 201

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits

	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		9 Total Credits Required

Biology

Rule: Must take one course from below

	Course	**Credits**
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Communications

Rule: Must take one course from below

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Science

Rule: Must take the following course

	Course	Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ecology

Rule: Must take one course from below

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits

	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Policy

Rule: Must take one course from below

	Course	**Credits**
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: Must take one course from below

	Course	**Credits**

	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Must take one course from below

	Course	**Credits**
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Additional Coursework

Rule: Must take at least 36 traditional letter-graded credits from the College of Forestry and Conservation (NRSM, WILD, FORS, PTRM, CCS 103, CCS 352, CCS 391)

Note: Must take 10 credits of foreign language, unless a student tests out of one or more semester, OR 9.0 credits additional coursework in natural resource management, environmental science, or conservation relevant to the student's track/emphasis within the major (these 9.0 credits are in addition to the 36 traditional letter-graded College of Forestry and Conservation credits described just above.
Students double majoring with Resource Conservation and Ecological Restoration, Forestry, Wildlife Biology, and Parks, Tourism and Recreation Management must take an additional 9.0 credits in FORS, NRSM, PTRM, and WILD in addition to courses required by either of their majors. These additional 9.0 credits will be relevant to the student's track/emphasis with the major.

Minimum Required Grade: C-

Watershed Hydrology

Rule: Can take these track courses

Note: Suggested courses in Watershed Hydrology. Please see more detailed description of this track online and talk with you faculty advisor about which courses to take in this track.

	Course	Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits
	GEO 102N - Intro to Physical Geology Lab Offered autumn and spring. Prereq. or coreq., GEO 101N (preferred) or 105N or 108N. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience primarily with GEO 101N, but can be taken with or following any of the other freshman GEO courses listed above.	1 Credits
	GEO 420 - Hydrogeology Offered spring. Prereq., GEO 101N-102N; PHSX 205N/206N or PHSX 215N/216N ; M 162 or 171 strongly recommended or consent of instr. Occurrence, movement, quality, and methods of quantification of groundwater. Geological framework and physics of groundwater flow. Supply, contamination, and management problems.	4 Credits

	GEO 421 - Hydrology Offered autumn. Prereq. one semester college calculus and physics or consent of instructor. Introduction to the physical mechanisms that drive the water cycle at different scales. The course covers heat, momentum and mass transfer and storage mechanisms in turbulent systems and their role in the global and local climates. At the local scale, the equations that govern surface and subsurface water flows are studied. Along with the overarching goals, students will improve their quantitative skills, will gain experience accessing and reading the professional literature and will improve their capabilities to acquire knowledge independently.	3 Credits
	GEO 460 - Process Geomorphology Offered autumn. Prereq., one semester college calculus and physics. Quantitative examination of landforms, runoff generation, weathering, mechanics of soil erosion by water and wind, mass wasting, glacial and periglacial processes and hillslope evolution.	4 Credits
	GPHY 335 - Water Policy Offered autumn. Prereq., WRIT 101 or WRIT 201, and one Intermedite Writing Course or consent of instructor. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.	3 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	NRSM 415 - Environmental Soil Science Offered spring odd-numbered years Prereq., ENSC 245N or NRSM 210N or consent of instr. A detailed analysis of the physical, chemical and biological properties of soils and how they function, with a focus on soil processes and how they affect, and are affected by human activities. Specific topics include element cycling, water quality, the effects of environmental change soil biogeochemistry, plant-soil interactions, and the consequences of large-scale disturbances on soil processes.	3 Credits

	NRSM 455 - Riparian Ecology & Management Offered intermittently. Prereqs., successful completion or concurrent enrollment in NRSM 385 and completion of one of the following introductory ecology courses: BIOE 172, BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462. Importance of riparian/wetland areas and the complexities associated with their management for short and long term benefits.	3 Credits
	NRSM 485 - Watershed Management Offered intermittently. Prereq., NRSM 385 or consent of instr. Effects of land management practices on water and sediment yields from wildland watersheds. Introduction to statistical methods in hydrology. Introduction to water yield and sediment modeling techniques.	3 Credits
	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
	PHSX 207N - College Physics II Offered autumn and spring. Prereq. PHSX 205N and prereq. or coreq., PHSX 208N. Electricity, magnetism, light, and modern physics. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 208N - College Physics II Laboratory Offered autumn and spring. Prereq., PHSX 206N, prereq, or coreq., PHSX 207N. Electricity, magnetism, light and modern physics. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		53 Total Credits Required

Writing

Rule: Must take both lower-division courses (WRIT 101 and NRSM 200) and at least 3 courses at the upper-division level listed below

Note: The following courses count for the entire upper-division writing requirement (only one course is required): PTRM 451W Tourism and Sustainability, PTRM 482W Wilderness and Protected Area Mgmt.

	Course	**Credits**
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits

	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 342 - Wood Anatomy, Properties, & ID Offered spring. Prereq., BIOO 105N or FORS 240 or FORS 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits
	FORS 499 - Senior Thesis Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits

	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 444 - Ecological RestorationCapstone Offered spring. Prereq., junior or senior standing in Wildland Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; and completion or concurrent enrollment in NRSM 365. This service-learning course teaches students about designing and implementing restoration and monitoring projects. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits

	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Math

Rule: Must take one course from below

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits

	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 172 - Calculus II Offered autumn and spring. Prereq., M 171 or 181. Techniques of Integration. Area computations. Improper integrals. Infinite series and various convergence tests. Power series. Taylor's Formula. Polar coordinates. Parametric curves.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Symbolic System

Rule: Must take one course from below

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts

Rule: Must take one course from below

Note: null

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences in Major

Rule: Must take all courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Wilderness Studies

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Science - Resource Conservation; Track: Wilderness Studies

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Note: To complete this track students must enroll in the Wilderness and Civilization Program. For information and an application see www.cfc.umt.edu/wc.

Professional Writing

Rule: Must take the following course

	Course	**Credits**
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Chemistry

Rule: Must take the following course

Note: null

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Quantitative and Spatial Analysis

Rule: Must take three of the following courses and one must be a statistics course (FORS 201, STAT 216, SOCI 202)

Note: FORS 250 is highly recommended
Can take STAT 216 Statistics or SOCI 202 Social Statistics in place of FORS 201.

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits

	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		9 Total Credits Required

Biology

Rule: Must take once course from below

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Communications

Rule: Must take one course from below

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Science

Rule: Must take the following course

	Course	Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ecology

Rule: Must take one course from below

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits

	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Policy

Rule: Must take one course from below

	Course	**Credits**
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: Must take one course from below

	Course	**Credits**

	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Must take one course from below

	Course	**Credits**
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Additional Coursework

Rule: Must take at least 36 traditional letter-graded credits from the College of Forestry and Conservation (NRSM, WILD, FORS, PTRM, CCS 103, CCS 352, CCS 391)

Note: Must take 10 credits of foreign language, unless a student tests out of one or more semester, OR 9.0 credits additional coursework in natural resource management, environmental science, or conservation relevant to the student's track/emphasis within the major (these 9.0 credits are in addition to the 36 traditional letter-graded College of Forestry and Conservation credits described just above.
Students double majoring with Resource Conservation and Ecological Restoration, Forestry, Wildlife Biology, and Parks, Tourism and Recreation Management must take an additional 9.0 credits in FORS, NRSM, PTRM, and WILD in addition to courses required by either of their majors. These additional 9.0 credits will be relevant to the student's track/emphasis with the major.

Minimum Required Grade: C-

Wilderness Studies

Rule: Can take these track courses

Note: To complete this track students must enroll in the Wilderness and Civilization Program. For information and an application see www.cfc.umt.edu/wc. Please talk to a faculty advisor about additional coursework in this track.

	Course	Credits
	ARTZ 394A - Seminar- Environmental Drawing Offered intermittently. Seminar designed for the Wilderness and Civilization program based on WCP curriculum. Investigation of individual ideas through a variety of media.	3 Credits
	LIT 280L - Ecology of Literature Literary study of nature writing and other genres introducing an ecocritical perspective, with revolving Anglophone texts.	3 Credits
	MUSI 304A - Sound in the Natural World Offered even-numbered years. This is a music composition and performance course that explores sound/music in relation to wilderness. Students will learn from cultures that have stayed in contact with their natural environment and will create compositions from materials collected in the field and will perform and critique them. As a result, students will become familiar with their own creative process.	3 Credits
	NASX 303E - Ecol Persp in Nat Amer Trad Offered Autumn and Spring. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.	3 Credits
	NRSM 271N - Conservation Ecology Offered autumn. An overview of ecological concepts and how ecology is applied to further our understanding of ecosystems and conservation. Topics include: ecosystems functions and values, biomes, natural selection and speciation, biodiversity, succession, climate change, fragmentation, protected areas, impacts of exotic species and other human influences on ecosystem functions.	3 Credits

	NRSM 273 - Wilderness/Civ Field Stds (R-6) Offered autumn and spring. Field studies in ecology and conservation. Includes natural history, field journaling, ecological monitoring, protected area management, and community conservation. One-day trips as well as extended backcountry trips. Part of the Wilderness and Civilization program.	1 To 3 Credits
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 371 - Wilderness Issues Lect Series (R-3) Offered spring. Explores current issues in wilderness preservation, management and research.	1 Credits
	NRSM 373 - Wilderness and Civilization (R-6) Offered autumn and spring. Social and cultural perspectives on the wilderness idea and wildland practices. Course topics include history of wilderness and the wilderness movement, various philosophical viewpoints on wilderness, protected area management issues, and how wilderness fits into larger landscapes and societies. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 398 - Internship Offered every term. Prereq., consent of department. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
Minimum Required Grade: C-		

Writing

Rule: Must take both lower-division courses (WRIT 101 and NRSM 200) and at least 3 courses at the upper-division level listed below

Note: The following courses count for the entire upper-division writing requirement (only one curse is required): PTRM 451W Tourism and Sustainability, PTRM 482W Wilderness and Protected Area Mgmt.

	Course	**Credits**
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits

	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 342 - Wood Anatomy, Properties, & ID Offered spring. Prereq., BIOO 105N or FORS 240 or FORS 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits
	FORS 499 - Senior Thesis Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits

	NRSM 444 - Ecological RestorationCapstone Offered spring. Prereq., junior or senior standing in Wildland Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; and completion or concurrent enrollment in NRSM 365. This service-learning course teaches students about designing and implementing restoration and monitoring projects. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits
	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits

	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Math

Rule: Must take one course from below

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits

	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Symbolic System

Rule: Must take one course from below

	Course	**Credits**
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts

Rule: Must take one course from below

Note: null

	Course	**Credits**

	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences in Major

Rule: Must take all courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Wildland Fire Management

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Science - Resource Conservation; Track: Wildland Fire Management

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Note: Student in this track typically complete the Wildland Fire Sciences & Management Minor (www.cfc.umt.edu/FireSciences). Please see more detailed description of this track online and talk with your faculty advisor about which courses to take.

Professional Writing

Rule: Must take the following course

	Course	**Credits**
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Chemistry

Rule: Must take the following course

Note: null

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Quantitative and Spatial Analysis

Rule: Must take three of the following courses and one must be a statistics course (FORS 201, STAT 216, or SOCI 202)

Note: FORS 250 is highly recommended
Can take STAT 216 Statistics or SOCI 202 Social Statistics in place of FORS 201.

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits

	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		9 Total Credits Required

Biology

Rule: Must take one course from below

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Communications

Rule: Must take one course from below

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Science

Rule: Must take the following course

	Course	Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ecology

Rule: Must take one course from below

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits

	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Policy

Rule: Must take one course from below

	Course	**Credits**
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: Must take one course from below

	Course	**Credits**

	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Must take one course from below

	Course	**Credits**
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Additional Coursework

Rule: Must take at least 36 traditional letter-graded credits from the College of Forestry and Conservation (NRSM, WILD, FORS, PTRM, CCS 103, CCS 352, CCS 391)

Note: Must take 10 credits of foreign language, unless a student tests out of one or more semester, OR 9.0 credits additional coursework in natural resource management, environmental science, or conservation relevant to the student's track/emphasis within the major (these 9.0 credits are in addition to the 36 traditional letter-graded College of Forestry and Conservation credits described just above.
Students double majoring with Resource Conservation and Ecological Restoration, Forestry, Wildlife Biology, and Parks, Tourism and Recreation Management must take an additional 9.0 credits in FORS, NRSM, PTRM, and WILD in addition to courses required by either of their majors. These additional 9.0 credits will be relevant to the student's track/emphasis with the major.

Minimum Required Grade: C-

Wildland Fire Managment

Rule: Can take these track courses

Note: Student in this track typically complete the Wildland Fire Sciences & Management Minor (www.cfc.umt.edu/FireSciences). Please see more detailed description of this track online and talk with your faculty advisor about which courses to take.

	Course	Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	FORS 202 - Forest Mensuration Offered spring. Prereq., FORS 201 or STAT 216 or SOCI 202 or WILD 240; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. The theory and practice of timber inventory and growth projection, including field measurements, sampling procedures, statistical methods, inventory compilation, and stand growth simulation under specified management prescriptions. Stand growth under specified management prescriptions.	3 Credits
	FORS 230 - Forest Fire Management Offered spring. Fire as an ecological factor in Western forests is presented. Fire weather, the measurement of fire weather, and the factors of fuel, weather and topography that influence fire behavior, and fire management decisions are included. NFDRS, state and national fire policy evolutions are discussed. Basic fire suppression tactics are also presented.	2 Credits

	FORS 232 - Forest Insects & Diseases Offered spring. Identification, significance of and remedies for insect infestations and infectious and non-infectious diseases of forests and forest products.	2 Credits
	FORS 241N - Dendrology Offered autumn and spring. Suggested coreq., FORS 240. Methods and techniques for identifying the major families of North American trees, based on gross morphological and anatomical features. Building and use of identification keys.	3 Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 331 - Wildland Fuel Management Offered autumn. Prereq., FORS 230 or consent of instr. The fire ecology of some western vegetation types is discussed. Elements of the principles of wildland fuel management are presented. Prescribed fire use and mechanical manipulation are matched to historic ecosystem processes. Smoke management considerations and health issues are also presented.	3 Credits
	FORS 333 - Basic&Applied Fire Ecology Offered spring. Prereq., FORS 230. A detailed, analysis of fire ecology in terrestrial ecosystems with a focus on the Rocky Mountains, including fire history, fire effects, landscape pattern, land use legacies, and management implications.	3 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	FORS 351 - Env Remote Sensing Offered spring. The theory and application of photo- and electro-optical remote sensing for mapping resources and developing information systems.	3 Credits
	FORS 481 - Forest Planning Offered spring. Prereq., FORS 320; FORS 347 or FORS 349 or consent of instr. Integrated multiple use planning at the forest-wide level: defining multi-resource management goals, generating management alternatives, projecting outcomes, assessing environmental impacts, and implementing preferred option.	3 Credits

	FORS 495 - Wildland RxFire Practicum Offered wintersession. Co-convened with FORS 544. Prereq. Fire experience and Consent of Instructor. An intensive field course providing students with technical training, practical applications, and theoretical foundations in ecological burning for restoration purposes. Class is typically held in southeastern United States.	3 Credits
	FORS 533 - Use Fire Wldland Mgmt Offered autumn. Prereq., consent of instr. Evolution of federal fire policy is discussed. Western fire ecology and the planned use of fire for wildlife, range, and forest applications of prescribed fire are presented. Fire behavior and a fire science vocabulary are introduced. Students review literature, present seminars, and lead discussions. Level: Graduate	3 Credits
	GEO 101N - Intro to Physical Geology Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	NRSM 265 - Elements of Ecological Restora Offered autumn. Prereq., one course in the ecological or biological sciences: BIOO 105N, BIOB 160N, BIOB 170N, BIOB 172, BIOE 370, BIOE 428, BIOE 447 or BIOE 448; or FORS 330; or NRSM 271N or NRSM 462 or consent of instructor. Overview of the natural and social science elements of ecological restoration, including the ecological foundations of restoration, practices used to restore terrestrial and aquatic habitats, philosophical and ethical challenges involved, and current initiatives in Montana and the United States. Includes Saturday field trips.	3 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits

	PHSX 205N - College Physics I Offered autumn and spring. Prereq., M 122 or 151 or equivalent, and prereq. or coreq. PHSX 206N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the lecture portion of medical school requirements in general physics. Credit not allowed for both PHSX 205N-207N and 215N-217N.	4 Credits
	PHSX 206N - College Physics I Laboratory Offered autumn and spring. Prereq. or coreq., PHSX 205N. Mechanics, sound, and heat. For non-physical science majors. This course satisfies the laboratory portion of medical school requirements in general physics. Credit not allowed for both PHSX 206N-208N and 216N-218N.	1 Credits
Minimum Required Grade: C-		74 Total Credits Required

Writing

Rule: Must take both lower-division courses (WRIT 101 and NRSM 200) and at least 3 courses at the upper-division level listed below

Note: The following courses count for the entire upper-division writing requirement (only one course is require): PTRM 451W Tourism and Sustainability, PTRM 482W Wilderness and Protected Area Mgmt.

	Course	**Credits**
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 342 - Wood Anatomy, Properties, & ID Offered spring. Prereq., BIOO 105N or FORS 240 or FORS 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits

	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits
	FORS 499 - Senior Thesis Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 444 - Ecological RestorationCapstone Offered spring. Prereq., junior or senior standing in Wildland Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; and completion or concurrent enrollment in NRSM 365. This service-learning course teaches students about designing and implementing restoration and monitoring projects. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits

	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits
	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Math

Rule: Must take one course from below

	Course	Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Symbolic System

Rule: Must take one course from below

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts

Rule: Must take one course from below

Note: null

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences in Major

Rule: Must take all courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Rangeland Management & Grassland Ecology

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Science - Resource Conservation; Track: Range Management & Grassland Ecology

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Note: More detailed information about the Range Management & Grassland Ecology track can be found on our website: www.cfc.umt.edu/rc. Please talk with your faculty advisor about which courses to take in this track.

Professional Writing

Rule: Must take the following course

	Course	Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Chemistry

Rule: Must take the following course

Note: null

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Quantitative and Spatial Analysis

Rule: Must take three of the following courses and one must be a statistics course (FORS 201, STAT 216, or SOCI 202)

Note: FORS 250 is highly recommended
Can take STAT 216 Statistics or SOCI 202 Social Statistics in place of FORS 201.

	Course	Credits

	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		9 Total Credits Required

Biology

Rule: Must take one course from below

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOE 172N - Introductory Ecology Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Communicatins

Rule: Must take one course from below

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Physical Science

Rule: Must take the following course

	Course	Credits

	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ecology

Rule: Must take one course from below

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Policy

Rule: Must take one course from below

	Course	Credits
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Social Science

Rule: Must take one course from below

	Course	Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 424 - Community Forestry & Conservtn Offered spring. Co-convened with NRSM 524. In-depth examination of the history, theory and management issues faced in community-driven forestry and conservation in the United States and abroad. Cannot get credit for both NRSM 424 and NRSM 524.	3 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits

	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethics

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Additional Coursework

Rule: Must take at least 36 traditional letter-graded credits from the College of Forestry and Conservation (NRSM, WILD, FORS, PTRM, CCS 103, CCS 352, CCS 391)

Note: Must take 10 credits of foreign language, unless a student tests out of one or more semester, OR 9.0 credits additional coursework in natural resource management, environmental science, or conservation relevant to the student's track/emphasis within the major (these 9.0 credits are in addition to the 36 traditional letter-graded College of Forestry and Conservation credits described just above.
Students double majoring with Resource Conservation and Ecological Restoration, Forestry, Wildlife Biology, and Parks, Tourism and Recreation Management must take an additional 9.0 credits in FORS, NRSM, PTRM, and WILD in addition to courses required by either of their majors. These additional 9.0 credits will be relevant to the student's track/emphasis with the major.

Minimum Required Grade: C-

Range Management & Grassland Ecology

Rule: Can take these track courses

Note: Suggested courses in Range Management & Grassland Ecology. Please see more detailed description of this track online and talk with your faculty advisor about which courses to take in this track.

	Course	Credits

	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 458 - Forest and Grassland Ecol Offered summers only at Flathead Lake Biological Station. Prereq., BIOE 342 or BIOE 370/371. Patterns and processes of the forests and grasslands of the northern Rocky Mountains in the context of principles of population community and ecosystem ecology.	3 Credits
	BIOO 105N - Introduction to Botany Offered spring. Introduction to the plant kingdom including anatomy, physiology and ecology.	3 Credits
	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
	BIOO 433 - Plant Physiology Offered spring. Prereq., BIOB 260 or consent of the instructor. The molecular, biochemical and biophysical basis of plant function, from the subcellular to the whole organism level.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	FORS 230 - Forest Fire Management Offered spring. Fire as an ecological factor in Western forests is presented. Fire weather, the measurement of fire weather, and the factors of fuel, weather and topography that influence fire behavior, and fire management decisions are included. NFDRS, state and national fire policy evolutions are discussed. Basic fire suppression tactics are also presented.	2 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	FORS 333 - Basic&Applied Fire Ecology Offered spring. Prereq., FORS 230. A detailed, analysis of fire ecology in terrestrial ecosystems with a focus on the Rocky Mountains, including fire history, fire effects, landscape pattern, land use legacies, and management implications.	3 Credits

	NRSM 121S - Nature of Montana Offered autumn. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, ex-urban population growth, and protecting environmental quality.	3 Credits
	NRSM 265 - Elements of Ecological Restora Offered autumn. Prereq., one course in the ecological or biological sciences: BIOO 105N, BIOB 160N, BIOB 170N, BIOB 172, BIOE 370, BIOE 428, BIOE 447 or BIOE 448; or FORS 330; or NRSM 271N or NRSM 462 or consent of instructor. Overview of the natural and social science elements of ecological restoration, including the ecological foundations of restoration, practices used to restore terrestrial and aquatic habitats, philosophical and ethical challenges involved, and current initiatives in Montana and the United States. Includes Saturday field trips.	3 Credits
	NRSM 360 - Rangeland Mgt (equiv 260) Offered autumn. Prereq., junior standing or consent of instr. An introduction to rangelands and their management, grazing influences, class of animal, grazing capacity, control of livestock distribution, improvements, competition and interrelationships with wildlife. Laboratory exercises to gain on-site experience on topics and concepts presented in lectures.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	NRSM 455 - Riparian Ecology & Management Offered intermittently. Prereqs., successful completion or concurrent enrollment in NRSM 385 and completion of one of the following introductory ecology courses: BIOE 172, BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462. Importance of riparian/wetland areas and the complexities associated with their management for short and long term benefits.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits

	WILD 275 - Wildlife Conservation Offered spring. Prereq., sophomore standing or consent of instr. Principles of animal ecology and framework of wildlife administration as a basis for the conservation of wild birds and animals, and biodiversity. Intended for non-wildlife biology majors.	2 Credits
Minimum Required Grade: C-		

Writing

Rule: Must take both lower-division courses (WRIT 101 and NRSM 200) and at least 3 courses at the upper-division level listed below

Note: The following courses count for the entire upper-division writing requirement (only one course is required): PTRM 451W Tourism and Sustainability, PTRM 482W Wilderness and Protected Area Mgmt.

	Course	Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	FORS 341 - Timber Harvesting & Roads Offered spring. Prereq., NRSM 200 or WRIT 222. An overview of harvesting system capabilities and selection for multiple resource objectives. Fundamentals of forest road management. Best management practices as they apply to forest operations in Montana and the western United States.	3 Credits
	FORS 342 - Wood Anatomy, Properties, & ID Offered spring. Prereq., BIOO 105N or FORS 240 or FORS 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits

	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits
	FORS 499 - Senior Thesis Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	NASX 403 - Contmp Tribal Resource Issues Offered intermittently. Acquaints students with contemporary tribal resource management and environmental policies.	3 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 444 - Ecological RestorationCapstone Offered spring. Prereq., junior or senior standing in Wildland Restoration and successful completion of NRSM 265 and one advanced ecology course: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; and completion or concurrent enrollment in NRSM 365. This service-learning course teaches students about designing and implementing restoration and monitoring projects. The course includes lectures, labs, and hands-on experience working with ecologists and restoration practitioners from local government agencies, NGOs, or other organizations.	5 Credits

	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits
	NRSM 499 - Senior Thesis (R-3) Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.	1 To 3 Credits
	PTRM 300 - Recreation Behavior Offere spring. Prereq., PTRM 217S. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Math

Rule: Must take one course from below

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Symbolic System

Rule: Must take one course from below

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Expressive Arts

Rule: Must take one course from below

Note: null

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ethical & Human Values

Rule: Must take one course from below

	Course	Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences in Major

Rule: Must take all courses

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	NRSM 210N - Soils, Water and Climate Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. The factors affecting earth's terrestrial ecosystems are rapidly changing, and understanding their impact on ecosystem services to humanity is becoming increasingly important and yet complex. In this course, students will explore how climate, water and soils interact to shape Earth's biosphere. We will introduce students to a number of fundamental concepts in climate, hydrology, and soil science to gain a comprehensive view of the factors that shape and affect all terrestrial ecosystems. Through a series of lectures and field-based laboratories, students will be introduced to the fundamental principles of climate and hydrology that influence soil development, how they vary across small spatial scales, and how these physical, chemical, and biological processes interact to affect soil development. Ultimately, this class will introduce students to intimate relationship between climate, water, and soils, and how they interact to affect patterns of vegetation we see across the biosphere.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Wildlife Biology

Chad Bishop, Wildlife Biology; Director

The Wildlife Biology Program combines the best features of a liberal arts curriculum with scientific preparation in wildlife conservation. The Program provides students with an extensive knowledge in ecology, population biology, conservation biology, and critical thinking and quantitative skills. Our students receive a strong academic and scientific background with an emphasis on hands-on, experiential learning. The educational requirements for certification by The Wildlife Society can be met within the framework of the undergraduate program.

While some employment opportunities exist in wildlife conservation for students with the baccalaureate degree, we encourage students to continue their education through the master's degree to qualify for most state, federal, and private positions.

Three optional curricula are offered in the Wildlife Biology Program: terrestrial, aquatic, and honors. All three options follow the same schedule of courses for the freshman and most of the sophomore year and then pursue different curricula for the last two years. Each leads to a B.S. in Wildlife Biology. The University is well-suited for instruction in wildlife biology because of the excellent opportunities for field instruction and research at Lubrecht Experimental Forest, Flathead Lake Biological Station, and the Theodore Roosevelt Memorial and Bandy ranches. The Montana Forest and Conservation Experiment Station, the Division of Biological Sciences, and the Montana Cooperative Wildlife Research Unit facilitate research.

The honors curriculum is designed particularly for students with strong academic records who intend to do graduate work. Entrance into this emphasis is open only to students who, at the beginning of the junior year of the wildlife biology program, have a grade-point average of 3.5 or above and who petition the faculty for entrance.

High School Preparation: In addition to general University admission requirements, the student should elect four years of mathematics and three years of science, including biology, chemistry and physics.

Honors students must complete either WILD 370, 470 and 494 (terrestrial option) or BIOO 340, BIOE 428 and WILD 494 (aquatic option). Honors students are encouraged to enroll also in WILD 499 Senior Thesis. The balance of the coursework for the junior and senior years will be developed in consultation with the honors student's faculty advisor and committee.

All students in the honors emphasis are required to meet with their faculty advisor prior to autumn semester registration of their junior and senior years to work out their course schedules.

Department Faculty

Professor

Chad Bishop, Director, Wildlife Biology Program
Ragan Callaway, Professor
Erick Greene, Professor
L. Scott Mills, Associate Vice President of Research for Global Change and Sustainability
Dave Naugle, Professor Large Scale Wildlife Ecology

Associate Professor

Creagh Breuner, Professor
Lisa Eby, Associate Professor of Aquatic Vertebrate Ecology; Undergraduate Program Director, Ecosystem Science & Restoration
Mark Hebblewhite, Associate Professor of Ungulate Habitat Ecology
Winsor Lowe, Associate Professor

Assistant Professor

Jedediah Brodie, Assistant Professor; John Craighead Endowed Chair of Conservation
Zachary Cheviron, Assistant Professor
Victoria Dreitz, Assistant Professor, Wildlife Biology Program; Director, Avian Science Center
Jeffrey Good, Assistant Professor
Angela Luis, Assistant Professor of Population & Disease Ecology
Paul M. Lukacs, Associate Professor of Quantitative Wildlife Ecology
Andrew Whiteley, Assistant Professor of Fisheries & Conservation Genomics

Adjunct

Thomas E Martin, DBS Associated Faculty
Mike Mitchell, Unit Leader, Montana Cooperative Wildlife Research Unit; Adjunct Professor

Affiliates

Michael Schwartz, Adjunct Reseach Assistant Professor of Wildlife Biology

Emeritus

Kerry Foresman, Professor Emeritus
Richard Hutto, Professor Emeritus
Daniel Pletscher, Professor of Wildlife Biology, Emeritus

Aquatic Wildlife Biology

Chad Bishop, Wildlife Biology Director

The Wildlife Biology Program combines the best features of a liberal arts curriculum with scientific preparation in wildlife conservation. The Program provides students with an extensive knowledge in ecology, population biology, conservation biology, and critical thinking and quantitative skills. Our students receive a strong academic and scientific background with an emphasis on hands-on, experiential learning. The educational requirements for certification by The Wildlife Society can be met within the framework of the undergraduate program.

While some employment opportunities exist in wildlife conservation for students with the baccalaureate degree, we encourage students to continue their education through the master's degree to qualify for most state, federal, and private positions.

Three optional curricula are offered in the Wildlife Biology Program: terrestrial, aquatic, and honors. All three options follow the same schedule of courses for the freshman and most of the sophomore year and then pursue different curricula for the last two years. Each leads to a B.S. in Wildlife Biology. The University is well-suited for instruction in wildlife biology because of the excellent opportunities for field instruction and research at Lubrecht Experimental Forest, Flathead Lake Biological Station, and the Theodore Roosevelt Memorial and Bandy ranches. The Montana Forest and Conservation Experiment Station, the Division of Biological Sciences, and the Montana Cooperative Wildlife Research Unit facilitate research.

High School Preparation: In addition to general University admission requirements, the student should elect four years of mathematics and three years of science, including biology, chemistry and physics.

Wildlife Biology Honors Track

The honors curriculum is designed particularly for students with strong academic records who intend to do graduate work. Entrance into this emphasis is open only to students who, at the beginning of the junior year of the wildlife biology program, have a grade-point average of 3.5 or above and who petition the faculty for entrance.

Honors students must complete either WILD 370, 470 and 494 (terrestrial option) or BIOO 340, BIOE 428 and WILD 494 (aquatic option). Honors students are encouraged to enroll also in WILD 499 Senior Thesis. The balance of the coursework for the junior and senior years will be developed in consultation with the honors student's faculty advisor.

All students in the honors emphasis are required to meet with their faculty advisor prior to autumn semester registration of their junior and senior years to work out their course schedules.

Bachelor of Science - Wildlife Biology; Aquatic Option

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 84

Required Cumulative GPA: 2.5

Note: Experiential Learning is required - Students have several options to fulfill this requirement - list is available from the Wildlife Advisor in Forestry 103C

Major Required Courses

Rule: Must take all courses

Note: Can take WRIT 325 Science Writing / Honors in place of NRSM 200
One out of the four is required: BIOE 406/409, BIOM 427/428, BIOO 462, WILD 485

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	WILD 180 - Careers in Wildlife Biology Offered autumn and spring. Subject matter and fields of study within wildlife biology conservation and management. Topics to include wildlife ecology, aquatic ecology, human dimensions, conservation and management, and other opportunities for careers in wildlife biology.	2 Credits
Minimum Required Grade: C-		5 Total Credits Required

Outside Major Required Courses

Rule: Must take all courses

Note: Can take WILD 240 Into to Biostatistics/Honors in place of STAT 216; Can take WRIT 245 Science Writing/Honors in place of NRSM 200.

Add: BIOE 406 and 409. Students are required to take 1 of 4 courses – BIOE 406 and 409, BIOM 427, BIOM 428, BIOO 462, or WILD 485.

	Course	Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		37 Total Credits Required

Major Required Courses

Rule: Must take all courses

Note: Can take NRSM 422 Policy in place of WILD 410

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOM 427 - General Parasitology Offered autumn. Prereq., BIOB 272. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.	2 Credits
	BIOM 428 - General Parasitology Lab Offered autumn. Coreq., BIOM 427. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.	2 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 340 - Biology and Mgmnt of Fishes Offered autumn. Prereq., BIOB 272 and either STAT 216 or WILD 240. Diversity, adaptations and ecology of fishes. Analysis and management of fish populations and communities.	4 Credits
	BIOO 462 - Entomology Offered alternate springs. Prereq. or Coreq., BIOB 272. The classification, morphology, anatomy, development, life-history, behavior and ecology of insects. Labs include identification of major insect groups, internal and external anatomy and student collections.	4 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	WILD 346 - Wildlife Physiological Ecology Offered autumn. Prereq., BIOB 272. Only open to Wildlife Biology Majors. How physiological and biochemical processes in animals influence behavior and ecology. Application of physiological approaches to wildlife conservation such as assessment of animal health, nutritional condition, and physiological performance.	3 Credits

	WILD 408 - Advanced Fisheries Offered spring. Prereq., BIOO 340. Quantitative analysis and interpretation of fish populations and community data for use in management. Selection, application and evaluation of management techniques.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits
	WILD 480 - The Upshot--Appld Wildlife Mgt Offered spring. Prereq/Coreq.,WILD 370 or WILD 470. Designed for students to apply their knowledge in the development of wildlife management planning.	3 Credits
	WILD 485 - Aquatic Invertebrate Ecology Offered autumn. This course is designed to provide students an understanding of the life histories, ecology and importance of macroinvertebrates in freshwater aquatic systems. The primary focus will be on insects, although an introduction to other invertebrates will also be included. The lab portion will involve identification of major groups of aquatic macroinvertebrates and participation in an environmental assessment using invertebrates as indicators of stream condition and restoration efficacy.	3 Credits
	WILD 494 - Senior Wildlife Seminar Offered autumn and spring. Prereq., senior standing in wildlife biology or consent of instr. Analysis and discussion led by students of current topics in wildlife biology.	1 Credits
Minimum Required Grade: C-		19 Total Credits Required

Writing Requirement

Rule: Must complete the following subcategories

12-18 Total Credits Required

Lower Division Writing

Rule: Complete all of the following courses

Note: Can take WRIT 325 Science Writing/Honors OR WRIT 201 College Writing II in place of NRSM 200

	Course	**Credits**
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Upper Division Writing

Rule: Complete BIOE 371 and TWO of the other courses

	Course	Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits

	WILD 408 - Advanced Fisheries Offered spring. Prereq., BIOO 340. Quantitative analysis and interpretation of fish populations and community data for use in management. Selection, application and evaluation of management techniques.	3 Credits
	WILD 470 - Conserv of Wildlife Populatns Offered autumn and spring. Prereq., BIOE 370, M 162 or M 171, and senior standing in Biology, Forestry, Resource Conservation, Recreation Management or Wildlife Biology. Application of population ecology principles and theory to the conservation and management of wildlife populations.	3 Credits
	WILD 499 - Thesis (R-6) Offered autumn and spring. Prereq., consent of instr.; senior standing. Preparation of major paper based on study or research of a topic selected with an advisor according to needs and objectives of student.	1 To 3 Credits
Minimum Required Grade: C-		6-12 Total Credits Required

Mathematics Requirement

Rule: must take the following course

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Symbolic Systems

Rule: must take the following courses

Note: Can take WILD 240 Biostatistics/Honors in place of STAT 216

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits

	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Expressive Arts

Rule: Must take the following course

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural Sciences Requirement

Rule: Must take all courses

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits

Minimum Required Grade: C-	12 Total Credits Required

Terrestrial Wildlife Biology

Chad Bishop, Wildlife Biology, Director

The Wildlife Biology Program combines the best features of a liberal arts curriculum with scientific preparation in wildlife conservation. The Program provides students with an extensive knowledge in ecology, population biology, conservation biology, and critical thinking and quantitative skills. Our students receive a strong academic and scientific background with an emphasis on hands-on, experiential learning. The educational requirements for certification by The Wildlife Society can be met within the framework of the undergraduate program.

While some employment opportunities exist in wildlife conservation for students with the baccalaureate degree, we encourage students to continue their education through the master's degree to qualify for most state, federal, and private positions.

Three optional curricula are offered in the Wildlife Biology Program: terrestrial, aquatic, and honors. All three options follow the same schedule of courses for the freshman and most of the sophomore year and then pursue different curricula for the last two years. Each leads to a B.S. in Wildlife Biology. The University is well-suited for instruction in wildlife biology because of the excellent opportunities for field instruction and research at Lubrecht Experimental Forest, Flathead Lake Biological Station, and the Theodore Roosevelt Memorial and Bandy ranches. The Montana Forest and Conservation Experiment Station, the Division of Biological Sciences, and the Montana Cooperative Wildlife Research Unit facilitate research.

High School Preparation: In addition to general University admission requirements, the student should elect four years of mathematics and three years of science, including biology, chemistry and physics.

Wildlife Biology Honors - Track

The honors curriculum is designed particularly for students with strong academic records who intend to do graduate work. Entrance into this emphasis is open only to students who, at the beginning of the junior year of the wildlife biology program, have a grade-point average of 3.5 or above and who petition the faculty for entrance.

Honors students must complete either WILD 370, 470 and 494 (terrestrial option) or BIOO 340, BIOE 428 and WILD 494 (aquatic option). Honors students are encouraged to enroll also in WILD 499 Senior Thesis. The balance of the coursework for the junior and senior years will be developed in consultation with the honors student's faculty.

All students in the honors emphasis are required to meet with their faculty advisor prior to autumn semester registration of their junior and senior years to work out their course schedules.

Bachelor of Science - Wildlife Biology; Terrestrial Option

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 74

Required Cumulative GPA: 2.5

Note: Experiential Learning is required - Students have several options to fulfill this requirement - list is available from the Wildlife Advisor in Forestry 103C

Major Required Courses

Rule: Must take all courses

Note: Can take WRIT 325 Science Writing / Honors OR WRIT 201 College Writing II in place of NRSM 200

	Course	Credits

	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	BIOB 260 - Cellular and Molecular Biology Offered autumn and summer. Prereq. BIOB 160N (preferred) or BCH 110/111 (preferred) or B- or higher in BIOH 112; and either CHMY 123 or CHMY 143. Analytical exploration of the structure and function of the cell, the fundamental unit of life, with an emphasis on energy transformations and information flow. Topics include molecular building blocks, membranes, organelles, and mechanisms of replication, gene expression, metabolism, signal transduction, cell birth, cell death, and cell differentiation.	4 Credits
	BIOB 272 - Genetics and Evolution Offered spring. Prereq., either BIOB 260 OR both BIOB 160N and BIOB 170N/171N; and one of M 121, 122, 151, 162, or 171. Principles and mechanisms of inheritance and evolution. Population genetics, fossil record, macroevolution, speciation, extinction, systematics, molecular evolution.	4 Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	WILD 180 - Careers in Wildlife Biology Offered autumn and spring. Subject matter and fields of study within wildlife biology conservation and management. Topics to include wildlife ecology, aquatic ecology, human dimensions, conservation and management, and other opportunities for careers in wildlife biology.	2 Credits
Minimum Required Grade: C-		17 Total Credits Required

Outside Major Required Courses

Rule: Must take all courses

Note: Can take WILD 240 Into to Biostatistics/Honors in place of STAT 216

	Course	**Credits**
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits

	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		23 Total Credits Required

Major Required Courses

Rule: Must take all courses

Note: Can take FORS 347 Silviculture in place of NRSM 360; Can take NRSM 422 Policy in place of WILD 410
NOTE - two out of the three are required: BIOO 470, BIOO475, BIOO 340

	Course	**Credits**

	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
	BIOO 340 - Biology and Mgmnt of Fishes Offered autumn. Prereq., BIOB 272 and either STAT 216 or WILD 240. Diversity, adaptations and ecology of fishes. Analysis and management of fish populations and communities.	4 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
	NRSM 360 - Rangeland Mgt (equiv 260) Offered autumn. Prereq., junior standing or consent of instr. An introduction to rangelands and their management, grazing influences, class of animal, grazing capacity, control of livestock distribution, improvements, competition and interrelationships with wildlife. Laboratory exercises to gain on-site experience on topics and concepts presented in lectures.	3 Credits
	WILD 346 - Wildlife Physiological Ecology Offered autumn. Prereq., BIOB 272. Only open to Wildlife Biology Majors. How physiological and biochemical processes in animals influence behavior and ecology. Application of physiological approaches to wildlife conservation such as assessment of animal health, nutritional condition, and physiological performance.	3 Credits
	WILD 370 - Wildlife Habitat Cons & Mgmt Offered autumn and spring. Prereq., junior/senior standing in wildlife biology, BIOE 370, or consent of instr. Application of principles of wildlife biology to conservation and management of wild bird and mammal habitats including field applications.	3 Credits
	WILD 410 - Wildlife Policy & Biopolitics Offered spring, odd years. Prereq., junior standing. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.	3 Credits

	WILD 470 - Conserv of Wildlife Populatns Offered autumn and spring. Prereq., BIOE 370, M 162 or M 171, and senior standing in Biology, Forestry, Resource Conservation, Recreation Management or Wildlife Biology. Application of population ecology principles and theory to the conservation and management of wildlife populations.	3 Credits
	WILD 480 - The Upshot--Appld Wildlife Mgt Offered spring. Prereq/Coreq.,WILD 370 or WILD 470. Designed for students to apply their knowledge in the development of wildlife management planning.	3 Credits
	WILD 494 - Senior Wildlife Seminar Offered autumn and spring. Prereq., senior standing in wildlife biology or consent of instr. Analysis and discussion led by students of current topics in wildlife biology.	1 Credits
Minimum Required Grade: C-		32 Total Credits Required

Writing Requirement

Rule: Must complete the following subcategories

12-18 Total Credits Required

Lower Division Writing

Rule: Complete all of the following courses

Note: Can take WRIT 325 Science Writing OR WRIT 201 College Writing II in place of NRSM 200

	Course	Credits
	NRSM 200 - Nat.Resource Professional Wrtg Offered fall and spring to College of Forestry and Conservation majors. Prereq., WRIT 101. Students synthesize scientific literature and, using appropriate evidence and APA style, write natural-resources-based documents appropriate for distribution to scientists, managers, and the public.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits

Minimum Required Grade: C-	6 Total Credits Required

Upper Division Writing

Rule: Complete BIOE 371 and TWO of the other courses

	Course	Credits
	BIOE 371 - Gen Ecology Lab (equiv to 271) Offered autumn. Prereq. or Coreq., BIOE 370 and either STAT 216 or WILD 240. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.	2 Credits
	BIOE 428 - Freshwater Ecology Offered spring. Prereq., BIOB 160N and either CHMY 123N or 143N. Physical and chemical dynamics of lakes and streams. Diversity, distribution and dynamics of freshwater organisms.	5 Credits
	BIOO 320 - General Botany Offered autumn. Prereq., BIOB 170N-171N, 260. Prereq. or coreq., BIOB 272. Anatomy, morphology, ecology and physiology of photosynthetic organisms.	5 Credits
	BIOO 470 - Ornithology Offered spring. Prereq. or Coreq., BIOB 272; major of biology, Pre-Wildlife Biology, or Wildlife Biology, and must be of junior or senior standing. The classification, structure, evolution, behavior and ecology of birds.	4 Credits
	BIOO 475 - Mammalogy Offered autumn. Prereq., BIOB 272. The evolution, systematics, anatomy, physiology and ecology of mammals.	4 Credits
	WILD 408 - Advanced Fisheries Offered spring. Prereq., BIOO 340. Quantitative analysis and interpretation of fish populations and community data for use in management. Selection, application and evaluation of management techniques.	3 Credits
	WILD 470 - Conserv of Wildlife Populatns Offered autumn and spring. Prereq., BIOE 370, M 162 or M 171, and senior standing in Biology, Forestry, Resource Conservation, Recreation Management or Wildlife Biology. Application of population ecology principles and theory to the conservation and management of wildlife populations.	3 Credits
	WILD 499 - Thesis (R-6) Offered autumn and spring. Prereq., consent of instr.; senior standing. Preparation of major paper based on study or research of a topic selected with an advisor according to needs and objectives of student.	1 To 3 Credits

Minimum Required Grade: C-	6-12 Total Credits Required

Mathematics Requirement

Rule: must take the following course

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Symbolic Systems Requirement

Rule: must take the following courses

Note: Can take WILD 240 Biostistics/Honors in place of STATS 216

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Expressive Arts

Rule: must take the following course

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Natural Sciences Requirement

Rule: Must take all courses

	Course	Credits
	BIOB 160N - Principles of Living Systems Offered autumn and summer. Unifying principles of biological structure-function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Students requiring a laboratory should also register for BIOB 161N. Credit not allowed for both BIOB 101N and 160N.	3 Credits
	BIOB 161N - Prncpls of Living Systems Lab Offered autumn and summer. Prereq., or Coreq., BIOB 160N. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology, and are designed to give students practice in scientific methods of description, development of hypotheses, and testing.	1 Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 123N - Intro to Organic & Biochem Offered autumn and spring. Prereq., "C-" or equiv. in CHMY 121N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 124N - Intro to Organic & Biochem Lab Offered autumn and spring. Prereq. or coreq., CHMY 123N. Laboratory to accompany CHMY 123N.	2 Credits
Minimum Required Grade: C-		12 Total Credits Required

Wildlife Biology Minor

Chad Bishop, Director

The Wildlife Biology Program combines the best features of a liberal arts curriculum with scientific preparation in wildlife conservation. The Program provides students with an extensive knowledge in ecology, population biology, conservation biology, and critical thinking and quantitative skills. Our students receive a strong academic and scientific background with an emphasis on hands-on, experiential learning. The educational requirements for certification by The Wildlife Society can be met within the framework of the undergraduate program.

While some employment opportunities exist in wildlife conservation for students with the baccalaureate degree, we encourage students to continue their education through the master's degree to qualify for most state, federal, and private positions.

Three optional curricula are offered in the Wildlife Biology Program: terrestrial, aquatic, and honors. All three options follow the same schedule of courses for the freshman and most of the sophomore year and then pursue different curricula for the last two years. Each leads to a B.S. in Wildlife Biology. The University is well-suited for instruction in wildlife biology because of the excellent opportunities for field instruction and research

at Lubrecht Experimental Forest, Flathead Lake Biological Station, and the Theodore Roosevelt Memorial and Bandy ranches. The Montana Forest and Conservation Experiment Station, the Division of Biological Sciences, and the Montana Cooperative Wildlife Research Unit facilitate research.

Minor - Wildlife Biology

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 21
Required Cumulative GPA: 2.0

Required courses

Rule: must take the following courses

	Course	Credits
	BIOB 170N - Princpls Biological Diversity Offered spring and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.	3 Credits
	BIOB 171N - Princpls Biological Dvrsty Lab Offered spring and summer. Coreq., BIOB 170N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.	2 Credits
	BIOO 101N - Survey MT Wldlife & Habitats Offered online autumn. Prereq., one course in biology. Interpreting biological patterns associated with selected Montana wildlife species, including mammals, birds, reptiles and amphibians.	3 Credits
	WILD 105N - Wildlife & People Offered autumn. Intended for non-wildlife biology majors. Interactions of wildlife and people in today's society.	3 Credits
	WILD 180 - Careers in Wildlife Biology Offered autumn and spring. Subject matter and fields of study within wildlife biology conservation and management. Topics to include wildlife ecology, aquatic ecology, human dimensions, conservation and management, and other opportunities for careers in wildlife biology.	2 Credits
	WILD 275 - Wildlife Conservation Offered spring. Prereq., sophomore standing or consent of instr. Principles of animal ecology and framework of wildlife administration as a basis for the conservation of wild birds and animals, and biodiversity. Intended for non-wildlife biology majors.	2 Credits
Minimum Required Grade: C-		15 Total Credits Required

Required courses

Rule: must take the following courses
Note: Can take NRSM 360 Rangeland Mgmt in place of FORS 330

	Course	Credits
	BIOO 335 - Rocky Mountain Flora Offered spring. Prereq., one college-level course in Biology or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Wilderness Studies

Wayne Freimund (Professor) Director of Wilderness Institute

Students who successfully complete the requirements of the Wilderness and Civilization Program are eligible for the Wilderness Studies minor. Wilderness and Civilization is an interdisciplinary campus and field-based program. Each year, 25 students investigate wildland conservation and the human-nature relationship through the lenses of policy, ecology, art, Native American Studies, and literature. Wilderness and Civilization combines the strengths of classroom and field learning, interactive classes, innovative faculty, and applied learning through internships. Field trips include extended backcountry trips as well as shorter field trips examining ecology, environmental issues, land use, and natural history. Wilderness and Civilization offers students the opportunity to explore contemporary conservation debates, make connections between disciplines, and learn how to work for positive change.

Wilderness and Civilization is an undergraduate, immersion program geared toward sophomore-, junior-, and senior-level students in any major. Students take 17.0 credits of campus and field-based courses during the fall, and then continue in the spring with an art course, an internship, a 1.0 credit field course, and a 1.0 credit lecture series. The Wilderness and Civilization program is administered by the Wilderness Institute of the College of Forestry and Conservation. The program is offered in collaboration with the College of Arts and Sciences, the College of Visual and Performing Arts, and the Davidson Honors College.

Students must apply for admission to the Wilderness and Civilization program, which is limited to 25 students each year. Applicants must have a cumulative GPA of 3.0 or higher for all college and university work. Applications are due by April 1 and are available at the Wilderness Institute, University Hall 303.

Department Faculty

Professor

Maryann Bonjorni, Professor; Drawing
Richmond Clow, Professor
David L. Moore, Professor

Associate Professor

Nancy Cook, Professor
Louise Economides, Professor | Director of Graduate Studies

Assistant Professor

Natalie Dawson, Director of the Wilderness Institute, Assistant Professor of Wilderness Studies

Wayne Freimund (Professor) Director of Wilderness Institute

Students who successfully complete the requirements of the Wilderness and Civilization Program are eligible for the Wilderness Studies minor. Wilderness and Civilization is an interdisciplinary campus and field-based program. Each year, 25 students investigate wildland conservation and the human-nature relationship through the lenses of policy, ecology, art, Native American Studies, and literature. Wilderness and Civilization combines the strengths of classroom and field learning, interactive classes, innovative faculty, and applied learning through internships. Field trips include extended backcountry trips as well as shorter field trips examining ecology, environmental issues, land use, and natural history. Wilderness and Civilization offers students the opportunity to explore contemporary conservation debates, make connections between disciplines, and learn how to work for positive change.

Wilderness and Civilization is an undergraduate, immersion program geared toward sophomore-, junior-, and senior-level students in any major. Students take 17.0 credits of campus and field-based courses during the fall, and then continue in the spring with an art course, an internship, a 1.0 credit field course, and a 1.0 credit lecture series. The Wilderness and Civilization program is administered by the Wilderness Institute of the College of Forestry and Conservation. The program is offered in collaboration with the College of Arts and Sciences, the College of Visual and Performing Arts, and the Davidson Honors College.

Students must apply for admission to the Wilderness and Civilization program, which is limited to 25 students each year. Applicants must have a cumulative GPA of 3.0 or higher for all college and university work. Applications are due by April 1 and are available at the Wilderness Institute, University Hall 303.

Minor - Wilderness Studies (Minor)

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 24

Required Cumulative GPA: 2.0

Note: This minor can be completed during a fall semester plus one wintersession course and four credits in the spring; Experiential learning credit for Honors will be completed with this minor

Required courses

Rule: must take the following courses

Note: NRSM 271 is an Honors course; NRSM 273 will be taken two times fall for 2 credits and spring for 1 credit

	Course	Credits
	NRSM 271N - Conservation Ecology Offered autumn. An overview of ecological concepts and how ecology is applied to further our understanding of ecosystems and conservation. Topics include: ecosystems functions and values, biomes, natural selection and speciation, biodiversity, succession, climate change, fragmentation, protected areas, impacts of exotic species and other human influences on ecosystem functions.	3 Credits
	NRSM 273 - Wilderness/Civ Field Stds (R-6) Offered autumn and spring. Field studies in ecology and conservation. Includes natural history, field journaling, ecological monitoring, protected area management, and community conservation. One-day trips as well as extended backcountry trips. Part of the Wilderness and Civilization program.	1 To 3 Credits
Minimum Required Grade: C-		5 Total Credits Required

Required Courses

Rule: must take the following courses

Note: MUSI 304A is offered during Wintersession - if not offered then take ART 394A Env. Drawing

	Course	Credits
	LIT 373 - Lit & Environment Offered autumn. Prereq., LIT 210L or 211L (ENLT 224L or 225L) and LIT 300 (ENLT 301) or consent of instr. Study of major texts and issues in American nature writing.	3 Credits
	MUSI 304A - Sound in the Natural World Offered even-numbered years. This is a music composition and performance course that explores sound/music in relation to wilderness. Students will learn from cultures that have stayed in contact with their natural environment and will create compositions from materials collected in the field and will perform and critique them. As a result, students will become familiar with their own creative process.	3 Credits
	NASX 303E - Ecol Persp in Nat Amer Trad Offered Autumn and Spring. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.	3 Credits
	NRSM 370S - Wildland Conserv Pol/Govrnance Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 371 - Wilderness Issues Lect Series (R-3) Offered spring. Explores current issues in wilderness preservation, management and research.	1 Credits
	NRSM 373 - Wilderness and Civilization (R-6) Offered autumn and spring. Social and cultural perspectives on the wilderness idea and wildland practices. Course topics include history of wilderness and the wilderness movement, various philosophical viewpoints on wilderness, protected area management issues, and how wilderness fits into larger landscapes and societies. Part of the Wilderness and Civilization program.	3 Credits
	NRSM 398 - Internship Offered every term. Prereq., consent of department. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
Minimum Required Grade: C-		19 Total Credits Required

Climate Change Studies

Steven Running, Director

Climate Change Studies is an inter-disciplinary program open to all majors. The program educates students in three areas of the climate change issue: science, society, and solutions. Coursework in the minor provides a foundation that enables students to engage the scientific, societal, and political dimensions of global climate change. Further, the focus on solutions with its orientation toward applied learning will help students develop critical thinking and problem solving skills. Participating students will enhance their major field of study. They will be better prepared to enter a broad range of professions and graduate programs where they can meet the emerging challenges and opportunities arising from climate change. Climate Change Studies is a joint program between the College of Forestry and Conservation, College of Arts and Sciences, and Missoula College's Energy Technology program.

Department Faculty

Professor

Len Broberg, Professor, EVST Program Director
Johnnie N. Moore, Ph.D., University of California (Los Angeles), 1976
Steve Running, Regents Professor of Ecology; Director, Numerical Terradynamics Simulation Group

Associate Professor

Cory Cleveland, Professor, Terrestrial Ecosystem Ecology; Chair, Department of Ecosystems & Conservation Sciences
Joel T. Harper, Ph.D., University of Wyoming, 1998
Ulrich Kamp, Professor
Derek Kellenberg, Professor
Anna Klene, Professor
Peter Koehn, Comparative Government & Politics & Public Administration
Robin Saha, Associate Professor
Steve Schwarze, Professor
Dane Scott, Associate Professor of Ethics; Director of the Center for Ethics
Dan Spencer, Professor
Laurie Yung, Associate Professor of Natural Resource Social Science; Undergraduate Program Director, Resource Conservation

Assistant Professor

Ashley Ballantyne, Assistant Professor of Bioclimatology
Bradley Layton, Energy Technology Program Director/Associate Professor

Adjunct

Nicky Phear, Climate Change Studies Program Director and Instructor

Climate Change Studies Minor

Steven Running, Director

Climate Change Studies is an interdisciplinary program open to all majors. The program educates students in three areas of the climate change issue: science, society, and solutions. Coursework in the minor provides a foundation that enables students to engage the scientific, societal, and political dimensions of global climate change. Further, the focus on solutions with its orientation toward applied learning will help students develop critical thinking and problem solving skills. Participating students will enhance their major field of study. They will be better prepared to enter a broad range of professions and graduate programs where they can meet the emerging challenges and opportunities arising from climate change. Climate Change Studies is a joint program between the College of Forestry and Conservation, College of Humanities and Sciences, and Missoula College's Energy Technology program.

Minor - Climate Change Studies (Minor)

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 21
Required Cumulative GPA: 2.0

Required course

Rule: must take the following course

	Course	Credits
	CCS 103X - Intro Climate Change:Sci & Soc Offered autumn. This is an introductory and foundational course on the scientific and social dimensions of global climate change. The goal of this course is to provide students with a basic understanding of the fundamental scientific, social, political and technological issues arising from rapid climatic change. As a result, it provides students with a breadth of knowledge and builds connectedness across these varied dimensions of the complex global issue.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Climate Change Science

Rule: Must take at least 6 credits from the following list

Note: Earth 303N same as CCS 303N
NRSM 408 same as CCS 408
NRSM 418 same as CCS 418

	Course	Credits
	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	GEO 482 - Global Change Offered Spring. Same as CCS 482. Prereq., upper division/higher standing in Geosciences or consent of instructor. Lectures, readings, discussions and practicum on the complexity of global climate. Emphasizes the physical, geochemical and geologic processes affecting climate change over geologic and recent time scales.	3 Credits
	NRSM 281 - Science of Climate Change This course provides an introduction to Earth's climate system and the scientific evidence of climate change. This course explores how past climate has shaped Earth's ecosystem and how humans are currently altering Earth's climate system, as well as potential future climate scenarios. Through this course students will gain a better understanding of Earth's energy budget, the global carbon cycle, and potential impacts of climate change. This class is open to all undergraduates, both science and non-science majors, and counts toward the Climate Change Studies minor.	3 Credits

	NRSM 291 - Special Topics (R 12) Offered intermittently. Experimental offerings of visiting professors; new courses or one time offerings of current topics.	1 To 12 Credits
	NRSM 408 - Global Cycles and Climate Offered spring even-numbered years. Same as CCS 408. An analysis of the earths major global biogeochemical cycles with a focus on the ways and extent to which each of them influences and interacts with the global climate system.	3 Credits
	NRSM 418 - Ecosystem Climatology Interactions between the biosphere and atmosphere to advanced undergraduate students and graduate students. This course will explore the interactions between Earth's biosphere and atmosphere and how they affect climate over a range of scales. We will focus on the exchange of energy, mass, and important elements between the biosphere and atmosphere and how this exchange can lead to fascinating feedbacks in Earth's climate system. Basic physics and math is not required but it is recommended.	3 Credits
	NRSM 491 - Special Topics (R 9) Offered intermittently. Experimental offerings of visiting professors; new courses or one time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		6 Total Credits Required

Climate Change and Society

Rule: Must take at least 6 credits from the following list

Note: ENST 427 Social Issues: The Mekong Delta; Wintersession cross-listed with NRSM 427 and GPHY 427 count toward Society Area; taught with ENST/NRSM/GPHY 437 Climate Change: Mekong Delta.
Also NRSM 321 AND ENST 311 Cycle the Rockies: Energy and Climate Change in Montana 6 cr. in Summer

COMX 349 same as CCS 349
ECNS 445 same as CCS 445
GPHY 421 same as CCS 421
NRSM 426 same as CCS 426
PSCI 324 same as CCS 324
ENST 476 same as CCS 476

	Course	**Credits**
	CCS 395 - Special Topics (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	COMX 349 - Comm Consump & Climate Offered every other year. Same as CCS 349. Analyzes consumption as a communication practice, investigates discourses that promote consumption, and illuminates environmental impacts on consumption.	3 Credits

	ECNS 445 - Int Env Econ & Clim Change Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.	3 Credits
	ENST 367 - Envr Politics & Policies Offered autumn. Foundation in public lands history, bedrock environmental laws, policy processes and institutions. Research and analysis of current environmental and natural resource policy issues. Focus is domestic illustrated by case studies.	3 Credits
	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits
	NRGY 295 - Practicum The practicum provides students with a supervised field experience. Students will gain hands-on experience with energy specific technologies in a fast-paced creative environment. This course increases students' occupational awareness and professionalism.	2 Credits
	NRSM 426 - Climate and Society Offered spring. Co-convened with NRSM 526. This course examines the social and political aspects of climate change, with a focus on international and domestic processes and cases. Cannot get credit for both NRSM 426 and NRSM 526.	3 Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	PSCI 324 - Climate Policies: China & U.S. Offered every other year. Same as CCS 324. Explores historic, current, and future greenhouse-gas emissions of the United States and China, reasons why both are the two largest C02 emitters, and prevailing national and subnational government policies and nongovernmental actions that affect emissions mitigation and adaptation.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Climate Change Solutions

Rule: Must take at least 6 credits from the following courses with at least one course from category "A"

6 Total Credits Required

Category A: Practical Application

Rule: Must take at least 1 course but a total of 6 credits between both categories A and B

	Course	Credits
	CCS 391 - Climate Change Practicum Offered autumn and spring. Prereq., consent of instructor. Provides an opportunity for students to design and implement a capstone project involving creative solutions to climate change.	2 To 4 Credits
	CCS 398 - Clmt Change Internship/SERV (R-6) Offered autumn and spring. This course gives students an opportunity to gain hands-on, "real world" experience working with a local, regional, national or international group to address climate change. Students gain supervised, practical work experience with specific projects and organizations; create a network of professional contacts; and have opportunity to apply ideas and approaches studied in the Climate Change Studies minor.	2 To 4 Credits
	ENST 476 - Environmental Citizenship Offered spring. Prereq., open to juniors and seniors only or by consent of instructor. Same as CCS 476. Develops leadership and environmental citizenship skills, values and virtues through student-initiated projects informed by principles of organizing and sustainable behavior change theories of social marketing.	3 Credits
	NRGY 298 - Internship Offered every term. Prereq., M 121 and consent of instructor. Same as CCS 298. Extended classroom experience providing practical application of classroom learning through on the job training in a student's field of study. This experience increases student skills, prepares them for initial employment, and increases occupational awareness and professionalism.	2 Credits
Minimum Required Grade: C-		3-6 Total Credits Required

Category B

Rule: May take 1 of the following courses

Note: Commentary: ENST 437 Climate Change: Mekong Delta Wintersession cross-listed with NRSM 437 and GPHY 437 count toward Solutions Area; taught with ENST 427 Social Issues: The Mekong Delta.
Also NRSM 321 AND ENST 311 Cycle the Rockies: Energy and Climate Change in Montana 6 cr. in Summer

BGEN 160S same as EVST 160S
GPHY 421 same as CCS 421
NRGY 102 same CCS 102

	Course	Credits

	BGEN 160S - Issues in Sustainability Offered every term. Same as CCN 160S. This literature-intensive course is intended to expose the student to a variety of essays addressing the balance of economic development with the principles of sustainability and social equity. The student is offered an introduction to sustainability concepts, natural systems/cycles and environmental economics. Natural capitalism and triple bottom line maximization is explored, along with the role of corporations and small businesses in sustainable development. A survey of issues surrounding corporate social responsibility and sustainability-driven innovation will be conducted.	3 Credits
	CCS 352 - Climate Field Studies Offered summer. This is an interdisciplinary field course focused on climate change impacts and adaptation. Through site visits and meetings with key decision-makers, students gain knowledge of projected impacts due to climate change (water availability, wildfire, beetle kill, biodiversity), the impacts to various sectors of human society (land management, food and water security, economic stability, and livelihoods), and different mitigation and adaptation responses.	3 Credits
	GPHY 421 - Sustainable Cities Offered spring even-numbered years. Prereq., upper-division or graduate standing. Same as CCS 421. A discussion of sustainability efforts in cities around the world. Topics include, for example, urban sprawl and smart growth, alternative energy, public transportation, integrated waste management, integrated water management, green architecture, and urban agriculture.	3 Credits
	NRGY 102 - Intro to Sustainable Energy II Offered autumn and spring. Prereq., NRGY 101 or consent of instructor. Same as CCS 102. A survey of renewable energy systems and technologies. Addresses physical and technical aspects of wind, solar, geothermal, hydro, tidal, biological, and wave energy systems. Consideration is given to engineering, economic, social, environmental, and political factors that determine implementation and sustainability. Credit not allowed for both NRG 102 and CCS 102.	3 Credits
	NRGY 195 - Practicum Offered summer only. Prereq., NRGY 101, M 121 or consent of instructor. Same as CCS 191. The practicum provides students with a supervised field experience. Students will gain hands-on experience with energy specific technologies in a fast-paced creative environment. This course increases students' occupational awareness and professionalism.	2 Credits
Minimum Required Grade: C-		0-3 Total Credits Required

Fire Sciences and Management

Department Faculty

Professor

LLoyd Paul Queen, Professor of Remote Sensing; Director, National Center for Landscape Fire Analysis

Associate Professor

David Affleck, Associate Professor of Biometrics
Chair, Department of Forest Management
Director, Inland Northwest Growth & Yield Cooperative
Solomon Dobrowski, Associate Professor of Forest Landscape Ecology
Beth Dodson, Associate Professor of Integrated Natural Resource
Philip Higuera, Associate Professor of Fire Ecology
Christopher R. Keyes, Research Professor of Silviculture
Carl Seielstad, Associate Research Professor; Fire/Fuels Program Manager, National Center for Landscape Fire Analysis
Laurie Yung, Associate Professor of Natural Resource Social Science; Undergraduate Program Director, Resource Conservation

Assistant Professor

Andrew Larson, Associate Professor of Forest Ecology
James Riddering, Adjunct Research Assistant Professor; Remote Sensing Program Manager, National Center for Landscape Fire Analysis

Fire Sciences and Management Minor

Minor - Fire Sciences & Management (Minor)

College of Forestry & Conserv

Catalog Year: 2016-2017

Degree Specific Credits: 23
Required Cumulative GPA: 2.0

Major Required Course

Rule: must take the following course

	Course	Credits
	FORS 230 - Forest Fire Management Offered spring. Fire as an ecological factor in Western forests is presented. Fire weather, the measurement of fire weather, and the factors of fuel, weather and topography that influence fire behavior, and fire management decisions are included. NFDRS, state and national fire policy evolutions are discussed. Basic fire suppression tactics are also presented.	2 Credits
Minimum Required Grade: C-		2 Total Credits Required

Required Course

Rule: must take the following course

	Course	Credits

	FORS 333 - Basic&Applied Fire Ecology Offered spring. Prereq., FORS 230. A detailed, analysis of fire ecology in terrestrial ecosystems with a focus on the Rocky Mountains, including fire history, fire effects, landscape pattern, land use legacies, and management implications.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ecology Courses

Rule: Must take one of the following courses

	Course	Credits
	BIOE 370 - General Ecology Offered autumn. Prereq., BIOB 272. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).	3 Credits
	FORS 330 - Forest Ecology Offered autumn and spring. Prereq., FORS 210 or ENSC 245N or NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172 or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.	3 Credits
	NRSM 462 - Rangeland Ecology Offered spring. NRSM 210N; and BIOO 105N or BIOB 170N or BIOE 172N or BIOB 160N or FORS 240; and FORS 201 or STAT 216 or SOCI 202 or WILD 240 or PSYX 222. We will discuss the ecological principles and processes that drive the structure and function of rangeland ecosystems. We will focus on the intersections of plant, animal, ecosystem, and landscape ecology. We will weave in discussions of management to understand how rangeland dynamics contribute and respond to differing management paradigms.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Practicum or Planning Course

Rule: Must take one of the following courses

Note: FORS 498 Internship must be approved by fire minor advisor prior to registration and taken for 3 credits

	Course	Credits
	FORS 440 - Forest Stand Management Offered autumn. Prereq., FORS 202 or 302; FORS 341; FORS 347 or 349. The management and manipulation of forest stands to reach multiple objectives, with a focus on the planning of forest operations for a community partner.	3 Credits

	FORS 495 - Wildland RxFire Practicum Offered wintersession. Co-convened with FORS 544. Prereq. Fire experience and Consent of Instructor. An intensive field course providing students with technical training, practical applications, and theoretical foundations in ecological burning for restoration purposes. Class is typically held in southeastern United States.	3 Credits
	FORS 498 - Internship Offered every term. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off-campus. Prior approval must be obtained from faculty advisor and Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	NRSM 495 - ESR Practicum (R-6) Offered every semester. Prereq., senior standing in the Ecological Resotration major and successful completion of NRSM 344, a faculty-approved practicum proposal; and consent of instructor. The goal of this service-learning practicum is for students to gain real-world experience in research, monitoring, or project implementation. Students will implement a project under the supervision of faculty and mentors from local management agencies, organizations or other sponsors.	1 To 6 Credits
	PTRM 485 - Recreation Planning Offered spring. Prereq., PTRM 217S and PTRM 300. Offered autumn. Needs of recreation opportunities and response to those needs through planning, demand assessment and resource analysis.	3 Credits
	WILD 480 - The Upshot--Appld Wildlife Mgt Offered spring. Prereq/Coreq.,WILD 370 or WILD 470. Designed for students to apply their knowledge in the development of wildlife management planning.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Meteorology or Climate Course

Rule: Must take one of the following courses

	Course	**Credits**
	ERTH 303N - Weather and Climate Offered spring. Same as CCS 303N. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements, North American weather systems, and climate change. To succeed in this course students should have comfort with basic algebra.	3 Credits

	NRSM 418 - Ecosystem Climatology Interactions between the biosphere and atmosphere to advanced undergraduate students and graduate students. This course will explore the interactions between Earth's biosphere and atmosphere and how they affect climate over a range of scales. We will focus on the exchange of energy, mass, and important elements between the biosphere and atmosphere and how this exchange can lead to fascinating feedbacks in Earth's climate system. Basic physics and math is not required but it is recommended.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Measurements & Analysis Electives

Rule: Must take one of the following courses

	Course	Credits
	FORS 202 - Forest Mensuration Offered spring. Prereq., FORS 201 or STAT 216 or SOCI 202 or WILD 240; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. The theory and practice of timber inventory and growth projection, including field measurements, sampling procedures, statistical methods, inventory compilation, and stand growth simulation under specified management prescriptions. Stand growth under specified management prescriptions.	3 Credits
	FORS 350 - Forestry Apps of GIS Offered spring. Prereq., FORS 250 or FORS 284 or GPHY 284. Introduction to the basic concepts and techniques of computerized spatial data management and analysis systems and application to natural resource management.	3 Credits
	FORS 351 - Env Remote Sensing Offered spring. The theory and application of photo- and electro-optical remote sensing for mapping resources and developing information systems.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Natural/Management Science Electives

Rule: Take at least one course from the following, but if one of these courses is required for the major a second elective must be taken

	Course	Credits
	BIOE 449 - Plant Biogeography Offered intermittently. Prereq., consent of instr. Description of the distribution of plants and animals at global, continental and regional scales. Analysis of ecological and historical factors influencing distribution and association.	3 Credits

	FORS 331 - Wildland Fuel Management Offered autumn. Prereq., FORS 230 or consent of instr. The fire ecology of some western vegetation types is discussed. Elements of the principles of wildland fuel management are presented. Prescribed fire use and mechanical manipulation are matched to historic ecosystem processes. Smoke management considerations and health issues are also presented.	3 Credits
	FORS 347 - Multiple Resource Silviculture Offered spring. Prereq., FORS 330 or BIOE 370. Credit not allowed for both FORS 347 and 349. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.	3 Credits
	FORS 349 - Practice of Silviculture Offered autumn. Prereq., FORS 202 or FORS 302 and FORS 241N and either prereq or coreq FORS 330. Practice of Silviculture is designed primarily for Forestry majors (open to others with appropriate prerequisites), and will consider the conceptual foundations behind various silvicultural practices and techniques, as well as and their application in forest ecosystems to meet multiple resource objectives. The course will cover natural stand dynamics, stand assessment and site classification schemes, even- and uneven-aged silvicultural systems, thinning/stand density concepts, regeneration practices, stand diagnosis and prescription development, vegetative management strategies for diverse objectives, along with quantitative assessment and modeling of alternative prescriptions.	3 Credits
	GPHY 317 - Geomorphology Offered autumn even-numbered years. Prereq., GPHY 111N or GEO 101N. Important landforms and landscapes, their biophysical processes, and their formative elements.	3 Credits
	NRSM 335 - Environmental Entomology Offered autumn odd years. An introduction to the importance of insects in ecosystem function and process, and their use in ecological monitoring as indicators of ecological change, degradation, and the efficacy of ecological restoration efforts. This course also covers the effects of climate change and biological invasions in the context of both pest and beneficial insect species.	3 Credits
	NRSM 385 - Watershed Hydrology Offered autumn and spring. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.	3 Credits
	NRSM 465 - Restoration Ecology Offered spring. Prereq., graduate or junior or senior standing and NRSM 265 and one 300-400 level ecology courses: BIOE 370, BIOE 428, BIOE 447, BIOE 448, FORS 330, or NRSM 462; or consent of instructor. This course covers the primary ecological theories that inform the practice of ecological restoration. Topics include the dynamic nature of ecological systems, community assembly, biodiversity and ecosystem functioning, food web dynamics, ecological engineering, macroecology, and statistical issues and study design.	3 Credits
	WILD 370 - Wildlife Habitat Cons & Mgmt Offered autumn and spring. Prereq., junior/senior standing in wildlife biology, BIOE 370, or consent of instr. Application of principles of wildlife biology to conservation and management of wild bird and mammal habitats including field applications.	3 Credits

Minimum Required Grade: C-	3-6 Total Credits Required

Social Science Electives

Rule: Take at least one course from the following, but if one of these courses is required for the major a second elective must be taken

	Course	Credits
	FORS 320 - Forest Environmental Economics Offered autumn. Prereq., ECNS 201S; and M 121 and M 122 or M 151 or M 162 or M 171 or M 172. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.	3 Credits
	NASX 303E - Ecol Persp in Nat Amer Trad Offered Autumn and Spring. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.	3 Credits
	NRSM 379 - Collab in Nat Res Decisions Offered autumn. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.	3 Credits
	NRSM 422 - Nat Res Policy/Administration Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
	PTRM 482 - Wilderness & Protctd Area Mgt Offered spring. Prereq., PTRM 217S, or consent of instructor. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for wilderness and protected area management.	3 Credits
Minimum Required Grade: C-		3-6 Total Credits Required

Ethical & Human Values Elective within Minor

Rule: Can take the elective courses

Note: can take either course for minor and will work for General Education Requirement

	Course	Credits

	NASX 303E - Ecol Persp in Nat Amer Trad Offered Autumn and Spring. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.	3 Credits
	NRSM 489E - Ethics Forestry & Conservation Offered autumn. Prereq., junior or senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.	3 Credits
Minimum Required Grade: C-		

Geographic Information Systems

Department Faculty

Professor

Anna Klene, Professor

Associate Professor

Carl Seielstad, Associate Research Professor; Fire/Fuels Program Manager, National Center for Landscape Fire Analysis

Adjunct

Kevin McManigal, Lecturer & GIST Certificate Coordinator

Geographic Information Systems Certificate

Certificate in GIS Sciences and Technologies

The Certificate in GIS Sciences and Technologies, jointly offered by the departments of Geography, and Forest Management, is aimed at present or future professionals or scientists who require skills in GIS technologies. The purpose of this program is to provide undergraduate students or individuals possessing an undergraduate degree with the training, knowledge, and understanding necessary to acquire, process, analyze, and properly display digital geographic data.

Special Requirements for the Certificate

To earn a certificate in GIS Sciences and Technologies, students must either complete or have completed an undergraduate degree and complete a minimum of20 semester credit hours of course work, including 9 to 11 required credits and 9 to 11 elective credits as described below. Students must achieve at least an overall grade point average of 3.0 for courses within the program in order to earn a certificate. The certificate will be awarded upon the successful completion of all of the requirements of the certificate and the undergraduate degree.

Certificate of Art - Geographic Information Systems

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 20

Required Cumulative GPA: 3.0

Required GIS Core Courses

Rule: Must complete 1 from each of the following subcategories
Minimum Required Grade: C-
9-11 Total Credits Required

Introduction to GIS

Rule: Must complete 1 and only 1 of the following courses

Note: Prior to Fall 2013, this was fulfilled by FOR 250 & 350 or GPHY 381 & 382. In 2013 this requirement could be fulfilled with FORS 284.

	Course	Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Photogrammetry/Remote Sensing

Rule: Must complete 3-4 credits of the following courses

Note: GPHY 487 and 489 should be completed together.

	Course	Credits
	FORS 351 - Env Remote Sensing Offered spring. The theory and application of photo- and electro-optical remote sensing for mapping resources and developing information systems.	3 Credits
	GPHY 487 - Remote Sensing/Raster GIS Offered autumn. Prereq. or coreq., GPHY 284 or FORS 250 or Consent of Instructor. Coreq., GPHY 489. Basic principles of remote sensing and analyzing images within a raster GIS. Review current data sources.	3 Credits
	GPHY 489 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Prereq., or coreq., GPHY 482, 486 or 487. Lab to accompany cartography and GIS courses.	1 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Additional Required Courses

Rule: Must complete 3-4 credits of the following courses

Note: GPHY 488 and 489 should be completed together. Spring 2014 and 2015, GPHY 488 and 489 are fulfilled by GPHY 491 GIS Applications.

	Course	Credits
	FORS 350 - Forestry Apps of GIS Offered spring. Prereq., FORS 250 or FORS 284 or GPHY 284. Introduction to the basic concepts and techniques of computerized spatial data management and analysis systems and application to natural resource management.	3 Credits
	GPHY 488 - Thematic Cartography & GIS Offered spring. Prereq., GPHY 284 or GPHY 381 or FORS 250 or Consent of Instructor. Application of GIS for managing natural and cultural resources. Covers choropleth maps, dot maps, proportional figure maps, isarithmic maps, and others. Includes computer mapping and GIS exercises. Students need to register for a required linked lab section.	3 Credits
	GPHY 489 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Prereq., or coreq., GPHY 482, 486 or 487. Lab to accompany cartography and GIS courses.	1 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Advanced Elective Courses

Rule: Must complete 9-11 credits of the following subcategories
Note: Students can choose electives from any subcategory/ies.
Minimum Required Grade: C-
9-11 Total Credits Required

Raster GIS, Remote Sensing, and Image Analysis

Rule: May complete 4-8 credits from the following courses
Note: GPHY 587 and 489 should be completed together.

	Course	Credits
	FORS 551 - Digital Image Processing Offered intermittently. Prereq., FORS 351 or consent of instr. Fundamentals of electro-optical digital remote sensors, data compilation, preprocessing, and pattern recognition. Level: Graduate	4 Credits
	GPHY 587 - Image Analysis & Modeling Offered every two years. Prereq., GPHY 487 or FORS 351 or Consent of instructor; coreq., GPHY 589. Advanced topics in image analysis (e.g. hyperspectral images and pattern-recognition-based classification) and foundations of simple raster-based models. Level: Graduate	3 Credits
	GPHY 589 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Laboratory to accompany GPHY 587 or 588. Level: Graduate	1 Credits

Minimum Required Grade: C-	4-8 Total Credits Required

Vector GIS and Networks

Rule: May complete 3-11 credits of the following courses

Note: GPHY 486 and 489 should be completed together. GPHY 588 and 589 should be completed together.

	Course	Credits
	GPHY 486 - Transport, Planning & GIS Offered intermittently during wintersession (2 credits) or spring semester (3 credits.) Coreq., GPHY 489. A project-oriented course focusing on patterns and trends in urban passenger transportation, principles of transport planning, and modeling in GIS-T. To succeed in this course students should have comfort with basic algebra and statistics.	3 Credits
	GPHY 489 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Prereq., or coreq., GPHY 482, 486 or 487. Lab to accompany cartography and GIS courses.	1 Credits
	GPHY 580 - Seminar GIS & Cartography (R-9) Offered every two years. Seminar topics in cartography and GIS. Applications to advanced studies in human and physical geography. Level: Graduate	3 Credits
	GPHY 588 - Vector GIS Offered autumn. Coreq., GPHY 589. Theoretical/conceptual and practical aspects of entity-based GIS modeling and spatial analysis. Point pattern analysis (i.e. cluster detection, density analysis, kriging), network analysis (i.e. network construction, network-based spatial statistics, accessibility modeling), and areal pattern analysis (i.e. spatial autocorrelative pattern, spatial regression modeling). Applications in urban and environmental planning, transportation, natural resource management, ecology, health, criminology, engineering, and business. To succeed in this course students should have familiarity with GIS. Level: Graduate	3 Credits
	GPHY 589 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Laboratory to accompany GPHY 587 or 588. Level: Graduate	1 Credits
Minimum Required Grade: C-		3-11 Total Credits Required

Data Management and Programming

Rule: May complete 3-10 credits of the following courses

Note: GPHY 468 and 469 should be completed together.

	Course	Credits

	CSCI 250 - Computer Mdlng/Science Majors Offered autumn. Prereq., basic computer and spreadsheet literacy; coreq., M 162 or 171. An introduction to programming in Python with an emphasis on problems arising in the sciences, including: function plotting, data fitting, file input/output, solving ordinary differential equations, matrix manipulation, and sensor networks. A student can take at most one of CSCI 172, CSCI 250, CRT 280, and CRT 281 for credit.	3 Credits
	FORS 505 - Sampling Methods Offered spring. Prereq., consent of instr. Fundamentals of statistical sampling emphasizing natural and environmental resource applications. Principles of inferences and alternative estimators are studied in the context of simple random, systematic, unequal probability, stratified, and 3P/Poisson designs. Variable radius plot sampling, line intersect sampling, and other probability proportional to size designs used in forest and ecological inventories are also covered. Level: Graduate	3 Credits
	GPHY 468 - Community & Regional Analysis Offered autumn. Coreq., GPHY 469. Socio-demographic analysis of communities and regions: population, employment, and spatial interaction. Hands-on course designed for future planners, GIS analysts, and others interested in socio-demographic change. To succeed in this course students should have comfort with basic algebra.	3 Credits
	GPHY 469 - Planning & Analysis Laboratory Offered autumn. Coreq., GPHY 468. Laboratory to accompany GPHY 468.	1 Credits
Minimum Required Grade: C-		3-10 Total Credits Required

GIS Applications

Rule: May complete 3-11 credits of the following courses

Note: GPHY 482 and 489 should be completed together.

	Course	**Credits**
	ANTY 452 - GIS in Archaeology Offered intermittently. Prereq., ANTY 250s. Anthropological and archaeological data acquisition, management, and analysis using Geographic Information Systems (GIS) tools and techniques.	3 Credits
	FORS 503 - GIS:Meth & Applic I Offered intermittently. Prereq., consent of instr. Introduction to the theory and development of statistical gradient and predictive distribution models in the resource and conservation sciences. Course will develop climatic, edaphic, biophysical, and inventory data sources for use in predictive distribution modeling. Survey of multiple modeling approaches, limitations and assumptions, and applications in the resource and conservation fields. Emphasis on the integration of GIS and raster analysis methods with spatial and non-spatial statistical techniques. Level: Graduate	3 Credits

	GPHY 385 - Field Techniques Offered autumn and intermittently in spring. Prereq., GPHY 112N or Consent of Instructor. Field techniques used by geographers and planners in making field observations and in collecting data.	3 Credits
	GPHY 481 - Advanced Cartographic Design Offered autumn. Prereq., GPHY 284 or FORS 250 or Consent of Instructor. The course concentrates on the presentation of spatial data and the construction of cartographic products that have clear communication and excellent aesthetic design. The class meets the University's service learning course objectives through a semester long project where students consult with a client, design and construct a map, and deliver a final product.	3 Credits
	GPHY 482 - Spatial Analysis & GIS Offered intermittently. Prereq., GPHY 284 or Consent of Instructor. Coreq., GPHY 489. Quantitative analysis of spatial data, including techniques for pattern analysis, classification, and interpolation within a GIS environment.	3 Credits
	GPHY 489 - Cartography/GIS Laboratory (R-4) Offered autumn and spring. Prereq., or coreq., GPHY 482, 486 or 487. Lab to accompany cartography and GIS courses.	1 Credits
	GPHY 564 - Planning Design Offered spring even-numbered years. Prereq., graduate standing or Consent of Instructor. Analysis of land-use problems and design. Level: Graduate	3 Credits
	WILD 562 - Wildlife Habitat Modeling Offered spring, odd years. Prereq., consent of instr. A survey of theory and applications in the study of resource selection by animals. Level: Graduate	3 Credits
Minimum Required Grade: C-		3-11 Total Credits Required

aggs School of Pharmacy

Patient care is at the center of pharmacy practice. As the medication experts on the health care team, our students will be prepared to promote the health and well-being of individuals and communities. Our curriculum supports interprofessional education and focuses on the development of professional leaders engaged in service.

The Skaggs School of Pharmacy was established in 1907 at Montana State College, was transferred to the University of Montana in 1913, and resides in the College of Health Professions and Biomedical Sciences. The Skaggs School of Pharmacy consists of two departments, Pharmacy Practice and Biomedical and Pharmaceutical Sciences, and is a member of the American Association of Colleges of Pharmacy. The entry-level doctor of pharmacy program is fully accredited by the Accreditation Council for Pharmacy Education, 135 S. LaSalle Street, Suite 4100, Chicago IL 60603-4810, telephone (312) 664-3575, (800) 533-3606; FAX (312) 664-4652; Accreditation Council for Pharmacy Education website (http://www.acpe-accredit.org/)

The curriculum offered by the Skaggs School of Pharmacy consists of a six-year program leading to the entry-level Pharm.D. degree. The first two years, or pre-professional portion of the curriculum, are spent in studies of the basic biological and physical sciences, and in course work necessary to satisfy the University general education requirements. During the first three years of the professional program, students devote their time to the study of the biomedical and pharmaceutical sciences and pharmacy practice. Areas of study include biochemistry, microbiology, medicinal chemistry, pharmaceutics, pharmacology, social and administrative pharmacy, and therapeutics. The final professional year is entirely experiential and designed to fully prepare students to enter the profession as pharmacist patient care providers.

A program of selected electives allows the student to obtain further educational experience in specialized areas. Students in the professional program may choose elective courses in community pharmacy practice, management, research and teaching, hospital and institutional pharmacy practice, and a variety of therapeutic-based topics.

In addition to their formal educational program, to become registered pharmacists, students must complete practical experience under the direction of registered pharmacists and pass the NAPLEX and MPJE exams administered by the National Association of Boards of Pharmacy.

Career opportunities exist in the fields of community pharmacy, ambulatory care pharmacy, hospital and other institutional pharmacy, federal or state government service, public health agencies, and with the pharmaceutical industry. Those with advanced degrees or residency training are in demand for research positions and in pharmaceutical education.

High School Preparation: In addition to the general University admission requirements, algebra, trigonometry, biology, chemistry, physics and a course in computers are recommended.

Pre-pharmacy Program: The pre-pharmacy curriculum, which requires a minimum of two years of full-time study, may be taken at any accredited college or university. Students at the University of Montana-Missoula may enter the pre-pharmacy program during any semester. It is recommended that students considering pharmacy as a major declare a pre-pharmacy major as early as possible in order to receive appropriate advising. Upon designating pre-pharmacy as a major, students will be assigned an advisor within the pharmacy program.

Professional Pharmacy Program: Students must apply for admission to the professional program. Class size in the professional pharmacy program is restricted and admission to the program is competitive. For information on program requirements and the application procedure, refer to Prospective Students on the pharmacy program website (http://health.umt.edu/pharmacy/)

Department of Pharmacy Practice

Michael P. Rivey, Chair

The Department of Pharmacy Practice provides academic course work for the Doctor of Pharmacy and Masters degrees, conducts research in the broad area of health care, and provides service to the profession of pharmacy and other health care disciplines.

Faculty

Professors

Douglas R. Allington, Professor

Donna G. Beall, Professor and Director, Student Affairs

Jean T. Carter, Ph.D., Professor and Coordinator, Assessment

Vincent J. Colucci, Professor

Gayle A. Hudgins, Professor and Director, Experiential Programs

Sarah Johnston Miller, Professor

Michael P. Rivey, Professor and Chair

Associate Professors

Annjeanette E. Belcourt-Dittloff, Associate Professor

Sherrill Brown, Associate Professor

Kendra Procacci, Associate Professor

Assistant Professors

Kerry J. Haney, Assistant Professor

Rory Johnson, Assistant Professor

Kimberly Madson, Assistant Professor

Ian McGrane, Assistant Professor

Instructor

Lisa Venuti

Emeritus Professors

David S. Forbes, Professor and Dean

Lori J. Morin, Professor and Assistant Dean

Department of Biomedical and Pharmaceutical Sciences

Elizabeth A. Putnam, Chair

The Department of Biomedical and Pharmaceutical Sciences offers a curriculum in support of the Doctor of Pharmacy (Pharm.D.) degree and graduate programs in the biomedical and pharmaceutical sciences. Degree programs include the M.S. in Neuroscience, Pharmaceutical Sciences, Toxicology and Medicinal Chemistry; and the Ph.D. in Neuroscience, Pharmaceutical Sciences and Drug Design, Toxicology, and Medicinal Chemistry. These programs provide education and training in pharmacology, toxicology, neurobiology, neurochemistry, medicinal chemistry, and molecular genetics. Program graduates are well prepared for careers in academia, government and industry.

Faculty

Professors

Howard D. Beall, Professor and Associate Dean

Richard J. Bridges, Regents Professor and Director, Center for Structural and Functional Neuroscience

Fernando Cardozo-Pelaez, Professor

J. Douglas Coffin, Professor

Andrij Holian, Professor and Director, Center for Environmental Health Science and Toxicology Graduate Program

Michael Kavanaugh, Professor

Diana I. Lurie, Professor

Nicholas Natale, Professor and Director, Medicinal Chemistry Graduate Program

Curtis W. Noonan, Professor and Director, Graduate Education and Research

Elizabeth A. Putnam, Professor and Chair

David M. Shepherd, Professor

Charles M. Thompson, Professor

Associate Professors

Philippe Diaz, Associate Professor

Darrell Jackson, Associate Professor and Coordinator, Graduate Education

Keith K. Parker, Associate Professor

Mark A. Pershouse, Associate Professor and Director, Pre-medical Science Program

Kevan Roberts, Associate Professor

Jerry R. Smith, Associate Professor and Coordinator, Pre-Pharmacy Program

Erica L. Woodahl, Associate Professor and Director, Pharmaceutical Sciences and Drug Design Graduate Program

Assistant Professors

Yoon Hee Cho, Assistant Professor

Kasper Hansen, Assistant Professor

Travis Hughes, Assistant Professor

Monica Serban, Assistant Professor

Lecturer

David S. Freeman

Jayme Hartzell

Research Professor

Helene Bazin-Lee, Research Professor

David Burkhart, Research Professor

Andrea Stierle, Research Professor

Donald Stierle, Research Professor

Research Assistant Professors

Fanny Astruc-Diaz, Research Assistant Professor

Celine Beamer, Research Assistant Professor

Zeina Jaffar, Research Assistant Professor

Christopher T. Migliaccio, Research Assistant Professor

Sarjubhai A. Patel, Research Assistant Professor

Thomas Rau, Research Assistant Professor

Emeritus Professors

Todd G. Cochran, Professor

Charles L. Eyer, Professor

Vernon R. Grund, Professor and Associate Dean

Rustem S. Medora, Professor

Biomedical /Pharmaceutical Sci

Back to Top

- BMED 545 - Research Lab Rotations
  Credits: 2 TO 3. (R 6) Offered autumn and spring. Prereq., BMED 443 or graduate standing. Experience in research methods in departmental research laboratories. Level: Graduate
- BMED 581 - Research Seminar Biomed
  Credits: 1. (R-9) Offered autumn and spring. Oral and written presentations of experimental research results and selected literature topics in biomedical science. Level: Graduate
- BMED 582 - Research Seminar Neurosci.
  Credits: 1. (R-9) Offered autumn and spring. Oral and written presentations of experimental research results and selected literature topics in neuroscience. Level: Graduate
- BMED 583 - Research Seminar Toxicol
  Credits: 1. (R-9) Offered autumn and spring. Oral and written presentations of experimental research results and selected literature topics in toxicology. Level: Graduate
- BMED 593 - Current Research Literature
  Credits: 1. (R-6) Offered autumn and spring. Readings and discussion of current research literature. Level: Graduate
- BMED 594 - Seminar
  Credits: 1. (R 6) Offered autumn and spring. Prereq., senior or graduate standing. Level: Graduate
- BMED 595 - Special Topics
  Credits: 1 TO 9. (R 9) Offered intermittently. Prereq., senior or graduate standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics. Level: Graduate
- BMED 596 - Independent Study
  Credits: 1 TO 9. (R 9) Offered every term. Level: Graduate
- BMED 597 - Research (MS)
  Credits: 1 TO 9. (R 10) Offered every term. Level: Graduate
- BMED 599 - Thesis (MS)
  Credits: 1 TO 9. (R 10) Offered every term. Level: Graduate
- BMED 605 - Biomedical Research Ethics
  Credits: 1. Offered spring. Overview of biomedical research ethics and regulations. Topics include ethics and morality in science, scientific integrity, conflicts of interest, human and animal experimentation, intellectual property, plagiarism. Level: Graduate
- BMED 609 - Biomedical Statistics
  Credits: 3. Offered autumn. Experimental design and statistical analysis relevant to the biomedical sciences. Level: Graduate
- BMED 610 - Neuropharmacology
  Credits: 3. Offered alternate years. Prereq., BMED 613 or 661 or consent of instr. Focus on current areas of research and research technologies in neuropharmacology. Development of presentations and research grant proposals. Level: Graduate

- BMED 613 - Pharmacology I

  Credits: 4. Offered autumn. Prereq., BIOC 380 or equiv. Fundamentals of pharmacology and drug action. Level: Graduate

- BMED 614 - Pharmacology II

  Credits: 4. Offered spring. Prereq., BMED 613. Fundamentals of pharmacology and drug action. Continuation of BMED 613. Level: Graduate

- BMED 615 - Molecular Pharmacology

  Credits: 3. Offered alternate years. Prereq., consent of instr. Focus on the basic theories, principles, and practical implications of receptor pharmacology to quantify drug activity. Major emphasis in pharmacodynamics with some time devoted to related pharmacokinetic parameters. Level: Graduate

- BMED 620 - Cardiovas Pharm & Tox

  Credits: 3. Offered alternate years. Prereq., BMED 613 or 641, or consent of instr. Recent advances in pharmacology and toxicology of the cardiovascular system. In-depth study of regulatory mechanisms and the effect of immune response and xenobiotics on cardiovascular function. Level: Graduate

- BMED 621 - Drug Design

  Credits: 4. Offered alternate years. Prereq., Organic Chemistry and Biochemistry or consent of instr. Introduction to the main concepts in medicinal chemistry. Laboratory experience in instrumental analysis, interpreting NMR, MS cleavage, and structure elucidation Level: Graduate

- BMED 622 - Drug Pharmacodynamics

  Credits: 4. Offered alternate years. Organic Chemistry and Biochemistry or consent of instr. Introduction and topical coverage of how drugs form complexes with biological targets to cause an array of responses. Level: Graduate

- BMED 623 - Drug Diversity

  Credits: 3. Offered alternate years. Organic Chemistry and Biochemistry or consent of instr. Topics in chemogenomics and diversity oriented synthesis will be covered. Level: Graduate

- BMED 624 - Methods in Medicinal Chemistry

  Credits: 3. Offered intermittently. Prereq., Organic chemistry and biochemistry or consent of instr. Novel approaches to small molecule therapeutics for disease targeting. Level: Graduate

- BMED 625 - Drug Synthesis

  Credits: 3. Offered intermittently. An introduction to the past and current synthetic approaches and total syntheses of biologically active drugs. Level: Graduate

- BMED 626 - Res Meth Biochem Pharm

  Credits: 1 TO 3. (R-6) Offered every term. Prereq., consent of instr. Laboratory course intended to familiarize students with the instruments, and expertise of current research techniques in the biomedical sciences. Level: Graduate

- BMED 627 - Professional Development

  Credits: 1. Offered autumn and spring. Prereq., Organic Chemistry and Biochemistry or consent of instr. Developmental training in presentations, writing, reviewing, literature research, teaching, research methods, grant writing, ethics, and business aspects in medicinal chemistry. Level: Graduate

- BMED 628 - Grantsmanship

  Credits: 1. This course is designed to provide graduate students and postdoctoral fellows with the necessary background, tools and hands on experience to be able to confidently write and submit a research grant. The focus is on preparing a fellowship application although training will be provided for more typical investigator initiated grants. The entire process from conception, preparation, review and revision will be covered. This course will be a requirement for students on training grants. No prerequisites are required. Level: Graduate

- BMED 630 - Pharmacogenetics

  Credits: 3. Offered alternate years. Prereq., BIOC 380 or 481. The genetic basis of differential drug activity. Level: Graduate

- BMED 632 - Advanced Pharmacokinetics

Credits: 4. Offered Fall. Recent developments and emerging concepts in theoretical and experimental pharmacokinetics, pharmacogenomics, and drug disposition. Critical analysis of the current literature. Level: Graduate

- BMED 637 - Topics in Pharm Sci

  Credits: 1. (R-12) Offered autumn and spring. Current topics in the pharmaceutical sciences, including pharmacology, pharmacokinetics, medicinal chemistry, and drug design and development. Level: Graduate

- BMED 641 - Toxicology I-Principles

  Credits: 3. Offered autumn. Prereq., BIOC 481 or equiv. Introduction to toxicology. Topics include general principles, risk assessment, organ system toxicology, introduction to carcinogenesis, and genetic toxicology. Level: Graduate

- BMED 642 - Toxicology II-Agents

  Credits: 3. Offered spring. Prereq., BMED 641. Toxic agents and the diseases caused by those agents. Includes common toxicants in the environment and occupational settings as well as drug induced toxicity. Level: Graduate

- BMED 643 - Cellular & Molecular Tox

  Credits: 3. Offered autumn. Prereq., BMED 641. Cellular and molecular mechanisms of toxicity. Includes apoptosis, regulation of cell cycle, genetic toxicology, and signal transduction pathways in toxicity. Level: Graduate

- BMED 644 - Immunopharm/Immunotox

  Credits: 3. Offered alternate years. Prereq., MICB 410 or equiv. The impacts of xenobiotic agents on the immune system. Level: Graduate

- BMED 645 - Respiratory Toxicology

  Credits: 3. Offered alternate years. Prereq., BMED 641. The lung and associated immune systems and their response to inhaled immunogenic and toxicological agents. Level: Graduate

- BMED 646 - Neurotoxicology

  Credits: 3. Offered alternate years. Prereq., BMED 641 or 661. Mechanisms of major neurotoxins and neurological disease. Level: Graduate

- BMED 647 - Topics in Toxicology

  Credits: 1 TO 3. (R-9) Offered autumn or spring. Prereq., BMED 613, or 641, or 661. Current topics in toxicology. Level: Graduate

- BMED 657 - Topics in Immunology

  Credits: 1 TO 3. (R-9) Offered autumn or spring. Prereq., MICB 410 or equiv. Current topics in immunology. Level: Graduate

- BMED 661 - Neuroscience I

  Credits: 4. Offered autumn. Prereq., BIOC 380 or equiv. Overview of the structure and function of the nervous system. Level: Graduate

- BMED 662 - Neuroscience II

  Credits: 4. Offered spring. Prereq., BMED 661. Fundamentals of developmental neuroscience, behavioral and cognitive neuroscience and computational neuroscience. Level: Graduate

- BMED 667 - Topics in Neurobiology

  Credits: 1 TO 3. (R-9) Offered every year. Prereq., BMED 661. Current topics in neuroscience. Level: Graduate

- BMED 668 - Neuropathology

  Credits: 4. Prereq., BMED 347 or BMED 661. This course will provide a comprehensive overview of the pathological findings in neurological disease, and their biological basis. This course will provide neuroscience graduate students with a clear description of molecular and cellular processes and reactions that are relevant to the normal and abnormal functioning of the nervous system. Level: Graduate

- BMED 694 - Seminar

  Credits: 1 TO 3. (R 6) Offered autumn and spring. Prereq., senior or graduate standing. Level: Graduate

- BMED 697 - Research (PhD)
  Credits: 1 TO 9. (R-50) Offered every term. Level: Graduate
- BMED 699 - Dissertation (PhD)
  Credits: 1 TO 9. (R-50) Offered every term. Level: Graduate

Pharmacy

Back to Top

- PHAR 110N - Use & Abuse of Drugs
  Credits: 3. Offered autumn and spring. Drug dependence and abuse. Course Attributes: Natural Science Course (N)
- PHAR 191 - Special Topics
  Credits: 1 TO 6. (R 16) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.
- PHAR 324 - Medicinal Plants
  Credits: 2 TO 3. Offered autumn. Same as AAHS 324. Plants and other natural substances which nourish, heal, injure, or alter the conscious mind.
- PHAR 328 - Antimicrobial Agents
  Credits: 3. Offered spring. Prereq., BIOM 400. Chemical characteristics, biochemical mechanisms, and pharmacological properties of drugs used in treating infections caused by microorganisms.
- PHAR 331 - Pharmaceutics
  Credits: 4. Offered spring. Prereq., CHMY 222, first professional year standing. Physical pharmacy and dosage forms.
- PHAR 341 - Physiological Systems I
  Credits: 4. Offered autumn. Prereq., CHMY 222, PHSX 205N, BIOB 260/261. Principles of anatomy, normal and abnormal physiology.
- PHAR 342 - Physiological Systems II
  Credits: 4. Offered spring. Prereq., PHAR 341. Continuation of 341.
- PHAR 361 - Pharm Sci Lab I
  Credits: 1. Offered autumn. Coreq., PHAR 300, PHAR 341. Laboratory experience in the pharmaceutical sciences.
- PHAR 362 - Pharm Sci Lab II
  Credits: 1. Offered spring. Prereq., PHAR 361; coreq., PHAR 331 and 342. Continuation of 361.
- PHAR 371 - Integrated Studies I
  Credits: 1. Prereq., first professional year standing in pharmacy. Small group conferences designed to develop professional skills while integrating material from other pharmacy courses.
- PHAR 372 - Integrated Studies II
  Credits: 1. Prereq., PHAR 371. Continuation of 371.
- PHAR 381 - Pharmaceutical Biochemistry
  Credits: 4. Offered every Autumn. Prereq., admission to Pharmacy School. Fundamental biochemistry from a pharmaceutical sciences perspective; management of genetic information, molecular structure and function, and metabolic reactions, especially as relating to drug actions and targets.
- PHAR 390 - Undergraduate Research
  Credits: 1 TO 3. (R-6) Offered autumn and spring. Prereq., consent of instr. Individual participation in library or laboratory research. Course Attributes: Research & Creative Schlrshp
- PHAR 391 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- PHAR 421 - Medicinal Chem I
  Credits: 3. Offered autumn. The chemistry of organic compounds used medicinally and their biochemical mechanisms of action.
- PHAR 422 - Medicinal Chem II
  Credits: 3. Offered spring. Prereq., BMED 421. Continuation of 421.
- PHAR 430 - Pharmacogenetics
  Credits: 2. Offered each semester online. Prereq., BMED 421, 432. The genetic basis of differential drug activity.
- PHAR 432 - Clinical Pharmacokinetics
  Credits: 3. Offered autumn. Principles of pharmacokinetics including the processes of ADME (absorption, distribution, metabolism, and elimination) and applications in the clinical setting.
- PHAR 443 - Pharmacol & Toxicol I
  Credits: 4. Offered autumn. Prereq., second professional year standing. Basic principles of pharmacology, toxicology and therapeutics.
- PHAR 444 - Pharmacology & Toxicol II
  Credits: 4. Offered spring. Prereq., BMED 443. Continuation of 443.
- PHAR 445 - Immunopharm/Immunotox
  Credits: 3. Offered in alternating years. Prereq., consent of instr. This course is designed to introduce advanced undergraduate students and professional Pharmacy students to various aspects involved in the development and mechanisms of action of immunomodulatory drugs and chemicals.
- PHAR 484 - Introduction to Toxicology
  Credits: 3. Offered every autumn. Prereq., Biology, Chemistry, and Biochemistry; or consent of instructor. Online instruction provides students with a comprehensive introduction to environmental health and the principles of toxicology. Included: Human toxic substance exposure, processing of toxic substances and the impact on cells and tissues including genetic and epigenetic factors. Graduate increment includes design of a research study in toxicology and leading class
- PHAR 485 - Environmental Health
  Credits: 3. Offered every spring. Prereq., Biology, Chemistry, Biochemistry, and Intro. Toxicology; or consent of instructor. Online instruction for the principles, concepts and applications of environmental health. Included: Methods and paradigm used in the field ranging from ecology to epidemiology, from toxicology to environmental psychology, from genetics to ethics. This course will provide students with a comprehensive introduction to environmental health. This includes an overview of the methods and paradigms used in the field, ranging from ecology to epidemiology, from toxicology to environmental psychology, and from genetics to ethics.
- PHAR 486 - Epidem Translational
  Credits: 3. Offered every Autumn. Prereq., Biology, Chemistry, Biochemistry, Statistics, and Intro. Toxicology; or consent of instructor. Online instruction to introduce the principles and methods for epidemiologic and clinical investigation, including biostatistical applications. Students will learn to conduct and interpret epidemiological and clinical studies on environmental toxicology. Graduate increment includes design and analysis of an epidemiological study and leading class discussions.
- PHAR 490 - Undergraduate Research
  Credits: 1 TO 3. (R-6) Offered autumn and spring. Prereq., consent of instr. Individual participation in library or laboratory research. Course Attributes: Research & Creative Schlrshp
- PHAR 491 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- PHAR 494 - Seminar
  Credits: 1 TO 6. (R-6) Offered intermittently. Varying topics.
- PHAR 591 - Special Topics
  Credits: 1 TO 12. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.

School of Physical Therapy and Rehabilitation Science

Anita M. Santasier, Chair

The professional program in physical therapy grants the Doctor of Physical Therapy (DPT) degree. The program has an entry-level DPT program, an entry-level DPT/MBA program, and a post-entry level transitional DPT curriculum leading to the DPT degree. The following section describes the profession and the pre-professional requirements and application procedures. This information also is available on the program website.

The Profession

Physical Therapy is a health care profession concerned with the habilitation and rehabilitation of individuals with limitations resulting from pathological, surgical, or traumatic conditions. The profession is also concerned with health, wellness and prevention of disability in an effort to promote maximal use of an individual's capacities and reduce their risk of illness. Physical therapists are trained to evaluate neurological, musculoskeletal, cardiovascular, respiratory, and integumentary disorders. Exercise and physical agents, such as heat, cold, light, electricity, and massage are used to promote healing, relieve pain, maintain or restore strength, and improve joint range of motion and functional capabilities. Physical therapists play key roles in: 1) the physical therapy diagnosis and treatment of musculoskeletal injuries, 2) wellness and injury prevention, 3) rehabilitating injured workers to return to their jobs, 4) rehabilitating senior citizens after debilitating disease to enable them to remain independent, 5) helping handicapped children to live within the least restrictive environment, 6) preventing and treating sports-related injuries, and 7) conducting research in basic and clinical sciences. Knowledge of the psychological and social ramifications of disability affecting the individual and his or her family is an integral part of physical therapy intervention.

Physical therapy is practiced in diverse settings, including hospitals, clinics, skilled nursing facilities, sports medicine programs, public schools, and private practices. Legislation in Montana permits direct public access to physical therapists for evaluation and treatment without a physician referral. Even so, physical therapists remain committed to functioning as an integral member of the health care team.

The physical therapy educational program at the University of Montana seeks to prepare physical therapists who have a broad base of skills upon graduation, and who will be able to implement physical therapy services in many settings, especially rural environments. Rural settings require a physical therapist to serve not only as a provider of direct patient care, but also to fulfill the roles of administrator, supervisor, teacher, consultant, and researcher. Students successfully completing the professional program meet the competencies for physical therapy as determined by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association, receive a Doctor of Physical Therapy degree, and are prepared for state licensure.

The Physical Therapy Program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association through 2018.

High School Preparation:

Specific high school courses are not required but a background is recommended in mathematics, chemistry, biology, physics, English, and communication skills.

Pre-Professional Physical Therapy Curriculum and Application Process

Students wishing to apply to the professional physical therapy program at the University of Montana-Missoula may select any major for their undergraduate degree. While pre-physical therapy is not a degree-granting major at the University, prospective applicants should list pre-professional physical therapy (PPPT) as their second major. This will allow them also to receive advising from the School of Physical Therapy and Rehabilitation Science in order to assure adequate preparation for the professional program. In addition to completing a baccalaureate degree, applicants must take the prerequisite courses and meet additional application requirements listed on our website. All prerequisite courses must be taken for a traditional letter grade and must be completed with a grade of "C" (2.00) or better.

Department Faculty

Associate Professor

James J. Laskin, Associate Professor, Physical Therapy
Ryan L. Mizner, Associate Professor
Anita Santasier, Chair

Assistant Professor

Jennifer Bell, Clinical Assistant Professor/Associate Director of Clinical Education
David Levison, Clinical Assistant Professor, Director of Clinical Education
Sambit Mohapatra, Assistant Professor, Physical Therapy

Alex Santos, Assistant Professor, Physical Therapy, Director of Motor Control Laboratory

Affiliates

Kimberly Mize, Affiliated Clinical Faculty

Allied Health: Health Sciences

Back to Top

- AHHS 582 - Implementing Value Based System Change in Rehabilitation
  Credits: 1. Offered autumn, spring, summer. Prereq. Enrolled in the Rehabilitation Business Administration Certificate. Enhance the learner's appreciation of the management, data, and system skills needed to successfully innovate and implement necessary value based practice changes to compete in the changing rehabilitation healthcare landscape. Level: Graduate
- AHHS 584 - Leadership to Develop Innovative Clinical Practice for Value Based Care
  Credits: 2. This course will explore the drivers of health care reform, the key strategies to implement value based care. The required leadership and organizational characteristics to support innovations and transformative health care. Level: Graduate
- AHHS 599 - System Skills to Thrive in a Changing Health Care Environment - Capstone Project
  Credits: 4. This course will culminate in a capstone project describing the concept of system skills (ie., intrinsic interest in data, the ability to devise solutions to problems identified by the data; and understanding of how to implement practice innovations on a large scale) with relevance to physical therapy practice. The course has three components 1) the importance of measurement and the resultant systems data, 2) the concept of 'positive deviants' and provides case examples of innovators who are using systems data to solve clinical challenges, and 3) performance of a capstone project by the student related to their clinical issue. Level: Graduate

Physical Therapy

Back to Top

- P T 503 - PT and Health Care System
  Credits: 4. Offered autumn. Enrolled in entry-level DPT program or permission of instructor. An introduction to physical therapy and its relationship to the health care system. Topics include introduction to PT as a profession, medical terminology, medical records, teaching and learning, ethics, laws and professional issues in physical therapy. Level: Graduate
- P T 510 - Applied Clinical Anatomy
  Credits: 5. Offered autumn. Enrolled in entry-level DPT program or permission of instructor. Anatomy of the neuromusculoskeletal system and body cavities in relation to movement and function with clinical correlates. Course lab fee. Level: Graduate
- P T 516 - Movement System Exam & Eval
  Credits: 5. Offered autumn. Enrolled in entry-level DPT program or permission of instructor. Principles of musculoskeletal examination and evaluation including posture, neurologic screen, palpation, measurement of ROM and muscle performance, assessment of muscle length, and joint play. Level: Graduate
- P T 519 - Musculoskeletal Management I
  Credits: 4. Offered spring. Enrolled in entry-level DPT program or permission of instructor. Principles of musculoskeletal examination, evaluation, and intervention. The focus is application of anatomic and biomechanical principles when examining posture and movement, identification of abnormal movement patterns, and analysis of underlying neuromuscular impairments. Level: Graduate
- P T 520 - Development Through Life Span
  Credits: 2. Offered spring. Enrolled in entry-level DPT program or permission of instructor.Presentation of changes in adults they progress through the lifespan. Includes the

functional changes associated with aging, assessing and managng fall risk, performance and interpretation of functional outcome measures. Level: Graduate

- P T 523 - Clin Med I: Intro to Med

  Credits: 1. Offered autumn. Enrolled in entry-level DPT program or permission of instructor. Introduction to medical screening within the patient/client meanagment model. Level: Graduate

- P T 524 - Clin Med II Intro to Med

  Credits: 1. Offered spring. Enrolled in entry-level DPT program or permission of instructor. Introduction to pharmacology, medical management of selected orthopedic and hematological conditions. Level: Graduate

- P T 525 - Clin Med III

  Credits: 2. Offered autumn. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Pathophysiology, medical and pharmacological management of hepatic, oncological, immunological diseases and organ transplantation. Level: Graduate

- P T 526 - Foundat Skills & Interv

  Credits: 3. Offered autumn. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Basic skills of transfers, bed mobility, gait assistive device use, and soft tissue mobilization. Level: Graduate

- P T 527 - Physical & Electrophys Agents

  Credits: 3. Offered spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Physiology, indications, contraindications, and application of electrotherapy and physical agents. Theory and application of electrodiagnostic and electrotherapeutic procedures. Level: Graduate

- P T 529 - Biomechanics

  Credits: 4. Offered autumn. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Principles of biomechanics and application to physical therapy. Level: Graduate

- P T 530 - Clin Appl Ex Phys

  Credits: 4. Offered spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor.. Principles and applications of the physiological adaptations to acute and chronic exercise stresses, exercise assessment/testing, prescription and progression of the exercise program, and the adaptations of exercise interventions in the clinical environment. Basic principles and application of Proprioceptive Neuromuscular Facilitation (PNF). Level: Graduate

- P T 536 - Neurosciences

  Credits: 5. Offered spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Anatomy of the head and neck, and neuroanatomy of the human nervous system with emphasis on evaluation of central nervous system lesions and pathological conditions, clinical applications to physical therapy. Level: Graduate

- P T 560 - Clinical Reasoning I

  Credits: 1. Offered spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Introduction to the clinical reasoning process in physical therapy, faculty research and scholarship options, and laboratory orientation. Level: Graduate

- P T 563 - Cardiopulmonary PT

  Credits: 3. Offered autumn. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Cardiovascular and pulmonary pathology, pharmacology, and differential diagnosis. Physical therapy assessment and interventions for patients with cardiovascular and/or pulmonary disease. Level: Graduate

- P T 565 - PT for Children

  Credits: 2. Offered autumn. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Normal development throughout childhood. Physical therapy examination, Eevaluation and intervention of children with neuromotor and musculoskeletal physical therapy rehabilitation of childrendysfunction including. Pphysical therapy for children in school systems. Level: Graduate

- P T 567 - Neurorehabilitation I

Credits: 3. Offered autumn. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Neurologic physical therapy assessment and intervention of adults. principles of neuroplasticity, motor control, motor learning and application to physical therapy neurorehabilitation. Includes wheelchair seating and mobility assessment and prescription. Level: Graduate

- P T 568 - Neurorehab II

  Credits: 3. Offered spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Neurologic physical therapy assessment and intervention of adults. Principles of NeuroPlasticity, Motor control, motor learning and application to physical therapy neurorehabilitation. Includes assessment and treatment of vestibular system and conditions. Neurologic physical therapy assessment and intervention of adults with traumatic brain injury or spinal cord injury, degenerative neurological conditions, neurological diseases. Also includes assessment and treatment of vestibular system and conditions. Level: Graduate

- P T 569 - Musculoskeletal Mgt II

  Credits: 5. Offered autumn. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Principles of musculoskeletal examination, evaluation, and intervention for the hip, knee, ankle, foot, and lumbar spine. Level: Graduate

- P T 570 - Psych of Illness & Disabil

  Credits: 2. Offered autumn. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Psychologicalsocial response to illness and disability to include patient motivation and, patient/professional interaction, and treatment of for persons with chronic paindisability throughout the lifespan. Level: Graduate

- P T 572 - Practice & Administration

  Credits: 2. Offered spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Practice management and operations explored with emphasis on strategic planning, human resource management, regulatory compliance/risk management, quality improvement and coding payment. Level: Graduate

- P T 573 - Musculoskeletal Mgt III

  Credits: 4. Offered spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Principles of musculoskeletal examination, evaluation, and intervention for the shoulder, elbow, wrist, hand, temporomandibular joint (TMJ), thoracic and cervical spine. Level: Graduate

- P T 576 - Clinical Reasoning II

  Credits: 2. Offered autumn. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. This course will build on the foundations established in Clinical Reasoning I. Issues related to clinical and research ethics will be discussed. The principles of evidence based practice (EBP), including the application of evidence and the creation of evidence, will be part of the discussion. Limitations of EBP and it role in the changing health care environment, critical appraisal of the literature, statistical knowledge, and weighing evidence for clinical decision making will be presented. A writing assignment, application of debate/persuasive argument techniques, and collaborative group exercise will be a part of this course. Level: Graduate

- P T 577 - App Clin Teaching in PT

  Credits: 1 TO 2. Offered autumn. Teaching experience in practical application of clinical therapy. Level: Graduate

- P T 578 - PT for Select Populations

  Credits: 6. Offered spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Physical therapy assessment and interventions are addressed in the areas of occupational health, pregnancy and pelvic floor dysfunction, wound management and prosthetic management. This course also addresses the needs and concerns of special populations including recreational and sporting opportunities. Level: Graduate

- P T 582 - Clinical Experience

  Credits: 1. Offered spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. A mix of classroom and clinical experiences to introduce students to the expectations of professional practice. CR/NCR grading. Level: Graduate

- P T 583 - Integrated Clinical Experience-Orthopedic Physical Therapy

Credits: 2. Offered atumn and spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. An integrated, part-time clinical experience with emphasis on patient evaluation, treatment, and professional development. CR/NCR grading. Level: Graduate

- P T 584 - Integrated Clinical Experience-Neurologic Physical Therapy

  Credits: 2. Offered autumn and spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. An integrated, part-time clinical experience with emphasis on patient evaluation, treatment, and professional development. CR/NCR grading. Level: Graduate

- P T 587 - Clinical Internship I

  Credits: 4. Offered summer. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Eight weeks of full-time clinical experience with emphasis on developing patient evaluation and treatment skills. CR/NCR grading. Level: Graduate

- P T 589 - Clinical Internship II

  Credits: 5. Offered summer. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Eight weeks of full-time clinical experience with emphasis on learning about administrative issues, problem solving, time management, and communication skills. Continuation of development of patient treatment and evaluation skills. CR/NCR grading. Level: Graduate

- P T 598 - Internship

  Credits: 1. Offered summer. Prereq., Successful completion of all prior clinical experiences, and previous DPT coursework. Eight weeks of full-time clinical experience with emphasis on learning about administrative issues, problem solving, time management, and communication skills. Continuation of development of patient treatment and evaluation skills. Only CR/NCR grading. Level: Graduate

- P T 626 - Clin Med IV

  Credits: 3. Offered autumn. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Course will focus on the role of the physical therapist in a Direct Access environment. Pathology, differential screening, pharmacotherapeutics, evaluation and management of integumentary, gastrointestinal, endocrine/metabolic and urogenital disease. Course will address abdominal and dermatological screening. Level: Graduate

- P T 627 - Prevention & Wellness Educ

  Credits: 2. Offered autumn. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Nutrition, health promotion, patient and support network education, exercise/fitness, disease and injury prevention, life span emphasis. Level: Graduate

- P T 628 - PT Student Clinic

  Credits: 1. Offered autumn and spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Open to 2nd and 3rd year DPT students. Supervised service learning experience for students providing physical therapy rehabilitation and wellness activities to individuals without health insurance. Level: Graduate Course Attributes: Service Learning/Volunteer Service Learning

- P T 641 - Introduction to Health-Focused Lifestyle Intervention

  Credits: 2. Offered autumn, spring. Prereq. must be enrolled in HFLI certificate program. Introduces students to Health-Focused Lifestyle Interventions [HFLI] and builds the context for physical-therapist led lifestyle intervention teams to include, exploring the public health context for HFLI teams, identifying target patient populations, and presenting the core competencies required to participate in and lead HFLI teams. Level: Graduate

- P T 642 - Defining Framework for Measuring, Planning and Delivering Health-Focused Lifestyle Interventions

  Credits: 2. Offered autumn, spring. Prereq., must be Enrolled in HFLI certificate program and prerq., or coreq., of PT 641 required. Introduces students to health belief and behavior models as well as a structured methodology for assessment of health status for individuals and at a community level. Level: Graduate

- P T 643 - Principles of Interpersonal and Organizational Health Coaching

  Credits: 2. Offered autumn, spring. Prereq., must be enrolled in HFLI certificate program and PT 641 and PT 642 required. Introduction to health coaching principles, motivational interviewing,

and the influence of health belief and behavior models on developing individual and community level action plans. Level: Graduate

- P T 644 - Competencies for Health-Focused Lifestyle Intervention [HFLI] Teams

  Credits: 2. Offered autumn, spring. Prereq., must be enrolled in a PT program and PT 641, PT 642. Provides students with an overview of the knowledge, skills, and abilities in four specific content areas that are important for ensuring success of physical therapist led HFLI teams. Level: Graduate

- P T 645 - Developing a Health-Focused Lifestyle Intervention Business Plan

  Credits: 2. Offered autumn, spring. Prereq., must be enrolled in HFLI certificate program and PT 641, PT 642, PT 643, and PT 644 required. Guides students through a structured process to develop an achievable strategic plan for a physical therapist-led HFLI program or business. Level: Graduate

- P T 649 - Health-Focused Lifestyle Intervention Capstone Experience

  Credits: 2. Offered spring, autumn. Prereq., must be enrolled in HFLI certificate program and PT 641, PT 642, PT 643, PT 644, and PT 645 required. Provides students with an onsite capstone experience that is designed to provide students the opportunity to interact with faculty in a variety of classes, discussions and presentations. Students will also present their business plans to and receive feedback from faculty with significant HFLI business experience. Level: Graduate

- P T 650 - Screening for Medical Disorder

  Credits: 2. Offered autumn, spring. Prereq. Enrolled in t-DPT curriculum. PT's role, responsibilities, and decision-making processes regarding appropriate referral of a patient to a physician for evaluation of medical conditions outside the scope of physical therapy. Level: Graduate

- P T 651 - Med Imaging in Rehabilitation

  Credits: 2. Offered autumn, summer. Prereq. Enrolled in t-DPT curriculum. Provide the physical therapy clinical learner with the tools needed to interpret and apply specialized medical imaging information to the rehabilitation patient. Level: Graduate

- P T 652 - Pharmacology in Rehab

  Credits: 2. Offered autumn, spring. Prereq., in a PT curriculum. Provide clinical learners with the primary drug classes and the physiologic basis of their action. Level: Graduate

- P T 653 - Legal and Ethical Issues

  Credits: 1. Offered spring, summer. Prereq. Enrolled in a PT curriculum. Foundational information as to the legal, ethical and administrative decision making process often facing physical therapists in clinical practice. Level: Graduate

- P T 654 - Clinical Decision Making

  Credits: 1. Offered autumn, spring. Prereq. Enrolled in a PT curriculum. Provide ways to utilize the Guide to PT Practice for effective and efficient clinical decision making. Level: Graduate

- P T 655 - Business and Marketing

  Credits: 2. Offered spring, summer. Prereq. Enrolled in a PT curriculum. Enhance the PT clinical learner's appreciation of business and management practices needed to succeed within the current healthcare landscape. Level: Graduate

- P T 656 - Coding and Reimbursement

  Credits: 1. Offered autumn, summer. Prereq. Enrolled in a PT curriculum. Educate the clinical learner in analyzing reimbursement of current billing, accounts receivable, collection procedures and use of proper coding. Level: Graduate

- P T 657 - Professionalism

  Credits: 2. Prereq. Enrolled in a PT curriculum. This seminar course provides the clinical learner with the opportunity to analyze and discuss the roles/responsibilities and challenges/opportunities inherent in doctoral level physical therapy practice. Only CR/NCR grading. Level: Graduate

- P T 658 - Critical Assessment

  Credits: 3. Offered autumn, spring. Prereq. Enrolled in t-DPT curriculum. Develop skills in the application of evidence-based practice as a model for effective clinical decision-making. Level: Graduate

- P T 659 - Capstone Project

  Credits: 4. Prereq. Enrolled in t-DPT curriculum. Development of the skills needed by physical therapists to fulfill their role as effective participants in the research process. Guide student

through the capstone case report completion process. Only CR/NCR grading. Level: Graduate

- P T 660 - Mgmt of MS Disorders

  Credits: 2. Offered autumn, spring, summer. Prereq., enrolled in t-DPT curriculum. PT's role, responsibilities, and decision-making processes regarding patients with musculoskeletal disorders. Level: Graduate

- P T 661 - Mgmt of CVP Disorders

  Credits: 2. Offered autumn, spring and summer. prereq., Enrolled in t-DPT curriculum. PT's role, responsibilities and decision-making processes regarding appropriate patient management of persons with cardiovascular and/or pulmonary disorders. Level: Graduate

- P T 662 - Mgmt of Neuro Disorders

  Credits: 2. Offered autumn, spring, summer. Prereq., enrolled in t-DPT curriculum. PT's role, responsibilities, and decision-making processes regarding patients with neurological disorders. Level: Graduate

- P T 663 - Mgmt of Integ Disorders

  Credits: 2. Offered autumn, spring, summer. Prereq., Enrolled in t-DPT curriculum. PT's role, responsibilities, and decision-making processes regarding patients with integumentary disorders. Level: Graduate

- P T 664 - Wellenss and Health Promotion

  Credits: 2. Offered autumn, spring, summer. Prereq., Enrolled in t-DPT curriculum. PT's role, responsibilities, and decision-making processes regarding patient/client involvement with wellness and health promotion. Level: Graduate

- P T 672 - Research in PT II

  Credits: 2. Offered autumn. Data analysis, writing of research manuscript, presentation of project. Level: Graduate

- P T 676 - Clinical Reasoning III

  Credits: 3. Offered autumn. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Course addresses elements of clinical mastery, professional development, career options, ethics and patient advocacy. Each student develops and presents a case report and provides peer review and feedback. Level: Graduate

- P T 679 - Trends & Scholarly Act.

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor. Students are required to complete at least 6 credits during their 2nd and 3rd years. Seminar sections that focus on advanced clinical topics in physical therapy and/or engagement in research with an individual faculty advisor. Traditional or CR/NCR grading as determined by instructor. Level: Graduate

- P T 680 - Clinical Internship

  Credits: 12. Offered spring. Enrolled in entry-level DPT program and passed all previous DPT courses or permission of instructor.Prereq., Successful completion of all prior DPT coursework and clinical experiences. Final summative experience is a 15 week clinical internship. Includes writing and presentation of case study or special project. CR/NCR grading. Level: Graduate

- P T 690 - Research

  Credits: 1 TO 10. (R-10) Prereq., consent of instr. Traditional or CR/NCR grading as determined by instructor. Level: Graduate

- P T 691 - Special Topics

  Credits: 1 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Traditional or CR/NCR grading as determined by instructor. Level: Graduate

- P T 692 - Independent Study

  Credits: 1 TO 4. (R-6) Prereq., consent of instructor. Traditional or CR/NCR grading as determined by instructor. Level: Graduate

- P T 694 - Seminar/Workshop

  Credits: 1 TO 6. (R-6) Traditional or CR/NCR grading as determined by course instructor. Level: Graduate

- P T 699 - Thesis/Dissertation

  Credits: 1 TO 10. (R-10) Offered every term. Only CR/NCR grading. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

School of Social Work

Ryan Tolleson Knee, Chair

Social work is a human service profession concerned with the prevention of social problems, the maintenance of satisfying social relationships and the enhancement of human development. It focuses on people and their social environment. Social workers employ a range of knowledge and skills as the basis for constructive intervention on behalf of various client populations. The Bachelor of Arts and Master of Social Work degrees are offered. The Bachelor of Arts degree prepares graduates for generalist social work practice. The Master of Social Work degree prepares graduates for advanced integrated practice.

The undergraduate major in social work is available for those who wish to prepare for: (1) professional employment in the social services; (2) entry into a graduate school of social work; (3) graduate education in other helping service professions. The graduate degree in social work prepares graduates for advanced social work practice. Students can enroll in a two year full-time program or in a part-time option. See the University of Montana Graduate Catalog for a description of the Master of Social Work program. Both the Bachelor of Arts degree and the Master of Social Work degree are fully accredited by the Council on Social Work Education.

Department Faculty

Professor

Janet Finn, Professor
Cindy Garthwait, Professor & Interdisciplinary Gerontolology Program Coordinator
Ryan Tolleson Knee, Professor

Associate Professor

Keith Anderson, Associate Professor
Mary-Ann Bowman, Associate Professor & BSW Program Director
James Caringi, Associate Professor & Chair

Assistant Professor

Bart Klika, Assistant Professor
Laurie Walker, Assistant Professor

Adjunct

Kate Chapin, Director of Field Education
Kerrie Ghenie, Adjunct Assistant Professor
Charlie Wellenstein, Adjunct Assistant Professor

Social Work

Back to Top

- S W 100 - Intro Soc Welfare

  Credits: 3. Offered autumn and spring. Overview of human services, programs and problems in meeting social welfare needs, with emphasis on the complexity of social services and their historical development. Analysis of the value, attitudinal, economic and political factors that condition the provision of these services.

- S W 198 - Internship

  Credits: 1 TO 3. (R-3) Offered autumn and spring. Prereq., consent of instructor. Application of classroom learning in off campus internship placements. Prior approval must be obtained from the School of Social Work practicum coordinator and from the Center for Work-Based Learning. A maximum of 6 credits of Internship (198, 398,) may count toward graduation. Course Attributes: Internships/Practicums

- S W 200 - Intro Soc Wrk Pract

  Credits: 4. Offered autumn and spring. Prereq., SW 100, sophomore standing. Introduction to social work as a profession, including an examination of goals, guiding philosophy and basic assumptions. Emphasis on a generalist framework of social work practice and the development of beginning analytical and practice skills.

- S W 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- S W 300 - Hum Behav & Soc Environ

  Credits: 3. Offered autumn and spring. Prereq., SW 100 and 200, and junior standing in Social Work. Using the ecological-social systems framework, the integration of knowledge and concepts from the social and behavioral sciences for analysis and assessment of problems and issues relevant to professional social work practice. Course Attributes: Writing Course-Advanced

- S W 310 - S W Policy & Services

  Credits: 3. Offered autumn and spring. Prereq., SW 200; Social Work major. Social welfare history, program planning and analysis with review of selected policies on the national level. Includes international comparisons. Upper-division writing course. Course Attributes: Writing Course-Advanced

- S W 323 - Women & Soc Action Amer

  Credits: 3. Offered intermittently. Prereq., one of SW 100, SOCI 101S, or ANTY 101H or consent of instr. Same as WS 323. Focus on women's experiences of and contributions to social change in North, South and Central America in the mid to late-20th century. Through case studies, testimonials, discussions with activists and Internet connections examine social constructions of gender, compare forms of social action in diverse cultural, political and historical contexts, link practice to theories of social participation, and reflect on lessons learned from women's experiences.

- S W 325 - Introduction to Gerontology

  Credits: 3. Offered spring. Prereq., junior standing or consent of instr. An interdisciplinary discussion of the health and social issues of older persons, utilizing didactic presentations, clinical demonstrations, and curricular modules.

- S W 350 - S W Interven Meth I

  Credits: 3. Offered autumn and spring. Prereq., SW 200; Social Work major. The study and application of the generalist model of social work practice and related techniques and procedures for the assessment, intervention and prevention of problems in social functioning. Emphasis on individuals and families.

- S W 360 - S W Interven Meth II

  Credits: 4. Offered autumn and spring. Prereq., Social Work major. The study and application of the generalist model of social work practice and related techniques and procedures for the assessment, intervention and prevention of problems in social functioning. Emphasis on groups and team meetings.

- S W 391 - Special Topics

  Credits: 1 TO 12. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- S W 398 - Internship

  Credits: 1 TO 3. (R-3) Offered autumn and spring. Application of classroom learning in off campus internship placements. Prior approval must be obtained from the School of Social Work practicum coordinator and the Center for Work-Based Learning. A maximum of 6 credits of Internship (198, 398) may count toward graduation. Course Attributes: Internships/Practicums

- S W 400 - Social Work Research

  Credits: 3. Offered autumn and spring. Prereq., SW 360; Social Work major. Utilization of social research findings in social work practice. Techniques for the collection and analysis of clinical data. Special emphasis on research methodology for the assessment of practitioner and program effectiveness.

- S W 410E - Social Work Ethics

Credits: 3. Offered autumn and spring. Prereq., SW 200, admission into the BSW program. Analysis of specific ethical dilemmas from personal, professional and policy perspectives. Focus on ethical issues common to the helping professions and utilizing codes of ethics as guides to decision-making. The relationship between professional ethical issues and the development of social policy. Course Attributes: Ethical & Human Values Course

- S W 420 - Child Abuse/Child Welfare

  Credits: 3. Offered autumn. Prereq., junior standing or consent of instr. Signs and symptoms of physical and sexual abuse and neglect, family dynamics in abuse and neglect, the legal context, programs of prevention and intervention, foster care, special needs adoptions and related issues in child welfare.

- S W 423 - Addiction Studies

  Credits: 3. Offered spring. Same as PSYX 441 and SOCI 433. Examination of chemical dependency and behavioral compulsions, including alcohol and other drugs, gambling, eating disorders, sexual addictions. Ecosystems perspective on etiology, treatment, prevention, family dynamics, community response, and societal contributors. Students engage in a service learning community project which is integrated into the classroom through initial training, regular reflection, and other activities. Course Attributes: Service Learning/Volunteer Service Learning

- S W 450 - Children and Youth at Risk

  Credits: 3. Offered autumn or spring. Focus on the aspects of society that pose a threat to today's youth and the ramification of those threats on youth development and behavior. Resilience and protective factors for youth at risk and strategies to work with those youth. Attention to related systems in Missoula and Montana, including juvenile justice, mental health, child protection, substance abuse, and education.

- S W 455 - Social Gerontology

  Credits: 3. Offered autumn. Examination of the field of social gerontology, including an examination of the major bio/psycho/social/cultural/spiritual theories of aging, the service system, social and health issues, family and care-giving dynamics, social policy, and end of life concerns.

- S W 465 - Social Work Global Context

  Credits: 3. Offered spring even-numbered years. Prereq., upper-division or graduate standing. Examination of globalization, human rights, poverty, international aid, and gender issues; their relationship to social work and social justice, and strategies for action.

- S W 472 - Relational Development

  Credits: 3. Offered autumn and spring. This course covers strategies to help children whose early experiences deprived them of the nurturing needed to develop the essential capacity to connect with others. Emphasis is on significant discoveries in the fields of neuroscience, childhood trauma, grief and loss, child development, and family systems that have fueled the evolution of the Attachment Treatment philosophy to a broader method of caring for emotionally distress children, the Relational Development treatment approach.

- S W 475 - Death, Dying and Grief

  Credits: 3. Offered intermittently. Examination of death, dying and grief from an ecological perspective, focusing on the processes of dying and theories of grief. Emphasis on physical, social, psychological, spiritual, and cultural influences that surround death and grief. Consideration of cultural norms, attitudes toward death, medical, legal and ethical issues of dying. Focus on normal and complicated grief.

- S W 485 - Counseling Theories

  Credits: 3. Offered autumn. Prereq., PSYX 100S. Same as COUN 485 and PSYX 442. This course introduces students to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies, and diversity issues.

- S W 487 - Advanced Practice I

  Credits: 2. Offered every term. Concurrent SW 495; admission to the practicum program. Consideration and discussion of practicum-related matters, professional development, and issues confronting the profession.

- S W 488 - Advanced Practice II

  Credits: 2. Concurrent with SW 495; admission to the practicum program. Consideration and discussion of practicum-related matters, professional development, and issues confronting the profession.

- S W 491 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- S W 492 - Independent Study

  Credits: 1 TO 10. (R 10) Offered intermittently. Prereq., 10 credits in social work. Independent work under the University omnibus option. See index. Course Attributes: Omnibus Course

- S W 495 - Field Work Practicum

  Credits: 5. (R-10) Offered every term. Prereq., SW 350 and 360 and approved application to practicum coordinator. Practicum must be taken over two consecutive semesters for a total of 10 credits. Minimum of one credit per semester. Cumulative grade average of 2.75 or above in SW 100, 200, 300, 350 and 360 and a 3.0 grade average for SW 200, 350 and 360 are required. Supervised field work in public and private agencies and institutions. Successful completion of the field work practicum requires a passing performance on the school administered professional social work competency examination. Course Attributes: Internships/Practicums

- S W 500 - Orientation

  Credits: 1. Prereq., admission to M.S.W. program. Seminar introducing M.S.W. students to program philosophy and social work's theory and value base. Level: Graduate

- S W 505 - Found Social Work Pract

  Credits: 2. Prereq., admission to M.S.W. program. Introductory practice course that examines generalist social work practice, dominant theoretical influences, and forces shaping social work over time. Level: Graduate

- S W 510 - Hum Behav Soc Envt I

  Credits: 3. Prereq., admission to M.S.W. program. Introduction to and critical consideration of social work perspectives on human behavior as influenced by the social environment. Particular attention is paid to biological, psychological, social, cultural and spiritual influences. Level: Graduate

- S W 511 - Hum Behav Soc Invt II

  Credits: 3. Prereq., admission to M.S.W. program and SW 510 or consent of instr. Advanced course on human behavior and social environment that addresses difference and diversity, histories and mechanisms of discrimination and oppression, and frameworks for thought and practice that recognize diversity and promote social justice. Level: Graduate

- S W 515 - Pract W Indiv & Families

  Credits: 4. Prereq., admission to M.S.W. program or consent of instr. Practice-oriented course building on students' developing knowledge of engagement, assessment, intervention and evaluation and the application to practice with individuals and families in context of community. Level: Graduate

- S W 520 - SW Research Methods

  Credits: 3. Prereq., admission to M.S.W. program or consent of instr. Introduction to principles, methodologies, technologies, and statistical approaches of human service research. Emphasis on beginning capabilities in evaluation of social work practice and skill development regarding use of published research. Level: Graduate

- S W 521 - Advanced Research

  Credits: 3. Prereq., SW 515. The use of research within the integrated practice model of social work through evaluation of practice and program evaluation. Advanced statistical concepts are applied to direct practice and five types of program evaluation. Level: Graduate

- S W 525 - Pract Groups & Communities

  Credits: 4. Prereq., admission to M.S.W. program or consent of instr. Practice oriented course addressing theories, frameworks, principles, and skills of group and community work. Dynamics of group work and examination of modalities such as mutual aid and social action groups. Level: Graduate

- S W 530 - History of Social Policy

  Credits: 3. Prereq., admission to M.S.W. program or consent of instr. Foundation in social welfare policy and services; examination of relationship between history social welfare policy and emergence of social work profession. Introduction to frameworks for policy analysis. Level: Graduate

- S W 531 - Social Policy Analysis
  Credits: 3. Prereq., SW 530. Focus on the analysis of existing or proposed policies specific to oppressed populations, rural areas and isolated communities. Level: Graduate
- S W 535 - Advanced Practice
  Credits: 4. Prereq., consent of instr. Builds on the skills, knowledge, and values of the foundation generalist and practice courses. Level: Graduate
- S W 545 - Organizational Leadership
  Credits: 3. Prereq., consent of instr. Advanced training in professional leadership and how to effectively conceive, plan, design, implement, manage, assess, and change contemporary organizations. Level: Graduate
- S W 551 - Couples and Family Therapy
  Credits: 3. Offered spring. Prereq., admission to the MSW program, SW 505, or consent of instructor. Course explores family-centered methods of clinical social work interventions with couples and families that can be applied in a variety of settings. Level: Graduate
- S W 552 - Psychopathology & S W
  Credits: 3. Prereq., admission to the MSW program, SW 505, or permission of instructor. Focus on current problems of children, adolescents, and adults of all ages that can be classified as a mental disorder under the DSM of the system. Includes information on theories within the bio-psycho-social paradigm of causality of disorders/conditions; on methods of assessment, including DSM; and an understanding of how social injustice, oppression and poverty impacts healthy growth and development across the life span. Level: Graduate
- S W 553 - Social Work Addictions
  Credits: 3. Offered spring semester. Prereq., admission to MSW program or by permission of instructor. The course examines historical and contemporary models of direct practice, and current ideological, political, policy and systemic challenges to the practice of social work in the addictions. Level: Graduate
- S W 576 - Found Integrative Sem I
  Credits: 1. Prereq., admission to MSW program, SW 505, 587. Seminar accompanying first semester foundation practicum in which students discuss experience with goal of integrating theory and practice. Level: Graduate
- S W 577 - Found Integrative Sem II
  Credits: 1. Prereq., admission to MSW program, SW 505, 587. Seminar accompanying second semester foundation practicum in which students discuss experience with goal of integrating theory and practice. Level: Graduate
- S W 578 - Advanced Seminar I
  Credits: 1. Prereq., SW 587. Critical analysis of how predominant social work theories and professional values and skills are being incorporated into the practicum. Level: Graduate
- S W 579 - Advanced Seminar II
  Credits: 1. Prereq., SW 578. Critical analysis of how predominant social work theories and professional values and skills are being incorporated into the practicum. Advanced portfolio development. Level: Graduate
- S W 586 - Found Practicum I
  Credits: 2. Prereq., admission to MSW program. First semester foundation field practicum experience in a supervised setting designed to provide opportunities to integrate classroom learning and field experiences. Level: Graduate
- S W 587 - Found Practicum II
  Credits: 2. Prereq., admission to MSW program, SW 505, 587. Second semester foundation field practicum experience in a supervised setting designed to provide opportunities to integrate classroom learning and field experiences. Level: Graduate
- S W 588 - Concentration Practicum I
  Credits: 3. Prereq., SW 587, 589. Advanced supervised field work in public and private agencies and institutions. Level: Graduate
- S W 589 - Concentration Practicum II

Credits: 3. Prereq., SW 588. Advanced supervised field work in public and private agencies and institutions. Level: Graduate

- S W 593 - Professional Portfolio
  Credits: 1. Prereq., foundation courses. Summative and in-depth written analysis of course work and practicum experience. Level: Graduate
- S W 594 - Graduate Seminar
  Credits: 3. (R-9) Offered autumn or spring. Prereq., admission to MSW program or consent of instr. In-depth analysis of a current social work issue. Level: Graduate
- S W 595 - Special Topics
  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., admission to MSW program or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- S W 596 - Independent Study
  Credits: 1 TO 9. (R-9) Offered autumn or spring. Prereq., admission to MSW program or consent of instr. Work on selected problems by individual students under direct faculty supervision. Level: Graduate
- S W 597 - Research
  Credits: 1 TO 9. (R-9) Offered autumn or spring. Prereq., admission to MSW program or consent of instr. Directed individual graduate research and study appropriate to background and objectives of the student. Level: Graduate

Social Work B.A.

Bachelor of Arts - Social Work

College of Health Prof Biomed

Catalog Year: 2016-2017

Degree Specific Credits: 65

Required Cumulative GPA: 2.75

Note: A minimum of 40 social work credits are required for this degree. No more than 60 social work credits will count toward graduation. Admission into the School of Social Work requires a 2.75 overall GPA, a 3.00 in Social Work courses and completion of 5 of 8 extra departmental courses.

Lower Division Core Courses

Rule: Take 32 Credits in the following subcategories

32 Total Credits Required

Social Science Requirements

Rule: All of the following courses are required.

	Course	Credits
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits

	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	PSYX 230 - Developmental Psychology Offered autumn, spring, summer. Prereq., PSYX 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect. Appropriate for Social Work, Nursing, Addiction Studies, Education, and Psychology.	3 Credits
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits
	S W 100 - Intro Soc Welfare Offered autumn and spring. Overview of human services, programs and problems in meeting social welfare needs, with emphasis on the complexity of social services and their historical development. Analysis of the value, attitudinal, economic and political factors that condition the provision of these services.	3 Credits
	S W 200 - Intro Soc Wrk Pract Offered autumn and spring. Prereq., SW 100, sophomore standing. Introduction to social work as a profession, including an examination of goals, guiding philosophy and basic assumptions. Emphasis on a generalist framework of social work practice and the development of beginning analytical and practice skills.	4 Credits
	SOCI 101S - Introduction to Sociology Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.	3 Credits
Minimum Required Grade: C-		23 Total Credits Required

Economics Requirement

Rule: Choose 1 of the following courses

	Course	Credits
	ECNS 101S - Economic Way of Thinking Offered autumn and spring. A critical examination of the market mechanism as a social decision-making device to guide the use of a nation's resources. The limitations of these processes in light of current economic problems such as the rise of the large corporation, monopoly, environmental degradation, economic discrimination and the increasing role of the government.	3 Credits

	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Human Population Requirement

Rule: Choose 1 of the following courses

	Course	Credits
	ANTY 122S - Race and Minorities Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.	3 Credits
	GPHY 121S - Human Geography Offered autumn and spring. Introduction to Human Geography focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.	3 Credits
	SOCI 220S - Race, Gender & Class Offered autumn. Same as WGS 220S. Analysis of the intersecting structure and dynamics of race, gender and class. Focus on power relationships, intergroup conflict and minority-group status.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Biological Requirement

Rule: Choose 1 of the following courses

	Course	Credits
	BIOB 101N - Discover Biology Offered every term. Contemporary exploration of the organization and complexity of living organisms and the systems in which they live. The central question of biology--relationship between form and function, acquisition and use of energy, and continuity between generations will be addressed through lectures and laboratory investigations. Credit not allowed toward a major in biology. Credit not allowed for both BIOB 101N and BIOB 160N.	3 Credits
	PSYX 250N - Fund of Biological Psychology Offered every term. Prereq., PSYX 100S. Introduction to the study of how psychological processes are supported by biological processes. Mechanisms across levels of analysis, from cells to individuals, are addressed.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Upper Core Courses

Rule: All courses listed are required

Note: 10 credits of S W 495 required over 2 semesters

	Course	Credits
	S W 300 - Hum Behav & Soc Environ Offered autumn and spring. Prereq., SW 100 and 200, and junior standing in Social Work. Using the ecological-social systems framework, the integration of knowledge and concepts from the social and behavioral sciences for analysis and assessment of problems and issues relevant to professional social work practice.	3 Credits
	S W 310 - S W Policy & Services Offered autumn and spring. Prereq., SW 200; Social Work major. Social welfare history, program planning and analysis with review of selected policies on the national level. Includes international comparisons. Upper-division writing course.	3 Credits
	S W 350 - S W Interven Meth I Offered autumn and spring. Prereq., SW 200; Social Work major. The study and application of the generalist model of social work practice and related techniques and procedures for the assessment, intervention and prevention of problems in social functioning. Emphasis on individuals and families.	3 Credits
	S W 360 - S W Interven Meth II Offered autumn and spring. Prereq., Social Work major. The study and application of the generalist model of social work practice and related techniques and procedures for the assessment, intervention and prevention of problems in social functioning. Emphasis on groups and team meetings.	4 Credits
	S W 400 - Social Work Research Offered autumn and spring. Prereq., SW 360; Social Work major. Utilization of social research findings in social work practice. Techniques for the collection and analysis of clinical data. Special emphasis on research methodology for the assessment of practitioner and program effectiveness.	3 Credits
	S W 410E - Social Work Ethics Offered autumn and spring. Prereq., SW 200, admission into the BSW program. Analysis of specific ethical dilemmas from personal, professional and policy perspectives. Focus on ethical issues common to the helping professions and utilizing codes of ethics as guides to decision-making. The relationship between professional ethical issues and the development of social policy.	3 Credits
	S W 487 - Advanced Practice I Offered every term. Concurrent SW 495; admission to the practicum program. Consideration and discussion of practicum-related matters, professional development, and issues confronting the profession.	2 Credits
	S W 488 - Advanced Practice II Concurrent with SW 495; admission to the practicum program. Consideration and discussion of practicum-related matters, professional development, and issues confronting the profession.	2 Credits

	S W 495 - Field Work Practicum (R-10) Offered every term. Prereq., SW 350 and 360 and approved application to practicum coordinator. Practicum must be taken over two consecutive semesters for a total of 10 credits. Minimum of one credit per semester. Cumulative grade average of 2.75 or above in SW 100, 200, 300, 350 and 360 and a 3.0 grade average for SW 200, 350 and 360 are required. Supervised field work in public and private agencies and institutions. Successful completion of the field work practicum requires a passing performance on the school administered professional social work competency examination.	5 Credits
Minimum Required Grade: C-		33 Total Credits Required

Gerontology Minor

Students in the Gerontology Minor program will study issues of aging from an interdisciplinary perspective and come to understand the interplay between them, including the health and medical as well as social and psychological needs of older persons. Although this interdisciplinary minor is housed in the School of Social Work, students in other majors may complete the minor in consultation with both the Chair of the Gerontology Minor and the students' academic advisors in their respective departments. Students must consult with their major advisor to select electives, practicum or volunteer experiences, and to integrate courses that will meet the requirements of the minor.

Minor - Gerontology (Minor)

College of Health Prof Biomed

Catalog Year: 2016-2017

Degree Specific Credits: 21
Required Cumulative GPA: 2.0

Lower Core Course

Rule: Must complete the following:

	Course	**Credits**
	PSYX 233 - Fund of Psychology of Aging Offered every term. An overview of theories and research findings in the psychology of adulthood and aging.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Core Courses

Rule: Must complete all of the following:

	Course	**Credits**

	AHHS 325 - Introduction to Gerontology Offered spring. Prereq., junior standing or consent of instr. An interdisciplinary discussion of the health and social issues of older persons, utilizing didactic presentations, clinical demonstrations, and curricular modules.	3 Credits
	AHHS 430 - Health Aspects of Aging Offered spring. Overview of the health aspects of aging in the United States including biological theories of aging, normal physiological changes associated with aging systems, common pathological problems associated with aging, cultural and ethnic differences in the health of elders, health promotion and healthy aging, and the health care continuum of care for older persons.	3 Credits
	S W 455 - Social Gerontology Offered autumn. Examination of the field of social gerontology, including an examination of the major bio/psycho/social/cultural/spiritual theories of aging, the service system, social and health issues, family and care-giving dynamics, social policy, and end of life concerns.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Gerontology Electives

Rule: Must complete 1 of the following courses

Note: A student must take a minimum of 3 elective credits with at least 25% of the content focused on gerontology. Students may petition for approval of another elective course.

	Course	**Credits**
	AHHS 201 - Living Well, Health & Disablil Offered autumn and spring. The development and implementation of exercise programs for individuals with physical disabilities or chronic illness.	2 Credits
	AHHS 327 - MGS Meeting (R-3) Offered spring. Attendance and participation in the Montana Gerontology Society meeting held annually in April.	1 Credits
	AHHS 420 - Geriatric Health Issues Prereq., Anatomy & physiology. A review of normal aspects of aging, common health problems associated with aging, and common pharmacological and non-pharmacological treatments of these problems in older persons.	3 Credits
	ANTY 426 - Culture, Health and Healing Offered autumn. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.	3 Credits
	COMX 485 - Communication and Health Offered yearly. Theory and research on the health correlates of human interaction.	3 Credits
	ECNS 310 - Intro Health Economics Offered intermittently. Prereq., economics course. Survey of market forces that govern the production and consumption of medical care in the U.S. market; uncertainty, asymmetric information, and concentrations of market power resulting in inefficient outcomes. Topics include cost escalations, role of medical insurance, and problems of an aging population.	3 Credits

	NASX 388 - Native Amer Health & Healing Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues covered will include current health conditions of American Indians, and the relationship from a cultural perspective on health, healing and medicine.	3 Credits
	PHL 321E - Philosophy & Biomedical Ethics Offered intermittently. Prereq., upper-division standing or consent of instr. An examination of ethical problems raised by the practice of medicine and by recent developments in medically-related biological sciences.	3 Credits
	S W 475 - Death, Dying and Grief Offered intermittently. Examination of death, dying and grief from an ecological perspective, focusing on the processes of dying and theories of grief. Emphasis on physical, social, psychological, spiritual, and cultural influences that surround death and grief. Consideration of cultural norms, attitudes toward death, medical, legal and ethical issues of dying. Focus on normal and complicated grief.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Integrating Courses

Rule: Must complete 1 of the following courses

Note: A course has been identified that will integrate the core course content with concepts within each student's major. A similar course can be identified in other majors if required. Students can also take NRSG 377 Introduction to Community Based Nursing through MSU with approval by advisor.

	Course	**Credits**
	CSD 360 - Language Disorders Offered spring. Prereq., CSD 210, CSD 320. Identification, assessment, and intervention for a variety of childhood and adult language disorders. Other topics include secondary conditions, potential developmental, psychosocial and educational concerns, multicultural considerations, and family roles.	3 Credits
	KIN 483 - Exercise Disease & Aging Offered spring. Prereq., KIN 320,321, 460; coreq. KIN 484. Focus on guidelines for exercise testing and prescription for individuals with chronic disease including heart disease, diabetes, hypertension, arthritis, osteoporosis, elderly and pulmonary disease. Class requires 25 assigned hours of service learning. Covers material necessary for ACSM clinical certification exam when combined with KIN 201, 320, 321, 460, and 484.	3 Credits
	P T 520 - Development Through Life Span Offered spring. Enrolled in entry-level DPT program or permission of instructor.Presentation of changes in adults they progress through the lifespan. Includes the functional changes associated with aging, assessing and managng fall risk, performance and interpretation of functional outcome measures. Level: Graduate	2 Credits

	PHAR 451 - Therapeutics I Offered autumn. Prereq., second professional year standing; coreq., PHAR 471; prereq. PHAR 328, PHAR 381, PHAR 331, PHAR 342. Pharmacotherapeutics of common disease states emphasizing pathophysiology and the selection, monitoring, and individualization of drug therapy. Applies the basic pharmaceutical sciences to patient care.	3 Credits
	S W 300 - Hum Behav & Soc Environ Offered autumn and spring. Prereq., SW 100 and 200, and junior standing in Social Work. Using the ecological-social systems framework, the integration of knowledge and concepts from the social and behavioral sciences for analysis and assessment of problems and issues relevant to professional social work practice.	3 Credits
	SOCI 332 - Sociology of the Family Offered autumn. Prereq., SOCI 101S. Historical, cross-cultural, and analytical study of the family. Emphasis on ideology, social structures, and agency affecting family composition and roles.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Practicum Courses

Rule: Must complete 1 of the following courses

Note: Students can also take NRSG 454 Urgent and Palliative Care through MSU with approval by advisor. Students in majors that do not have access to a practicum course can enroll in HS 326 Geriatric Practicum for up to 3 credits of service learning experience compatible with the student's major and interests.

	Course	**Credits**
	AHHS 395 - Geriatric Practicum (R-3) Offered spring. Prereq., HS 325. Service learning experience in geriatrics in a setting compatible with the student's major and interests.	1 To 3 Credits
	KIN 498 - Internship (R-6) Offered every term. Prereq. all HHP options minimum junior standing and ECP 120/121 (or equivalent). Prereqs per option. Exercise Science Applied: KIN 320/321. If internship is coaching or strength & conditioning must also have completed KIN 410 and COA 405. Exercise Science Pre-Professional: KIN 320/321. If internship is cardiac rehab must also have completed KIN 460/483/484. Community Health: CHTH 335. Supervised field experiences with private businesses, public agencies, or institutions. 45 hours of internship site work = 1 credit. A maximum of 6 credits of Internship 498 may count toward graduation. Students should not be registered for more than 14 credits their internship semester.	2 To 6 Credits
	P T 588 - Clinical Internship II Offered spring. Prereq., PT 587 and successful completion of year two DPT Autumn semester courses. Five weeks of full-time clinical experience with emphasis on patient evaluation and continuation of developing patient treatment skills. Only CR/NCR grading. Level: Graduate	4 Credits

	PHAR 585 - Geriatric APPE (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience with geriatric patients in the long term care and/or other pharmacy setting. Level: Graduate	4 Credits
	PSYX 398 - Internship (R-3) Offered every term. Prereq., consent of instructor. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 3 Credits
	S W 398 - Internship (R-3) Offered autumn and spring. Application of classroom learning in off campus internship placements. Prior approval must be obtained from the School of Social Work practicum coordinator and the Center for Work-Based Learning. A maximum of 6 credits of Internship (198, 398) may count toward graduation.	1 To 3 Credits
	S W 495 - Field Work Practicum (R-10) Offered every term. Prereq., SW 350 and 360 and approved application to practicum coordinator. Practicum must be taken over two consecutive semesters for a total of 10 credits. Minimum of one credit per semester. Cumulative grade average of 2.75 or above in SW 100, 200, 300, 350 and 360 and a 3.0 grade average for SW 200, 350 and 360 are required. Supervised field work in public and private agencies and institutions. Successful completion of the field work practicum requires a passing performance on the school administered professional social work competency examination.	5 Credits
	SOCI 498 - Internship (R-6) Offered every term. Prereq., SOCI 101S, 318 and 202; 2.75 GPA; junior standing and consent of instr. Supervised placement in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice.	1 To 6 Credits
	WGSS 398 - Coop Education/Internship R-6) Offered intermittently. Prereq., consent of director. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
Minimum Required Grade: C-		3 Total Credits Required

Health Sciences

Health science courses are concerned with fundamental issues in human health and disease and are, therefore, interdisciplinary in both scope and content. They have been designed not only for students anticipating careers in medicine, dentistry, nursing, public health, pharmacy, social work, medical technology, physical therapy, cytotechnology, and numerous other health care professions and services, but for all students interested in individual and community health, the clinical and paramedical arts, and the biomedical sciences. Health sciences courses are listed under two designations: 1) Allied Health: Health Sciences; 2) other disciplines.

Health Sciences Courses

Allied Health: Health Sciences

- AHHS 191 Special Topics
- AHHS 201 Living Well: Health and Disability
- AHHS 291 Special Topics
- AHHS 320 American Indian Health Issues
- AHHS 325 Introduction to Gerontology
- AHHS 327 Montana Gerontology Society Meeting
- AHHS 389 Recent Advances in Clinical Medicine
- AHHS 390 Research
- AHHS 391 Special Topics
- AHHS 394 Medical Preparation and Overview
- AHHS 395 Geriatric Practicum
- AHHS 420 Geriatric Health Issues
- AHHS 430 Health Aspects of Aging
- AHHS 440 Psychosocial Aspects of Illness and Disability in Older Persons
- AHHS 490 Research
- AHHS 491 Special Topics

Anthropology

- ANTY 211 Anthropological Genetics
- ANTY 227 Human Sexuality
- ANTY 333 Culture and Population
- ANTY 426 Culture, Health and Healing

Economics

- ECNS 310 Health Economics

Health and Human Performance

- HEE 110 Personal Health and Wellness
- NUTR 221N Nutrition

Microbiology

- BIOM 250N Elementary Microbiology
- BIOM 251 Elementary Microbiology Laboratory
- BIOM 400 Medical Microbiology

Native American Studies

- NASX 388 Native American Health and Healing

Social Work

- SW 423 Addiction Studies
- SW 455 Social Gerontology

Pharmacy

- PHAR 110N Use and Abuse of Drugs
- PHAR 145N Intro to Cancer Biology
- PHAR 320 American Indian Health Issues

Philosophy

- PHL 321E Philosophy and Biomedical Ethics

Pre-Medical Sciences

Mark A. Pershouse (Director and Associate Professor)

Health care continues to be one of the most rapidly expanding areas of our society. Careers in the health professions have expanded, both in numbers and in the variety of opportunities. The rewards of a career in health care include excellent salaries, stability of employment, geographic mobility, and the opportunity to help other people. The Pre-Medical Sciences Program is an advising program that helps students become well-informed, well-prepared applicants to programs in allopathic medicine, osteopathic medicine, chiropractic medicine, dentistry, naturopathic medicine, optometry, physician assistant studies, podiatry and veterinary medicine.

Pre-Medical Sciences is not a major at the University of Montana. The Pre-Medical coursework will help students to gain admission to a professional school or program while completing a degree in a field of study. Students may select any major as a field of study, but specific pre-professional courses must be completed. When selecting a major, remember that a science major is not required for admissions into professional schools. It is more important to perform well in your chosen major. Professional schools are most concerned with the overall quality, scope and difficulty of undergraduate work rather than the major.

Pre-professional courses are designed to provide a strong foundation in the sciences, highly developed communication skills, and a solid background in the social sciences and humanities. Curriculum guides outlining minimal course requirements established by professional schools are available from the Pre-medical Sciences office and from the Pre-Medical Sciences website (http://umt.edu/premed). Because many majors within the sciences, social sciences and humanities can provide strong preparation for medical school, the Pre-Medical Sciences Advising Program gives students the opportunity to interact with advisors from diverse disciplines in addition to their advisor for their major.

The minimal requirements for professional school should be completed by the end of the third year of study or prior to taking the admission test required by professional schools. Since specific subject requirements vary among institutions, students should discuss their academic plans with their Pre-Medical Sciences advisor.

Admission to a professional school is very competitive. Students must maintain a high grade-point average in college if they expect to be admitted. All required courses must be taken for letter grades. In addition, the applicant must score well on the appropriate professional admissions test. These tests are designed to measure basic academic ability in the natural sciences, reading ability and problem solving skills. These examinations are usually taken during the third year of study.

Besides academic accomplishments and admission exam scores, acceptance by a professional school is also dependent upon letters of recommendation, volunteer experience, job shadowing, and personal interviews conducted by the professional school. It is important that students consult with a Pre-Medical Sciences advisor and with an academic advisor in their major each year to make sure that they can satisfy the necessary requirements for graduation within the time available. The Pre-Medical Sciences Director will also discuss procedures, advise and assist the student during the process of applying to a professional school.

High School Preparation: High school students contemplating a career in the health professions should have three to four years of mathematics, courses in chemistry and physics and a solid background in literature and social science.

Public and Community Health Sciences

Tony Ward, Professor and Chair

Accredited by the Council on Education for Public Health (CEPH) in 2012, the School of Public and Community Health Sciences is a multi-disciplinary program that offers the Master of Public Health (M.P.H.) degree and a graduate Certificate of Public Health (C.P.H.). The program is designed to prepare public health practitioners who will use global insight to improve the health of the people of Montana and other rural areas. Predominantly on-line, web-based instruction allows both traditional students and working professionals to pursue a degree or certificate.

Department Faculty

Professor

Jean Carter, Pharm.D., Ph.D., Professor
Ann Cook, Research Professor Bioethics
Willard Granath Jr., Professor
Kari Jo Harris, PhD, MPH Professor of Public Healthh
Rosemary Hughes, Research Professor
Craig Molgaard, Ph.D., M.P.H., Professor
Liz Putnam, Chair, Associate Professor
Annie Sondag, Professor

Associate Professor

Duncan G Campbell, Associate Professor Clinical Psychology
Bryan Cochran, Professor of Psychology and Director of Clinical Training

Curtis Noonan, Professor
Gyda Swaney, Associate Professor Clinical Psychology
Meg Ann Traci, PhD, Research Associate Professor
Tony Ward, Ph.D., Chair and Associate Professor

Assistant Professor

Annjeanette Belcourt, Associate Professor

Research Faculty

Erin Semmens, Research Assistant Professor

Affiliates

Jennifer Bell, Clinical Assistant Professor/Associate Director of Clinical Education
Blakely Brown, Professor
Elizabeth Ciemins, Director of Research & Analytics
Laura Dybdal, Professor
John Felton, President & CEO / Health Officer
Julie Fife, MPH
Kathryn Fox, MPH
Niki Graham, MPH
April Keippel, Mission and Community Benefit Program Manager
Billie Kipp, President, Blackfoot Community College
Ellen Leahy, Director Missoula Health Department
Joanne Oreskovich, Ph.D., Epidemiologist, DPHHS
Justin Price
Mindy Renfro, Research Assistant Professor
Paul Smith, Clinical Associate Professor of Medicine
Anna Winters, MS, PhD
Abebaw Worku

Allied Health Medical Support

Back to Top

- AHMS 108 - Health Data Content & Struct

  Credits: 2. Offered spring. In-depth study of origin, use, content and structure of health records; storage and retrieval systems; numbering and filing systems; documentation requirements; use and structure of health care data sets; and how these components relate to primary and secondary record systems. Additional topics include gathering, compilation and computing of healthcare related statistics, use of research and statistical methods for developing healthcare data into information for various requesters. Course Attributes: Technical Course

- AHMS 144 - Medical Terminology

  Credits: 3. Offered every term. Introduction to a medical word building system using Greek and Latin word roots, combining forms, suffixes, and prefixes. Course Attributes: Technical Course

- AHMS 156 - Medical Billing Fundamentals

  Credits: 3. Offered every term. Prereq. or coreq., AHMS 220 or consent of instr. An introduction to insurance claim processing for the major medical insurance programs. Students will be provided with a basic knowledge of CPT and ICD-9 procedural and diagnostic coding. Emphasis on completing universal insurance forms to maximize reimbursement as well as trouble shoot denied or underpaid claims. Course Attributes: Technical Course

- AHMS 160 - Beginning Procedural Coding

  Credits: 3. Offered autumn. Prereq., AHMS 156, AHMS 108 or consent of instr. Foundation for utilizing the CPT coding system to increase compatibility and comparability of medical data among users and providers.

- AHMS 164 - AHMS 164 Beginning Diagnosis Coding: ICD-10

  Credits: 3. This course covers basic and intermediate levels of theory and application of ICD-CM principles and guidelines for coding and sequencing diagnoses and procedures. Students perform

basic and intermediate coding using real health records, case studies, and scenarios. Application will focus on the use of the electronic ICD-10-CM with an overview of encoder software. This coding class involves hands-on coding, and knowledge of basic use of applicable coding books or the electronic ICD-10-CM. Currently the students take this course through Great Falls

- AHMS 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- AHMS 192 - Independent Study

  Credits: 1 TO 9. Course material appropriate to the needs and objectives of the individual student.

- AHMS 212 - CPT Coding

  Credits: 3. Offered spring. Prereq., AHMS 210 or consent of instr. Comprehensive application of the CPT coding system to assign codes for services, supplies and equipment for comparative analysis, research and reimbursement.

- AHMS 213 - ICD-10 CODING

  Credits: 3. Prereq., AHMS 164. Basic understanding of diagnostic and procedural coding principles should already be established. The course requires interpreting ICD-10-CM coding and reporting guidelines to sequence and assign appropriate diagnostic codes for both inpatient and various outpatient settings. Compliance issues associated with various IPPS reimbursement systems such as MS-DRGs, as well as APCs are covered. Encoder software will complement the ICD-10-CM manual in the application of coding processes. Clinical information will be interpreted from brief case studies and progress to the coding of health record excerpts.

- AHMS 216 - Pharmaceutical Products

  Credits: 3. Offered autumn. Fundamental principles of pharmacology and the implications of medication use. Includes the law as it pertains to drug use, dosage forms, routes of administration as well as the pharmacologic actions and uses of drugs.

- AHMS 220 - Medical Office Procedures

  Credits: 4. Offered autumn. An introduction to the necessary skills and qualities required to function successfully in the medical arena. Emphasis on medico-legal and ethical responsibilities, records management and financial management of the medical practice, and interpersonal communications to include patient reception, telephone techniques and appointment scheduling. Course Attributes: Technical Course

- AHMS 245 - Simulated Lab

  Credits: 3. Prereq., consent of instr. This course will use computer applications and software in maintaining health information in medical records through practice utilizing HIT applications through the AHIMA Virtual Lab, to include the following applications: Master Patient Index, Electronic Health Record, Encoder, Abstracting, Chart Tracking, Release of Information.

- AHMS 252 - Computerized Medical Billing

  Credits: 3. Offered spring, Prereq., AHMS 156; prereq. or coreq. AHMS 220; or consent of instr. A medical package is used to enter and update patient data, enter charges, payments and adjustments, and generate management reports, insurance forms, and patient statements.

- AHMS 270E - Medical Ethics

  Credits: 3. Offered every term. Ethical decision-making tools for addressing common ethical issues in the health professions. Course Attributes: Ethical & Human Values Course

- AHMS 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- AHMS 292 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

- AHMS 298 - Medical Info Internship

  Credits: 3. Offered every term. Prereq., last semester in program, minimum of "C" in AHMS/AHMA (MED) courses, and approval of program director. On-the-job training in positions related to each student's career goal in the medical information field. This experience increases students' skills, prepares them for initial employment and advancement on the job, and increases occupational

awareness and professionalism. Students work a minimum of 180 hours at an approved site and attend a scheduled one-hour seminar. Course Attributes: Internships/Practicums

Allied Health Respiratory Care

Back to Top

- AHRC 101 - Communication Management

  Credits: 1. Offered autumn. Prereq., Acceptance into Respiratory Care Program. Study of respiratory care departmental organization and administration procedures, effective communication strategies, and legal and ethical issues for the Respiratory care professional.

- AHRC 115 - Blood Gas Analysis

  Credits: 2. Offered autumn. Prereq., acceptance into the Respiratory Care program. Study of the indications, rational, methods, instrumentation, and analysis of Blood Gases. Emphasis will be placed on the physiology and clinical implications of acid-base abnormalities.

- AHRC 129 - Patient Care & Assessment

  Credits: 4. Offered autumn. Prereq., BIOH 201N-202N. Introduction to nursing- related knowledge and skills with emphasis on application of microbiology to aseptic technique. Assessment of the respiratory system with cardiopulmonary diagnostic and laboratory tests interpretation. Observation and interpretation of overall patient condition is integrated throughout the course. Course Attributes: Technical Course

- AHRC 130 - Respiratory Care Lab IB

  Credits: 1. Offered autumn. Prereq., acceptance into the Respiratory Care program. Basic clinical competencies taught in RES 129 are studied in a laboratory setting. Peer and instructor review of competencies included. Students focus on patient assessment skills and techniques/equipment.

- AHRC 131 - Resp Care Fundamentals

  Credits: 5. Offered autumn. Prereq., acceptance into the Respiratory Care program. Orientation to basic respiratory care science including the application of principles of physics and chemistry. Emphasis on theory, operation and troubleshooting of equipment used at the entry level of practice. Microbiology in relation to equipment processing, pulmonary rehabilitation and home care included. Course Attributes: Technical Course

- AHRC 133 - Resp Care Pharmacology

  Credits: 3. Offered spring. Prereq., acceptance into the Respiratory Care Program or consent of instr. Principles of basic chemistry introduced with an application to pharmacology as related to the pulmonary system. Cardiovascular and related pharmacology studied in preparation for ACLS and ventilator management. Course Attributes: Technical Course

- AHRC 150 - Respiratory Care Lab I

  Credits: 1. Offered autumn. Prereq., acceptance into the Respiratory Care program. Basic clinical competencies taught in RES 131 are studied in a laboratory setting. Peer and instructor review of competencies included. Students earn their BLS certification. Course Attributes: Technical Course

- AHRC 231 - Resp Crit Care

  Credits: 4. Offered spring. Prereq., RES 120, 129, 131, 133, 150. Continuation of RES 131. Physiology, indication, contraindications, and application of mechanical ventilation. Emphasis on patient assessment, monitoring, stabilization and weaning during assisted pressure breathing. Analysis of the various modes of ventilation, including optimizing the patient-ventilator interface in the adult through various advanced airway techniques. Course Attributes: Technical Course

- AHRC 232 - Resp Path & Disease

  Credits: 3. Offered spring. Prereq., RES 120, 129, 131, 133, 150. Special lectures in medicine and disease as related to the cardiopulmonary system. Emphasis on recognition of signs and symptoms of disease and implications for treatment through the study of selected case studies. Course Attributes: Technical Course

- AHRC 235 - Cardiopulm Anat & Phys

  Credits: 3. Offered spring. Prereq., RES 120, 129, 131, 133, 150 or consent of instr. Principles of physiologic chemistry are introduced and applied to the macro and micro anatomy of the cardiopulmonary system with a focus on structure and function. Application made to pathology

and assessment of patients receiving mechanical ventilation. Course Attributes: Technical Course

- AHRC 242 - Respiratory Management
  Credits: 1. Offered autumn. Prereq., RES 260T, 265T. Study of respiratory care departmental organization and administration procedures. Course Attributes: Technical Course
- AHRC 243 - Perinat & Pediat Res Care
  Credits: 3. Offered autumn. Prereq., RES 260, 265. Study of perinatal and pediatric respiratory care with emphasis on assessment, resuscitation and mechanical ventilation of the neonate and pediatric patient. The theory of Neonatal Resuscitations (NRP) will be presented. Neonatal and pediatric diseases will be studied. Course Attributes: Technical Course
- AHRC 250 - Respiratory Care Lab II
  Credits: 2. Offered spring. Prereq., RES 120, 129, 131, 133, 150. A continuation of RES 150 with emphasis on adult critical care. Clinical competencies taught in RES 231 and RES 235 are studied in a laboratory setting. Peer and instructor review of competencies included. Course Attributes: Technical Course
- AHRC 252 - Respiratory Care Review
  Credits: 2. Offered autumn. Prereq., RES 260, 265. A review of respiratory care in preparation for credentialing exams. Students must take an Entry Level Self-Assessment Exam, a Written Registry Self- Assessment Exam, and a Clinical Simulation Self-Assessment Exam. Course Attributes: Technical Course
- AHRC 255 - Clinical Experience I
  Credits: 5. Offered spring. Prereq., RES 120, 129, 131, 133, 150. Emphasis on the student directly performing basic clinical skills in a patient care setting to include hospitals, home care, and pulmonary function laboratories. Students also participate in physician rounds. Course Attributes: Technical Course
- AHRC 260 - Resp Care Lab III
  Credits: 1. Offered summer. Prereq., RES 231, 232, 235, 250, 255. Students study principles and theory of advanced life support. Peer and instructor review are included. Students will be Advanced Cardiac Life Support (ACLS) and Pediatric Advance Life Support (PALS) certified at the end of this class. Course Attributes: Technical Course
- AHRC 265 - Clinical Experience II
  Credits: 5. Offered summer. Prereq., RES 231, 232, 235, 250, 255. Continuation of clinical skills learned in RES 255. Introduction to adult critical care along with sleep and cardiac diagnostics. Students also participate in physician rounds. Course Attributes: Technical Course
- AHRC 270 - Resp Care Lab IV
  Credits: 1. Offered autumn. Prereq., RES 260, 265. Emphasis on neonatal and pediatric critical care. Clinical competencies introduced in RES 241 are studied. Peer and instructor review of competencies are included. Course Attributes: Technical Course
- AHRC 275 - Clinical Exp III
  Credits: 6. Offered autumn. Prereq., RES 260, 265, 270. Continuation of RES 265 with critical care of the adult. Neonatal and pediatric critical care experiences are emphasized. Students also participate in physician rounds. Course Attributes: Technical Course
- AHRC 291 - Special Topics
  Credits: 1 TO 8. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course
- AHRC 292 - Independent Study
  Credits: 1 TO 6. Course material appropriate to the needs and objectives of the individual student.

Surgical Technology

Back to Top

- AHST 101 - Introduction to Surgical Techn

Credits: 3. Offered spring. Prereq., admission to the program. Provides an orientation to the scrub and circulatory roles of the surgical technologist in the preoperative, intraoperative and postoperative periods. Entry level skills and theories are emphasized. Course Attributes: Technical Course

- AHST 115 - Surgical Lab I

  Credits: 2. Offered spring. Prereq., admission to the program. Demonstration of sterile technique in the campus lab, various skills and their application in the operating room. Course Attributes: Technical Course

- AHST 154 - Surgical Pharmacology

  Credits: 3. Offered spring. Prereq., admission to the program, M 090. Basic overview of the medications that are commonly used before, during and after a surgical procedure.

- AHST 191 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Ethical & Human Values Course Technical Course

- AHST 200 - Operating Room Techniques

  Credits: 5. Offered autumn. Prereq., completion of all second semester courses. Focus on the scrub and circulator roles of the surgical technologist in the preoperative, intraoperative, and postoperative periods. More complex skills and theories; impact of new technologies in the 21 century st operating room. Course Attributes: Technical Course

- AHST 201 - Surgical Procedures I

  Credits: 4. Offered autumn. Prereq., completion of all second semester courses. A study of surgical procedures following the patient through the preoperative, intraoperative, and post-operative stages of specific surgical specialties. Course Attributes: Technical Course

- AHST 202 - Surgical Procedures II

  Credits: 5. A study of surgical procedures following the patient through the preoperative, intraoperative, and postoperative stage of CV/thoracic, orthopedic, neurological, and ophthalmic specialties. Course Attributes: Technical Course

- AHST 215 - Surgical Lab II

  Credits: 2. Offered spring. Demonstration of more complex skills in the campus lab, including assistant circulating, and their application in the operating room. Course Attributes: Technical Course

- AHST 250 - Surgical Clinical I

  Credits: 4. Offered autumn. Prereq., completion of all second semester courses and successful completion of AHST 215. Perioperative experience in the minor surgical procedure role through a supervised clinical hospital rotation.

- AHST 251 - Surgical Clinical II

  Credits: 5. Offered spring. Prereq., completion of all third semester courses. Perioperative experience in the major surgical procedure role through a supervised clinical hospital rotation. Course Attributes: Technical Course

- AHST 298 - Surgical Internship

  Credits: 5. Offered spring. Prereq., successful completion of AHST 202, 251T. Capstone experience in the perioperative role in preparation for initial employment, increasing occupational awareness and professionalism. Students take call for emergency surgeries alongside experienced hospital staff. Course Attributes: Internships/Practicums

Radiologic Technology

Back to Top

- AHXR 100 - Intro to Diagnostic Imaging

  Credits: 3. Offered fall. Introduction to the field of radiology and its mix of technical equipment, lab work, hospital environment, patient care and team work. Course Attributes: Technical Course

- AHXR 121 - Radiographic Imaging I

Credits: 4. Offered autumn. Introduction to fundamental physics principles underlying radiology and diagnostic x-ray production. Topics include electromagnetic waves, electricity and magnetism, electrical energy, and power and circuits as they relate to radiography. Factors of image quality and exposure methods: density, contrast, recorded detail, distortion, technique charts, manual and automatic exposure control, and tube rating charts. Course Attributes: Technical Course

- AHXR 140 - Radiographic Methods

  Credits: 3. Offered autumn. Knowledge and skills necessary for quality patient care during standard and specialty radiographic procedures. Course Attributes: Technical Course

- AHXR 141 - Radiology Lab

  Credits: 1. Co-Requisite AHXR 140 Radiological Methods. Students will practice all patient positioning skills necessary for competency as Radiologic Technologists.

- AHXR 192 - Independent Study

  Credits: 1 TO 6. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course

- AHXR 195 - Radiographic Clinical: I

  Credits: 1 TO 14. (R-20) Offered over two semesters throughout the Radiology Technology program, beginning Spring semester. Students will begin with an introduction to patient management and basic radiographic procedures. The final semester offers opportunities in advanced patient management skills and experience with highly skilled radiographic procedures. Each semester builds on the previous semester, always emphasizing the principles of ALARA. Course Attributes: Internships/Practicums

- AHXR 221 - Radiographic Imaging II

  Credits: 3. Offered spring. Offers students more technical and detailed information on the use of image receptor systems, processing principles, advanced digital imaging systems and imaging modalities used in radiology.

- AHXR 225 - Radiobiology/Radiation Protctn

  Credits: 2. Offered spring. Principles of radiation protection and radio biology. Topics include the effects of ionizing radiation on body tissues, protective measures for limiting exposure to the patient and personnel, and radiation monitoring devices. Course Attributes: Technical Course

- AHXR 240 - Radiological Methods II

  Credits: 2. Offered spring. Coreq., AHXR 241. Preparation in the procedures associated with radiology in standard radiographic environments.

- AHXR 241 - Radiology Lab II

  Credits: 1. Offered spring. Prereq., BIOH 201N, 202N, and 211N, coreq., AHXR 240. Students will practice all patient positioning skills necessary for competency as Radiologic Technologists.

- AHXR 270 - Radiographic Registry Review

  Credits: 2. Offered spring. An overview of imaging concepts as a review for the national certification test. Topics include a systematic approach for image evaluation, patient care, radiation protection and the physics of radiographic imaging. Course Attributes: Technical Course

- AHXR 274 - Cross Sectional Anatomy

  Credits: 3. Course offered on line each semester. Students must be ARRT certified with a current state license to register for the CT courses. This course will cover information specific to ARRT guidelines in preparation for the Computed Tomography Exam. The regions of the body to be included are: Head, Neck, Chest, Abdomen, Pelvis and Musculoskeletal. Within each of these categories, focus will be placed on these relevant factors. Sectional Anatomy (axial, sagittal and coronal planes), Contrast Media (types, contraindications, administration), Imaging Processes (scout acquisition and methods, parameter selection, protocol modification) and Special Procedures (Reformatting, 3-D rendering, biopsies/drains, screening).

- AHXR 275 - Physics and Instrumentation

  Credits: 2. Course offered on line each semester. Students must be ARRT certified with a current state license to register for the CT courses. This course will cover information specific to ARRT guidelines in preparation for the Computed Tomography Exam. The course will be broken down in to the following sections: Patient Assessment and Preparation (to include patient history, screening, and consent. Immobilization, patient monitoring, accessory medical devices, lab values and medications/dosage). Contrast Administration (to include contrast media types,

considerations, administration and dosage, venipuncture, injection techniques, post-procedure care and adverse reactions). Radiation Safety and Dosimetry (to include technical factors, protection and shielding, dose measurement and dose reduction/optimization).

- AHXR 291 - Special Topics

  Credits: 1 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- AHXR 295 - Radiographic Clinical: I

  Credits: 8 TO 24. (R-20) Offered over two semesters throughout the Radiology Technology program, beginning Spring semester. Students will begin with an introduction to patient management and basic radiographic procedures. The final semester offers opportunities in advanced patient management skills and experience with highly skilled radiographic procedures. Each semester builds on the previous semester, always emphasizing the principles of ALARA. Course Attributes: Internships/Practicums

- AHXR 298 - Internship

  Credits: 1. Extended classroom experience which provides practical application of classroom learning during placements off campus. Course Attributes: Internships/Practicums

Nursing

Back to Top

- NRSG 100 - Introduction to Nursing

  Credits: 1. Offered each semester. This online course is a prerequisite to the Practical Nursing program. Student will be presented with an introductory level of the core concepts of nursing practice and other issues such as the legal concerns and ethical/cultural issues that face professional nurses on a consistent basis. Course Attributes: Practical Nursing Prog Rqrmnt Registered Nursing Prog Rqrmnt

- NRSG 106 - Nursing Assistant

  Credits: 4. The Nursing Assistant course will prepare students for careers in health care under the supervision of the licensed nurse. Students will learn the basic entry-level nursing skills to work in health care setting as a Certified Nursing Assistant. Course includes providing or assisting in client care, bathing, dressing, grooming, toileting, ambulation, transferring, feeding, using equipment, documenting and reporting the general well-being of the client.

- NRSG 110 - Dosage Calculation Hlth Prof

  Credits: 2. This course is intended to provide the student the theory and psychomotor skills to correctly and safely calculate medications for clients in diverse health care settings. It will prepare students for the calculations used in health care professions. Students will review various systems of weights and measures (metric, apothecary, and household), conversions between these systems, ratio/proportions, dosage calculations, percentage preparations, reducing and enlarging formulas, dilution, concentrations, and intravenous flow rates.

- NRSG 131 - Fundamentals of Nursing Lab

  Credits: 3. Offered autumn and spring. Prereq., SCN 201N-202N, M 115, WRT 101, SCN 150N, PSYX 100S, CHMY 121N with lab, and acceptance into the practical nursing program. Introduces the student to basic principles and psychomotor skills to provide a framework for developing initial competencies in patient care. Campus lab experience is used initially. Off campus clinical experience in a long term care setting completes the hands on portion. Successful students are qualified to apply for certification as certified nurse assistants.

- NRSG 138 - Gerontology for Nursing

  Credits: 2. Offered autumn and spring. Prereq: acceptance into the Practical Nursing Program. Introduces the student to the skills and knowledge needed to provide nursing care to aging clients. Topics explored include current trends (including legal and ethical issues) in gerontological nursing, developmental stages and transitions associated with aging, expected age-related physiological changes, and assessment findings, recognition and management of acute and chronic illness that commonly occur in the older adult population, promotion of health for the older adult client, end-of-life issues and care. Course Attributes: Practical Nursing Prog Rqrmnt Registered Nursing Prog Rqrmnt

- NRSG 142 - Cre Cncpts of Mtrnl Chld Nrsng

Credits: 3. Offered autumn and spring. Prereq: successful completion of semester 1 of the PN nursing program. Information about fetal development and prenatal and postnatal care of the mother and newborn emphasizing caring, communication, professionalism, and critical thinking. Role of the nurse in meeting the needs of the family is emphasized. Clinical application of caring for the mother and newborn will allow the student to demonstrate acquired knowledge.

- NRSG 143 - Cre Cncpts Mtrnl Chd Nrsng Cln

  Credits: 3. Offered intermittently. Prereq: all first semester practical nursing courses and consent of instr. Capstone course that allows the student to work collaboratively with an identified LPN preceptor, performing the role expectations for care in that workplace setting.

- NRSG 144 - Cre Cncpts of Mentl Hlth Nrsng

  Credits: 2. Offered autumn and spring. Prereq: successful completion of semester 1 of the PN nursing program. Exploration of physiological, psychological, sociocultural, spiritual, and environmental factors associated with mental health/illness affecting individuals and families. Focus will be placed on basic concepts of psychiatric nursing, therapeutic modalities, as well as psychiatric disorders including psychopharmacological management. Course Attributes: Practical Nursing Prog Rqrmnt Registered Nursing Prog Rqrmnt

- NRSG 147 - Practical Nursing NCLEX Review

  Credits: 2. Offered autumn and spring. Prereq: Successful completion of all courses in the first semester of the practical nursing program. Preparation for the national test for LPN licensure.

- NRSG 148 - Leadership Issues

  Credits: 2. Offered autumn and spring. Prereq: successful completion of semester 1 of the PN nursing program. Capstone course that provides the Practical Nursing student information regarding the current status of vocational nursing. There is a forty-five hour clinical/precepted component to provide the student opportunity to apply theoretical knowledge in the long-term care setting.

- NRSG 191 - Special Topics

  Credits: 1 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course

- NRSG 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course

- NRSG 230 - Nursing Pharmacology

  Credits: 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. This course provides the student with an overview of pharmacology with an emphasis of the study of effects, interactions, and nursing considerations of pharmacologic agents on the client population across the lifespan. The course also explores the ethical, legal, cultural and age implications of pharmacologic therapy across diverse populations and the lifespan.

- NRSG 231 - Nursing Pharmacology Lab

  Credits: 2. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. An integration of lab experiences focusing on the basic principles in providing safe medication administration, including intravenous therapy across diverse populations and the lifespan.

- NRSG 232 - Foundations of Nursing

  Credits: 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students learn concepts and skills necessary for maintaining standard precautions, physical, psychological and nutritional safety, along with skills needed in therapeutic interventions. Students are introduced to the concepts of professional nursing, patient needs, safety, communication, teaching/learning, critical thinking, ethical-legal, rural nursing, cultural and ethnic diversity, and interdisciplinary patient-centered care.

- NRSG 233 - Foundations of Nursing Lab

  Credits: 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. An integration of lab experiences focusing on psychomotor nursing skills needed to assist individuals in meeting basic human needs. Application of the nursing process and hands-on learning experiences for nursing skills, patient assessments, nutritional safety, and basic therapeutic skills are practiced and demonstrated.

- NRSG 234 - Adult Nursing I

  Credits: 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. This course builds upon the knowledge and skills acquired in Foundations of Nursing, and places them in the context of patient-centered care. Social, cultural, ethical, rural and legal issues, end-of-life and palliative care across diverse adult populations are introduced. Health promotion and prevention throughout the adult lifespan, with specific focus on the geriatric patient, is emphasized. Normal aging, health alterations associated with aging, and their implications are addressed.

- NRSG 235 - Adult Nursing I Clinical

  Credits: 2. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. This clinical introduces the student to nursing practice in care of the stable adult patient. This includes care of the adult in a variety of health care settings. Students utilize the nursing process to develop individualized plans of care to prevent illness, promote wellness and maintain or restore health based on patient needs and evidence based practice.

- NRSG 236 - Health and Illness of Maternal Nursing

  Credits: 2. Offered autumn and spring. Prere., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. In this course, the student applies holistic concepts to the professional nursing care of the childbearing family including conception, prenatal, intrapartum, postpartum and newborn care. Content addresses health and complex alterations, reproduction and menopause, nutrition, therapeutic communication, ethical, legal, cultural and evidenced-based practice.

- NRSG 237 - Health and Illness of Maternal Nursing Clinical

  Credits: 1. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. This clinical introduces the student to the role of the registered nurse in the care of the childbearing family. Students will utilize the nursing process to assess and develop individualized plans of care for mother and infant. Emphasis will be placed on patient education to promote healthy mother infant and childbearing family bonding.

- NRSG 244 - Adult Nursing II

  Credits: 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. This course builds upon previous knowledge of the nursing process and care of the patient experiencing acute and chronic disease alterations. Pathophysiologic processes are discussed as related to evidence-based nursing interventions. Students apply the nursing process, nutritional therapy, and pharmacological therapy utilizing interdisciplinary practice to promote, maintain, and restore health across the adult lifespan.

- NRSG 245 - Adult Nursing II Clinical

  Credits: 2. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. In this clinical experience the student will provide care for individuals and families experiencing acute health alterations, and those associated with chronic disease processes. Students use the nursing process to systematically analyze information to plan and implement nursing interventions which are individualized and founded on evidence-based practice.

- NRSG 246 - Health and Illness of Child and Family Nursing

  Credits: 2. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. In this course, the student applies holistic concepts to the professional nursing care of children and their families in health, illness, end-of-life and palliative care.Emphasis is placed on incorporating growth and developmental principles to facilitate positive health outcomes through health promotion, nutrition and disease prevention.

- NRSG 247 - Health and Illness of Child and Family Nursing Clinical

  Credits: 1. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. In this clinical, students will utilize the nursing process, to provide nursing care of healthy and high-risk pediatric populations and their families experiencing disruptions in bio/psycho/social/cultural and spiritual needs. Emphasis is also placed on health promotion, health maintenance, and therapeutic communication.

- NRSG 250 - LPN to RN Transition

Credits: 3. Offered autumn and spring. Prereq., admission to the registered nursing program and current unencumbered LPN license. Focus on the role transition from LPN to RN in relation to the concepts and principles of holistic nursing care. Focus is on the continuing development of roles and responsibilities of the RN as defined by the scope of practice standards, nursing theory and conceptual models.

- NRSG 254 - Mental Health Concepts

  Credits: 2 TO 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. In this course, the student focuses on the nursing concepts utilizing basic human needs, developmental theory, nursing process, therapeutic communication, and nursing interventions to promote and maintain health for clients and families experiencing mental-health issues. The student will examine client responses to stressors across the life span. Tasks of biological-behavioral concepts in psychosocial nursing care, rural and cultural impacts will be addressed.

- NRSG 255 - Mental Health Clinical

  Credits: 1. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. This clinical applies the knowledge of psychiatric and mental health nursing. Students will have mental health focused clinical experiences in a variety of settings.

- NRSG 256 - Pathophysiology

  Credits: 3. Offered spring and autumn. Prereq., successful acceptance into the Registered Nursing program. This course introduces the student to the basic principles and processes of pathophysiology including cellular communication, genes and genetic disease, forms of cellular injury, nutrition, fluid and electrolyte/acid base balance, immunity, stress coping and illness, and tumor biology. Pathophysiology of the most common alterations according to body systems will be discussed as well as the latest developments in research and patient-centered nursing interventions.

- NRSG 259 - Adult Nursing III

  Credits: 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. This course expands on the nursing role in care of patients with complex health alterations. Students utilize evidence-based, interdisciplinary interventions to meet patient and family needs.

- NRSG 260 - Adult Nursing III Lab

  Credits: 1. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. In this lab students are introduced to basic electrocardiogram interpretation, advanced concepts of perfusion, ventilation and complex pharmacologic regimens.

- NRSG 261 - Adult Nursing III Clinical

  Credits: 2. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. This clinical experience focuses on application of the nursing process and utilization of information to provide comprehensive nursing care to the acutely ill patient experiencing complex health alterations in a variety of settings. Emphasis is placed on prioritization of care and collaboration with other members of the interdisciplinary team to ensure optimal client care.

- NRSG 266 - Managed Client Care

  Credits: 2 TO 4. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. In this course students examine concepts of leadership and management emphasizing prioritization, delegation, and supervision of nursing care for patients across the lifespan. Topics also include communication techniques, legal and ethical issues, care of the culturally diverse patient, and utilizing change theory. Healthcare policy, finance, and regulatory environment issues are explored and applied to planning, collaborating and coordinating care across the continuum.

- NRSG 267 - Managing Client Care Clinical

  Credits: 2. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. This precepted clinical experience focuses on principles of nursing leadership and management in a variety of settings. Students apply knowledge to provide culturally competent, holistic interventions within the professional nursing role for individuals, communities, and families across the lifespan.

- NRSG 291 - Special Topics

Credits: 1 TO 6. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- NRSG 292 - Independent Study
  Credits: 1 TO 6. (R-6) Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course

Pharmacy Technology

Back to Top

- PHA 196 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently.

Pharmacy

Back to Top

- PHAR 100 - Intro Pharm Practice for Techs
  Credits: 3. Offered autumn. Prereq., admission into Pharmacy Technology program. This course offers information regarding careers in pharmacy. It includes the history of pharmacy practice and defines roles of personnel relating to pharmaceutical services. Ethical standards of the occupation and federal and state laws regulating pharmacy practice with emphasis on Montana State Pharmacy Law regulating pharmacy technicians are studied. Day-to-day operations including preparation, maintenance, and storage of pharmaceuticals and records, and basic concepts of computer operations and latest technologies are reviewed. Skills will be developed with are necessary for the pharmacy technician to communicate effectively in the following ways: 1) as a representative of the profession of pharmacy, 2) as an intermediary between the pharmacist and patient, and 3) as an intermediary between the pharmacist and other health care professionals.
- PHAR 101 - Pharmacy Calculations
  Credits: 3. Offered autumn. Calculations used in pharmacy practice; includes various systems of weights and measures, dosage determinations, percentage preparations, reducing and enlarging formulas, dilution, and concentration.
- PHAR 102 - Pharmacology for Technicians
  Credits: 6. Offered autumn. Prereq., admission into Pharmacy Technology program. Study of the properties, reactions, and therapeutic value of the primary agents in the major drug classes.
- PHAR 104 - Pharmacy Dispensing Lab
  Credits: 3. Offered autumn. Prereq., admission into Pharmacy Technology Program. Develop dispensing and distributive skills with hands-on lab, and lecture format.
- PHAR 120 - Medication Safety
  Credits: 3. Offered spring online only. Prereq., PHAR 100, 101, 102, 104 and second semester standing in Pharmacy Technology Program. This course will introduce students to national safety initiatives developed by the Institute of Medicine, The Joint Commission, The Institute of Safe Medicine Practices and others. This awareness will help students become part of the solution in promoting safe medication practices.
- PHAR 121 - Preparation for the PTCB Exam
  Credits: 1. Prereq., PHAR 100, PHAR 101, PHAR 102 and PHAR 104. This course will offer strategies in test taking, and help students refresh their knowledge in all knowledge areas included in the exam as identified by PTCB.
- PHAR 192 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.
- PHAR 198 - Internship: Pharmacy
  Credits: 4. Offered spring. Prereq., PHAR 100, 101, 102, 104 and second semester standing in Pharmacy Technology Program. Training and experience in either hospital, compounding, home infusion, nursing home or other alternative pharmacy settings under supervision of a pharmacist.

Emphasizes special skills unique to that pharmacy setting. Course Attributes: Internships/Practicums

College of Health Professions and Biomedical Sciences

Reed Humphrey, Dean

Howard D. Beall, Associate Dean for Pharmacy

The College of Health Professions and Biomedical Sciences offers the Bachelor of Arts in Social Work, the Doctor of Pharmacy (Pharm.D.) degree; Master of Science degrees in Neuroscience, Pharmaceutical Sciences, Toxicology, and Medicinal Chemistry; the Master of Public Health degree; the Master of Social Work degree; the Doctor of Physical Therapy degree; and the Doctor of Philosophy (Ph.D.) degrees in Biomedical Sciences, Neuroscience, Toxicology, and Medicinal Chemistry.

The focus of these programs is to provide a composite of educational experiences that will produce a well-educated person and a highly trained, professional social worker, health care practitioner or scientist.

Name	Minor	Certificate	Associate	Bachelor
Gerontology	Requirements			
Social Work				Requirements

Business Technology Department

Cheryl Galipeau, Chair

The Business Technology Department of Missoula College collaborates with business and industry to prepare graduates to compete in and contribute to a dynamic global society. The department attracts and retains skilled faculty with the professional experience and theoretical background to utilize diverse instruction which reflects current and emerging business practices. Faculty actively engage student in the learning process by integrating experiential technical education and empowering students to adapt to an ever-changing world.

Students may choose from six Associate of Applied Science degree programs and four Certificate of Applied Science programs. Degree programs include Accounting Technology with an option in Computer Support; Administrative Management with an option in Social Media Management; Food Service Management; Medical Information Technology with options in Health Information Coding Specialty, and Medical Administrative Assisting; Paralegal Studies; and Management with options in Entrepreneurship and Sales and Marketing. Certificate of Applied Science programs include Culinary Arts, Customer Relations, Medical Reception, and Sales and Marketing.

Students may attend classes on Missoula College's East Campus and UM's Mountain campus. Programs may contain day, evening and weekend classes.

Accounting

Back to Top

- #### ACTG 100 - Essentials of Accounting
  Credits: 4. Offered autumn and spring. Introduction to basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, cash control and completing the accounting cycle.
- #### ACTG 101 - Accounting Procedures I
  Credits: 4. Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.
- #### ACTG 102 - Accounting Procedures II
  Credits: 4. Offered autumn and spring. Prereq., ACTG 101. Expansion of ACTG 101 including receivables, inventories, plant and intangible assets, and expanded liabilities. Includes partnerships, corporations, long-term liabilities, investments in debt and equity securities, and the statement of cash flows.
- #### ACTG 180 - Payroll Accounting

Credits: 3. Offered autumn and spring. Payroll Topics including Federal and Montana state payroll tax law. The course includes study of workers compensation, independent contractor determination and registration, preparation of payroll, payroll tax returns and deposits, and annual information payroll returns. Students will also be exposed to federal law affecting payroll such as Fair Labor Standards Act, ADA, Family Medical Leave Act, Civil Rights Act, etc. and applicable Montana state laws.

- ACTG 192 - Independent Study
  Credits: 1 TO 9. Course material appropriate to the needs and objectives of the individual student.
- ACTG 211 - Income Tax Fundamentals
  Credits: 4. Offered autumn. Prereq., ACTG 180 with a "C" grade or better. This class is a comprehensive overview of individual income taxation. It includes an introduction to taxation terminology, taxation principles and an overview of retirement plans/tax ramifications for small businesses/individuals. Individual taxation is taught through preparation of a series of tax returns. Course emphasis is on individuals and sole proprietorships.
- ACTG 215 - Fnd of Govt & Not Profit Acct
  Credits: 3. Offered spring. Prereq., ACTG 101-102 or consent of instr. Principles of accounting for governmental units, health care organizations, colleges and universities, and other nonprofit organizations.
- ACTG 250 - Accounting Capstone
  Credits: 4. Offered spring. Prereq., ACTG 202, 211, or equivalent. and consent of instr. Capstone class integrates accounting software, income tax preparation, financial statement preparation, ratio analysis, financial report writing: includes presentation and critical thinking skill development as well.
- ACTG 291 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Allied Health Medical Assist

Back to Top

- AHMA 191 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- AHMA 201 - Med Asst Clinical Prcdrs I
  Credits: 4. Offered autumn. Prereq., M 105, BIOH 112, BIOH 113. Skill development necessary to assist health care practitioners in all aspects of patient care in the medical office clinical setting. Includes achieving competency in prepping patients for a physical examination, charting, medication administration, basic medical laboratory skills. Course Attributes: Technical Course
- AHMA 203 - Med Asst Clinical Prcdrs II
  Credits: 4. Offered spring semester. Prereq., AHMA 201. This course builds on skills learned in AHMA 201 and includes body systems and pathophysiology review, and development of skills in the following areas: immunization administration, specimen collection, CLIA waived lab testing, care of lab equipment, spirometry, electrocardiogram, and phlebotomy. Course Attributes: Technical Course
- AHMA 260 - Med Assist Lab 1
  Credits: 2. Co-req., AHMA 201. This course introduces the student to basic skills of medical assisting. Included in this course are standard procedures, aseptic and sterilization procedures, vital signs, assisting with general exams, urinalysis, and drug administration.
- AHMA 262 - Med Assist Laboratory Procedures 2
  Credits: 2. Prereq., AHMA 201 and 260. Corereq., AHMA 203. This course builds on skills learned in AHMA 260 and moves into areas of greater specialization. Included in this course are CLIA-waived and hematological testing, ECG, venipuncture, assisting with surgical procedures, wound care, and specialty exams.
- AHMA 291 - Special Topics

Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- AHMA 298 - Medical Assisting Externship

  Credits: 5. Offered spring. Prereq., consent of instructor. Placement in a medical office for a guided experience providing the student with a practical application of learned medical office administrative skills. Direct supervision will be the responsibility of a designated person at the site. The students will spend six hours per week to total 90 hours in assigned clinical rotations. Course Attributes: Internships/Practicums

Allied Health Medical Support

Back to Top

- AHMS 175 - Medical Law & Ethics

  Credits: 2. This course will introduce students to the common laws, regulations, and agencies affecting ambulatory medical facilities. Current issues of ethics and bioethics will also be discussed. This is a blended class.

Administrative Management

Back to Top

- AMGT 145 - Records Management

  Credits: 2. Offered every term. Introduction to alphabetic filing techniques and electronic database records management. Current technical developments utilizing automated records systems, biometric access control devices, electronic file organization, ergonomics, the Internet, image technology, and integrated security systems.

- AMGT 192 - Independent Study

  Credits: 1 TO 9. (R-9) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

- AMGT 198 - Internship

  Credits: 1 TO 6. (R-6) Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

- AMGT 240 - Admin Support for the Office

  Credits: 3. Offered autumn. Prereq., CAPP 134. Overview of the procedures and scope of the administrative assistant’s role in today’s automated office, including traditional and electronic communications, operation of multi-media equipment, and managing office technology.

- AMGT 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- AMGT 298 - Adm Mgmt Internship

  Credits: 2. Offered autumn and spring. Prereq., last semester in program, minimum of “C” in program courses, and approval of program director. On the job training in positions related to each student's career goal in the administrative field. This experience increases students' skills, prepares them for initial employment and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend weekly scheduled one-hour seminars. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

Business: General

Back to Top

- BGEN 160S - Issues in Sustainability

Credits: 3. Offered every term. Same as CCN 160S. This literature-intensive course is intended to expose the student to a variety of essays addressing the balance of economic development with the principles of sustainability and social equity. The student is offered an introduction to sustainability concepts, natural systems/cycles and environmental economics. Natural capitalism and triple bottom line maximization is explored, along with the role of corporations and small businesses in sustainable development. A survey of issues surrounding corporate social responsibility and sustainability-driven innovation will be conducted. Course Attributes: Social Sciences Course (S)

- BGEN 235 - Business Law

  Credits: 3. Offered autumn and spring. This course provides an overview of law as it applies to business transactions. Topics include the nature and source of law; courts and procedure; contracts, sales, and employment; commercial paper; bailment's; property; business organizations; insurance; wills and estate planning; consumer and creditor protection; torts; criminal law; and agency law. Credit not allowed for both BGEN 235 and BADM 257.

Business: Management

Back to Top

- BMGT 212 - Critical Analysis for Business

  Credits: 3. This is an analysis, critical thinking, and writing course for students in the Business Technology fields. Students will also be introduced to traditional Western philosophy through study and discussion of Socrates, Plato and, Aristotle. To that end, students will analyze theories of knowledge and morality in relationship to current events within American Democracy and Law. Students will practice identifying elements of arguments, analyzing elements of arguments for logic, and developing coherent and comprehensive responses to arguments. This course will emphasize practical application rather than purely academic exercise.

- BMGT 216 - Psych of Mgmt & Supervision

  Credits: 4. Offered autumn. Management theory, research, and the practice of management. Topics covered include leadership styles and techniques, effective communication approaches, time management, decision making, delegation, and the basic functions of supervisory skills.

- BMGT 242 - Front Line Supervision

  Credits: 3. Offered spring. Introduces basic employee development with emphasis on the responsibilities of a newly-appointed supervisor. Emphasizes organizational structure, motivation, delegation of authority, the hiring process, employee development, employee performance, evaluations, and dealing with employee conflict.

- BMGT 245 - Customer Service Management

  Credits: 4. Offered spring. Designed to prepare employees and managers to meet customers' expectations. Review of customer service philosophy and techniques. Services marketing, quality issues, service design and delivery, customer interaction systems, complaint handling and service recovery, customer relationships, loyalty management, and operations are addressed.

- BMGT 299 - Capstone:Entrepreneurship

  Credits: 3. Offered spring. Prereq., CAPP 120. An overview of the skill areas and business principles needed to start and operate a small business. Includes developing a business plan, identifying sources of capital formation, managing growth, and marketing issues related to new ventures.

Business: Marketing

Back to Top

- BMKT 109 - Visual Merchandising & Display

  Credits: 3. Offered spring. Introduction to various techniques used by retailers in the merchandising and displaying of goods. Analysis of different approaches and methods for effectiveness in actual retail settings. Includes display principles of balance, color, and focal point statements.

- BMKT 112 - Applied Sales

  Credits: 2. Offered autumn. Course provides students with basic sales skills through the use of experiential training, role-playing and evaluating presentations. Includes the steps in prospecting,

opening, presenting, demonstrating, handling objections, and closing the sale. Students will gain experience through role-playing activities, observations, and written presentations.

- BMKT 112T - Applied Sales

  Credits: 2. Offered autumn. Course provides students with basic sales skills through the use of experiential training, role-playing and evaluating presentations. Includes the steps in prospecting, opening, presenting, demonstrating, handling objections, and closing the sale. Students will gain experience through role-playing activities, observations, and written presentations. Course Attributes: Technical Course

- BMKT 114 - Psychology of Selling

  Credits: 3. Offered spring. Development of selling techniques which are used by many of the world's best companies and explanation of why they work. Includes the psychological reasons that prevent a prospect from purchasing a product or service and the techniques to motivate a prospect to buy.

- BMKT 225 - Marketing

  Credits: 3. Offered autumn. An overview of marketing activities including the consumer buying decision process, distribution channels, the planning process, and new marketing trends. Students learn how to introduce a new product into the market place, target markets, and promote products through advertising and package design.

- BMKT 240 - Advertising

  Credits: 3. Offered spring. Exposure to the history and fundamentals of advertising; in-depth exploration of advertising media, budget plans, ad campaign designs, and in-house promotion designs; and the production of actual radio, television, and print advertising.

- BMKT 265 - Social Media Strat & Mgmt

  Credits: 3. Offered spring. Prereq., CAPP 120 or CSCI 105. Students will analyze and select appropriate communication channels and technologies according to relevant publics, evaluate suitability of media content and use best communication practices to promote a positive organizational image, and apply business relationship marketing techniques to enhance social communities. Students will monitor issues and analyze trends across various social media platforms and manage media through professional, accessible, and ethical practices expected in our global society.

Business

Back to Top

- BUS 198T - Business Technology Internship

  Credits: 3. Prereq. Consent of instr. Extended classroom experience which provides practical application of classroom learning during placements in supervised business-related environments. The experience increases students' business skills, and occupational awareness and professionalism. Variable internship credit will be determined by Department Faculty Supervisor. BUS 198T credits and work experience do not apply toward or substitute for Business Technology Department x298 internship credits and work experience.

- BUS 238T - Financial Planning

  Credits: 3. Offered autumn. This course deals with personal financial planning and investments. The course will focus on a variety of personal finance topics including, the time value of money, liquid asset management, federal income and estate taxes, credit cards, consumer loans, automobile purchases, and insurance. The course then looks at long-term investing. Special topics covered include stocks, bonds, mutual funds, and tax-deferred retirement plans. There are two overall goals of the course. The first goal is to provide students with knowledge that will help you avoid commonly occurring errors in the management of personal finances. The second goal is to introduce you to some of the key concepts underlying the discipline of finance.

Computer Applications

Back to Top

- CAPP 091 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Credit does not

count toward an Associate of Arts, Associate of Applied Science, or Baccalaureate degree.

- CAPP 120 - Introduction to Computers
  Credits: 3. Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.
- CAPP 154 - MS Word
  Credits: 3. Offered autumn and spring. Prereq., CAPP 120 or basic computer experience and consent of instr. Preparation of business forms, correspondence, mail merges, columnar projects, and reports using up-to-date software. Business related application projects, graphics, and printer operation are included.
- CAPP 156 - MS Excel
  Credits: 3. Offered autumn and spring. Prereq., CAPP 120; and M 090 or M 095. Emphasis on the use of workbooks and sheets to solve business problems. Includes projects relating to data and graphs/charts.
- CAPP 254 - Advanced MS Word
  Credits: 3. Offered spring. Prereq., CAPP 154. Analysis of the concepts of advanced work processing document production underlying mastery of the software. Business-related application projects utilizing critical thinking included. Speed and timing component to increase skills essential for employment.
- CAPP 292 - Independent Study
  Credits: 1 TO 6. Course material appropriate to the needs and objectives of the individual student.

Communication

Back to Top

- COMX 250 - Intro to Public Relations
  Credits: 3. Offered autumn and spring. Introduction to the origin, scope, and nature of public relations activities. Investigation of policies, strategies, and procedures available to an organization in establishing and controlling its communications. Course will explore the impact of public relations and media through case studies and writing exercises.

Culinary Arts

Back to Top

- CULA 101 - Introduction to Food Service
  Credits: 5. Offered every term. Introduction to fundamentals in food handling practice, history, cooking methods, tool and equipment skills, safety and sanitation, recipe and menu development. Course Attributes: Technical Course
- CULA 105 - Food Service Sanitation
  Credits: 2. Offered autumn and summer. Introduction to fundamentals in safe and sanitary food handling practices. Emphasis on development of a well-designed food safety program centered on Hazard Analysis Critical Control Point (HACCP). Course Attributes: Technical Course
- CULA 156 - Dining Room Procedures
  Credits: 3. Offered every term. Prereq., CULA 101 and CULA 105 with a "C" or better. Introduction to foundations of dining room service: such as American, French, English and Russian style services. With buffet and tableside presentation along with beverage service and protocol for customer service, sanitation and menu design. Techniques include espresso service, fine dining service and tableside presentation. Personal hygiene, applied math, basic culinary terminology, beverage management, and tableside cooking methods are practiced.
- CULA 157 - Pantry & Garde Manger
  Credits: 3. Offered autumn and spring. Prereq., CULA 101 and CULA 105 with a "C" or better. Identification of fresh greens, vegetables, and fruits reviewed. General and specific knife skills and

garnish techniques practiced. Standards of quality, preparation, and presentation discussed and practiced. Practice preparation of entrée salads, cold sauces, appetizers, finger sandwiches, pâtés, gelatins, mousses, ice carvings, as well as banquet and buffet presentation. Course Attributes: Technical Course

- CULA 158 - Short Order Cookery
  Credits: 4. Offered every term. Prereq., CULA 101 and CULA 105 with a "C" or better. Hands-on experience in all facets of short order cookery. Emphasis on coordination, speed, presentation, and basic food preparation as well as cooking methods. Course Attributes: Technical Course
- CULA 160 - Soups, Stocks, & Sauces
  Credits: 3. Offered every term. Prereq., CULA 101 and CULA 105 with a "C" or better. Hands-on preparation of basic soups, stocks, sauces, glazes, thickening agents, and garnishes. Course Attributes: Technical Course
- CULA 161 - Meats & Vegetables
  Credits: 3. Offered every term. Prereq., CULA 101 and CULA 105 with a "C" or better. Hands-on experience with the fundamental cooking methods for meats, vegetables, grains, legumes, and pastas. Course Attributes: Technical Course
- CULA 165 - Baking & Pastry
  Credits: 3. Offered every term. Prereq., CULA 101, CULA 105, M 095 with a "C" or better or consent of instr. Introduction to various ingredients and how they affect the finished product. Covers six basic functions of ingredients and the techniques of scaling, pan preparation, sifting, chocolate, and pastry bag work. Course Attributes: Technical Course
- CULA 191 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course
- CULA 192 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course
- CULA 210 - Nutritional Cooking
  Credits: 3. Offered spring. Prereq., CULA 101 and CULA 105 or consent of instr. Principles of healthy and nutritious culinary procedures. Adjustment of classic methods to suit preparations designed to extend variety on "lighter" menus. Course Attributes: Technical Course
- CULA 270 - Purchasing and Cost Controls
  Credits: 5. Offered autumn. Prereq., CULA 101 and CULA 105, M 095; or consent of instr. Principles of purchasing foods and materials based on needs, specifications, availability, and seasonality. Costs of doing business including products, labor, facilities, and preparing financial statements.
- CULA 275 - Patisserie
  Credits: 2. Offered spring. Prereq., CULA 165, M 095 or consent of instr. Advanced principles and techniques in preparing custard sauces, pastry cream, puddings, custards, mousses, Bavarians, soufflés, ices, crepes, fruits, and dessert sauces. Emphasis on presentation of plated desserts. Course Attributes: Technical Course
- CULA 291 - Special Topics
  Credits: 1 TO 6. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course
- CULA 298 - Food Service Internship
  Credits: 4. Offered spring & fall. Prereq., Students must be enrolled in final semester of program and maintain a minimum "C" in all CULA (CUL & FSM) courses, or recommendation of Culinary Program Director. On-the-job training in position delegated by the Culinary Arts Internship Director. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of 300 hours at approved event sites and attend scheduled on campus meetings. Course Attributes: Internships/Practicums
- CULA 299 - Culinary Arts Capstone

Credits: 4. Offered spring. Prereq., CULA 270. Students must be enrolled in final semester of program and maintain a minimum “C” in all CULA courses, or recommendation of Culinary Program Director. Coordinates with computer applications course to create virtual food establishments. Includes capstone experience integrating menu planning and design, facilities, publicity, labor, purchasing, and kitchen preparation culminating in a formal, multi-course dinner.

Hospitality, Tourism, & Rec.

Back to Top

- ### HTR 107 - Intro Hospitality Management

  Credits: 3. This course introduces students with an overview of the businesses in the hospitality industry, including hotel/lodging, restaurant, and travel/tourism. The course provides the history, present factors, and future trends that will affect the hospitality industry, as well as introductory practices in marketing, operations, economics, technology, and customer service.

- ### HTR 201 - Hotel Mngmt/Ops

  Credits: 3. This course introduces students to the different management responsibilities within hotel and lodging operations. Students receive instruction on the responsibilities and requirements of management in the areas of front desk management, security/maintenance, housekeeping, administration, and food/beverage.

- ### HTR 298 - Internship

  Credits: 4. This course provides students with the opportunity to gain practical experience in the hospitality industry. Students will secure a position in one of the areas of the hospitality industry and work at least 180 hours. Students will also gain knowledge in how to properly and effectively prepare a resume, cover letter, and for a job interview. The internship will culminate in a portfolio of their accomplishments as well as a paper detailing the knowledge gained from the experience in reference to their job outcomes and goals.

Legal Studies

Back to Top

- ### LEG 183 - Contracts

  Credits: 2. Offered spring. Sources of law affecting the formation, enforceability, and interpretation of contracts. Includes the necessary elements of a contract, the basic doctrines of contract law, and practical approaches to drafting a contract.

- ### LEG 184 - Legal Ethics

  Credits: 2. Offered autumn. Introduction to ethics for the paralegal, including confidentiality, paralegal-attorney relationship, fee arrangements, Code of Professional Conduct, attorney-client privilege, fiduciary responsibilities, and public service.

- ### LEG 185 - Introduction Paralegal Studies

  Credits: 3. Offered autumn. Consent of instr. Students will develop an ability to analyze basic legal principles in real property law and practical experience increasing, organizing, and completing real estate transactions. Students in the course will develop fundamental skills; real estate, landlord-tenant, and land use law. Further, students will continue development of drafting skills, legal research, and case analysis.

- ### LEG 186 - Introduction to Legal Research

  Credits: 2. Offered autumn. Prereq., acceptance into program or consent of instr. Introduction to legal research focusing on how to find, use, understand, and correctly cite law library resources.

- ### LEG 187 - Leg Res & Wrtg I

  Credits: 2. Offered spring. Prereq., LEG 186. Advanced legal research focusing on how to find, use, understand, and correctly cite legal resources. Electronic research methods are presented. Application of legal research to writing is introduced.

- ### LEG 188 - Prin of Real Estate

  Credits: 2. Offered spring. Consent of instr. Students will develop an ability to analyze basic legal principles in real property law and practical experience increasing, organizing, and completing real estate transactions. Students in the course will develop fundamental skills; real estate, landlord-

tenant, and land use law. Further, students will continue development of drafting skills, legal research, and case analysis.

- LEG 189 - Criminal Procedures

  Credits: 3. Offered spring. Consent of instr. Criminal prosecution and defense representation with an overview of criminal law principles. Training in criminal procedure involving felonies and misdemeanors in federal, Montana, and municipal courts.

- LEG 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- LEG 196 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

- LEG 270 - Civil Litigation

  Credits: 3. Offered autumn. Prereq., LEG 185T, LEG 187T or consent of instr. Introduction to rules governing civil litigation involving the general nature of how lawsuits arise including client interviews and data gathering, pleading and practice from the filing of suit to file preparation for trial, and core considerations of ethics and professionalism.

- LEG 272 - Computers & Law

  Credits: 3. This course provides an introduction to the growing use of computer technology in law offices. Topics will include using established and developing technologies to address issues such as metadata, online office suites, online storage, Google Apps tools, word processing, spreadsheets, database, calendar, task lists, Bates stamping, online and in-office security, case management, optical character recognition & PDF document storage, operating systems, computers, scanners, online security, sale of providers, instant messaging, email, social media, courtroom presentations, discovery, document review, websites, online advertising, collaborative document editing, client billing, client trust account management, payroll, speech recognition, networking systems, cloud computing, remote desktop programs, and scheduling programs.

- LEG 282 - Contemporary Legal Issues

  Credits: 3. Offered spring. Prereq., LEG 270, or consent of instr. Capstone experience designed to investigate topical legal issues of immediate importance. Although the course has delineated structure, the nature of the course will allow both relevant concentrated focus as well as traditional disciplined examination of numerous areas of law practice and theory. The various pedagogical modules will offer students the opportunity to explore statutory structure, analyze case law, and draft legal forms.

- LEG 283 - Trial Preparation

  Credits: 3. Offered spring. Prereq., LEG 270, or consent of instr. Capstone experience designed to investigate topical legal issues of immediate importance. Although the course has delineated structure, the nature of the course will allow both relevant concentrated focus as well as traditional disciplined examination of numerous areas of law practice and theory. The various pedagogical modules will offer students the opportunity to explore statutory structure, analyze case law, and draft legal forms.

- LEG 285 - Family Law

  Credits: 3. Offered spring. Prereq., LEG 185, LEG 286 or consent of instr. Study of Montana law relating to marriage, husband and wife, parent and child, termination of marriage, adoption, joint and sole custody arrangements and modifications, child support guidelines, and juvenile issues. Includes preparation of standard family law documents.

- LEG 286 - Legal Res & Writing II

  Credits: 2. Offered autumn. Prereq., LEG 186T/187T. Advanced legal research and writing with emphasis on drafting and composing legal memoranda; legal research skills and development of legal writing ability.

- LEG 287 - Legal Res. & Writing III

  Credits: 2. Offered spring. Prereq., LEG 286. Continued development of legal research and writing skills including advanced legal theory/case law synthesis, drafting correspondence, pleadings, discovery documents, persuasive writing. Upon completion of this course, the student will be able to: research, analyze, synthesize, and prioritize law cases, treatises, doctrines, theory of the law, legal rules, and other information and draft appropriate correspondence, pleadings, motions,

briefs, discovery documents or memoranda relating to that information as would be anticipated in a law office.

- LEG 288 - Estate Administration
  Credits: 2. Offered spring. Prereq., LEG 185, LEG 286 or consent of instr. This course provides an overview of the law as it applies to wills, trusts, and other estate matters. Topics include the nature and sources of the law relating to wills, trusts, and estates, estate planning, intestate succession, family protection, probate, and estate taxes.
- LEG 291 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- LEG 292 - Independent Study
  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.
- LEG 298 - Paralegal Studies Internship
  Credits: 2. Offered autumn and spring. Prereq., last semester in program, minimum of "C" in LEG courses, and approval of program director. On-the-job experience as a paralegal trainee under the supervision of an employer, attorney, or court official. This experience increases students' skills, prepares them for initial employment and advancement on the job, and increases occupational awareness and professionalism. Students work a minimum of 90 hours at an approved site and attend a weekly one-hour seminar. Course Attributes: Internships/Practicums

Media Arts

Back to Top

- MART 214 - Digital Publishing & Design
  Credits: 3. Offered autumn. Prereq., CAPP 120, CSCI 105, or consent of instr. A comprehensive foundation of layout and design principles to integrate digital media essential for effective print-based and web-based business publications.
- MART 232 - Interactive Web II
  Credits: 3. Offered autumn and spring. Prereq., CAPP 120, CSCI 105, or consent of instr. Provides a background and foundation skills required for designing and implementing Web sites for public and private organizations. Marketing and design techniques are applied using state-of-the-art software.

Technical Administrative Skill

Back to Top

- TASK 191 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Accounting Technology A.A.S.

Lisa Swallow, Director

Almost all organizations need either in-house financial staff or outside bookkeeping/accounting services to aid with financial data compilation and reporting. Bookkeepers and accountants maintain financial records and often participate in strategic planning and other fiscal decisions. Graduates work in small businesses as full charge bookkeepers or large businesses as members of an accounting staff. They are required to communicate extensively with vendors, clients, and employees and are often key players in business projections, cash forecasting, and budgeting. This program provides students the marketable skills for employability in a variety of organizations including service, retail, non-profit, governmental, and accounting firms. Program graduates use technology to gather, compile and analyze data. They communicate budgetary and accounting information to non-financial colleagues and managers. Students considering this program should be analytical, detail-oriented, and enjoy using current technology.

Associate of Applied Science - Accounting Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 63

Required Cumulative GPA: 2.0

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

AAS Accounting Technology

Rule: All courses required.

Note: Pick 1 of the 2 courses: either CAPP 156 MS Excel or CSCI 172 Intro to Computer Modeling.

	Course	Credits
	ACTG 101 - Accounting Procedures I Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.	4 Credits
	ACTG 102 - Accounting Procedures II Offered autumn and spring. Prereq., ACTG 101. Expansion of ACTG 101 including receivables, inventories, plant and intangible assets, and expanded liabilities. Includes partnerships, corporations, long-term liabilities, investments in debt and equity securities, and the statement of cash flows.	4 Credits
	ACTG 180 - Payroll Accounting Offered autumn and spring. Payroll Topics including Federal and Montana state payroll tax law. The course includes study of workers compensation, independent contractor determination and registration, preparation of payroll, payroll tax returns and deposits, and annual information payroll returns. Students will also be exposed to federal law affecting payroll such as Fair Labor Standards Act, ADA, Family Medical Leave Act, Civil Rights Act, etc. and applicable Montana state laws.	3 Credits
	ACTG 202 - Principles of Mang Acct Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.	3 Credits
	ACTG 211 - Income Tax Fundamentals Offered autumn. Prereq., ACTG 180 with a "C" grade or better. This class is a comprehensive overview of individual income taxation. It includes an introduction to taxation terminology, taxation principles and an overview of retirement plans/tax ramifications for small businesses/individuals. Individual taxation is taught through preparation of a series of tax returns. Course emphasis is on individuals and sole proprietorships.	4 Credits
	ACTG 215 - Fnd of Govt & Not Profit Acct Offered spring. Prereq., ACTG 101-102 or consent of instr. Principles of accounting for governmental units, health care organizations, colleges and universities, and other nonprofit organizations.	3 Credits

	ACTG 250 - Accounting Capstone Offered spring. Prereq., ACTG 202, 211, or equivalent. and consent of instr. Capstone class integrates accounting software, income tax preparation, financial statement preparation, ratio analysis, financial report writing: includes presentation and critical thinking skill development as well.	4 Credits
	ACTG 298 - Internship (R 3) Offered autumn and spring. Prereq., last semester in program, minimum grade of "C" in all ACTG courses, and approval of program director. On-the-job training in positions related to the accounting field. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend scheduled one-hour seminars.	2 Credits
	BFIN 205S - Personal Finance Offered intermittently. Concepts, strategies and techniques in analyzing financial situations and investment opportunities from the individual's perspective.	3 Credits
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	BGEN 160S - Issues in Sustainability Offered every term. Same as CCN 160S. This literature-intensive course is intended to expose the student to a variety of essays addressing the balance of economic development with the principles of sustainability and social equity. The student is offered an introduction to sustainability concepts, natural systems/cycles and environmental economics. Natural capitalism and triple bottom line maximization is explored, along with the role of corporations and small businesses in sustainable development. A survey of issues surrounding corporate social responsibility and sustainability-driven innovation will be conducted.	3 Credits
	BGEN 235 - Business Law Offered autumn and spring. This course provides an overview of law as it applies to business transactions. Topics include the nature and source of law; courts and procedure; contracts, sales, and employment; commercial paper; bailment's; property; business organizations; insurance; wills and estate planning; consumer and creditor protection; torts; criminal law; and agency law. Credit not allowed for both BGEN 235 and BADM 257.	3 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits

	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		60 Total Credits Required

Accounting Technology Computer Support A.A.S.

In addition to accounting technician training, students selecting this option will be prepared to manage and maintain LAN and/or WAN system, install, maintain and troubleshoot software, and train and support system users. They also will be trained to configure and diagnose workstation hardware, administer system security and upgrade, update and expand network systems.

Associate of Applied Science - Accounting Technology; Computer Support Option

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 64

Required Cumulative GPA: 2.0

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

AAS Accounting Technology

Rule: All courses required.

Note: ACTG 298 Accounting Internship is a 2crt course

	Course	Credits
	ACTG 101 - Accounting Procedures I Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.	4 Credits
	ACTG 102 - Accounting Procedures II Offered autumn and spring. Prereq., ACTG 101. Expansion of ACTG 101 including receivables, inventories, plant and intangible assets, and expanded liabilities. Includes partnerships, corporations, long-term liabilities, investments in debt and equity securities, and the statement of cash flows.	4 Credits
	ACTG 180 - Payroll Accounting Offered autumn and spring. Payroll Topics including Federal and Montana state payroll tax law. The course includes study of workers compensation, independent contractor determination and registration, preparation of payroll, payroll tax returns and deposits, and annual information payroll returns. Students will also be exposed to federal law affecting payroll such as Fair Labor Standards Act, ADA, Family Medical Leave Act, Civil Rights Act, etc. and applicable Montana state laws.	3 Credits
	ACTG 202 - Principles of Mang Acct Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.	3 Credits
	ACTG 211 - Income Tax Fundamentals Offered autumn. Prereq., ACTG 180 with a "C" grade or better. This class is a comprehensive overview of individual income taxation. It includes an introduction to taxation terminology, taxation principles and an overview of retirement plans/tax ramifications for small businesses/individuals. Individual taxation is taught through preparation of a series of tax returns. Course emphasis is on individuals and sole proprietorships.	4 Credits
	ACTG 250 - Accounting Capstone Offered spring. Prereq., ACTG 202, 211, or equivalent. and consent of instr. Capstone class integrates accounting software, income tax preparation, financial statement preparation, ratio analysis, financial report writing: includes presentation and critical thinking skill development as well.	4 Credits

	ACTG 298 - Internship (R 3) Offered autumn and spring. Prereq., last semester in program, minimum grade of "C" in all ACTG courses, and approval of program director. On-the-job training in positions related to the accounting field. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend scheduled one-hour seminars.	1 To 3 Credits
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	CAPP 156 - MS Excel Offered autumn and spring. Prereq., CAPP 120; and M 090 or M 095. Emphasis on the use of workbooks and sheets to solve business problems. Includes projects relating to data and graphs/charts.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	CSCI 105 - Computer Fluency Offered autumn and spring. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CSCI 105 and CRT 111 and CS 111.	3 Credits
	CSCI 110 - Programming - VB I Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to object-oriented programming using an even-driven paradigm. Basic concepts of control structures, data handling, documentation, and error control. Fundamentals of algorithm design and structured software development.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	CSCI 215E - Social & Ethical Issues in CS Offered autumn and spring. Prereq., WRIT 101. Exploration of ethical issues in the field of computing. Skills needed to identify and analyze various ethical concerns. Standard ethical concepts and theories, methods of ethical analysis. Strong emphasis on practical application of the ethical process.	3 Credits

	ITS 150 - CCNA 1: Exploration Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. Introduction to networking field including terminology; protocols; local-area and wide-area networks; the OSI model; topologies; IP addressing; cabling and cabling tools; routers and router programming. Ethernet and network standards; and wireless technologies.	3 Credits
	ITS 165 - OS Commands and Scripts Offered spring. Introduction to operating system concepts through the use of contemporary software. Emphasizes file system management, networking, installation, maintenance, management, and disaster recovery practices using both the command interpreter and graphical user interface.	3 Credits
	ITS 210 - Network OS - Desktop Offered autumn. Prereq., ITS 150. In-depth study of a secure, multi-user, client-based network operating system. Topics include installation, administration of resources, performance, network services, and security.	3 Credits
	ITS 280 - Computer Repair & Maint. Offered autumn. Prereq./Co-req, ITS 150. In-depth study of personal computer hardware. Focus on field replaceable components. Topics include: storage devices, processors, system boards, memory, ports, cabling, power supplies, multimedia devices, printers, and troubleshooting.	3 Credits
	ITS 289 - Professional Certification (R-4) Offered autumn and spring. Prereq., consent of instr. Review objectives of an information technology industry-based professional certification. Certification objectives, preparation strategies, and exam strategies included. Course can be repeated for different industry-based professional certifications.	1 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
Minimum Required Grade: C-		64 Total Credits Required

Writing Requirement

Rule: Pick 1 of the 2 courses below

Note: See Program Director for prerequisites, placement and advising.

	Course	**Credits**

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Administrative Management A.A.S.

Cheryl Galipeau, Director

The Administrative Management Program allows students to advance the career proficiencies acquired in the Customer Relations certificate program by earning an Associate of Applied Science Degree. The Administrative Management program prepares graduates to meet the administrative and information needs of business and industry. Students gain proficiency in computer, management, and information technologies. They complete an academic component to gain an understanding of professional responsibilities in our global society. Graduates of this program become vital members of executive teams with the ability to assume supervisory, organizational, and communication roles in the coordination of administrative services. Students are encouraged to earn Microsoft Office Specialist (MOS) certification on Microsoft Office programs. Earning a Microsoft Office Specialist certification increases job opportunities by demonstrating technical proficiency in advanced skills to potential and current employers. Interested students should discuss this opportunity with the Administrative Management Program Director. An Associate of Applied Science Degree in Administrative Management opens opportunities for graduates in a variety of business settings.

Associate of Applied Science - Administrative Management

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 64

Required Cumulative GPA: 2.0

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

AAS, Administrative Management, Course Requirements

Rule: All courses required

Note: Completion of the requirements for a Certificate of Applied Science in Customer Relations, 33 credits, is embedded within the completion of the Administrative Management courses. See Program Director for CAS advising.
See Program Director for advising regarding course prerequisites, and math and writing placement assessments.

	Course	Credits
	AMGT 145 - Records Management Offered every term. Introduction to alphabetic filing techniques and electronic database records management. Current technical developments utilizing automated records systems, biometric access control devices, electronic file organization, ergonomics, the Internet, image technology, and integrated security systems.	2 Credits
	AMGT 240 - Admin Support for the Office Offered autumn. Prereq., CAPP 134. Overview of the procedures and scope of the administrative assistant's role in today's automated office, including traditional and electronic communications, operation of multi-media equipment, and managing office technology.	3 Credits
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	BGEN 235 - Business Law Offered autumn and spring. This course provides an overview of law as it applies to business transactions. Topics include the nature and source of law; courts and procedure; contracts, sales, and employment; commercial paper; bailment's; property; business organizations; insurance; wills and estate planning; consumer and creditor protection; torts; criminal law; and agency law. Credit not allowed for both BGEN 235 and BADM 257.	3 Credits
	BMGT 212 - Critical Analysis for Business This is an analysis, critical thinking, and writing course for students in the Business Technology fields. Students will also be introduced to traditional Western philosophy through study and discussion of Socrates, Plato and, Aristotle. To that end, students will analyze theories of knowledge and morality in relationship to current events within American Democracy and Law. Students will practice identifying elements of arguments, analyzing elements of arguments for logic, and developing coherent and comprehensive responses to arguments. This course will emphasize practical application rather than purely academic exercise.	3 Credits
	BMGT 216 - Psych of Mgmt & Supervision Offered autumn. Management theory, research, and the practice of management. Topics covered include leadership styles and techniques, effective communication approaches, time management, decision making, delegation, and the basic functions of supervisory skills.	4 Credits

	BMGT 245 - Customer Service Management Offered spring. Designed to prepare employees and managers to meet customers' expectations. Review of customer service philosophy and techniques. Services marketing, quality issues, service design and delivery, customer interaction systems, complaint handling and service recovery, customer relationships, loyalty management, and operations are addressed.	4 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	CAPP 154 - MS Word Offered autumn and spring. Prereq., CAPP 120 or basic computer experience and consent of instr. Preparation of business forms, correspondence, mail merges, columnar projects, and reports using up-to-date software. Business related application projects, graphics, and printer operation are included.	3 Credits
	CAPP 254 - Advanced MS Word Offered spring. Prereq., CAPP 154. Analysis of the concepts of advanced work processing document production underlying mastery of the software. Business-related application projects utilizing critical thinking included. Speed and timing component to increase skills essential for employment.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	COMX 250 - Intro to Public Relations Offered autumn and spring. Introduction to the origin, scope, and nature of public relations activities. Investigation of policies, strategies, and procedures available to an organization in establishing and controlling its communications. Course will explore the impact of public relations and media through case studies and writing exercises.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits

	HMR 290T - Adm Mgmt Internship Offered autumn and spring. Prereq., last semester in program, minimum of "C" in program courses, and approval of program director. On the job training in positions related to each student's career goal in the administrative field. This experience increases students' skills, prepares them for initial employment and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend weekly scheduled one-hour seminars.	2 Credits
	ITS 221 - Project Management Offered autumn. Prereq., CSCI 172. Investigation of topics in project management including scope, definition, risk, procurement and the RFP. Management of time, cost, quality, and human resources. Concepts are reinforced with PM software.	3 Credits
	MART 214 - Digital Publishing & Design Offered autumn. Prereq., CAPP 120, CSCI 105, or consent of instr. A comprehensive foundation of layout and design principles to integrate digital media essential for effective print-based and web-based business publications.	3 Credits
	MART 232 - Interactive Web II Offered autumn and spring. Prereq., CAPP 120, CSCI 105, or consent of instr. Provides a background and foundation skills required for designing and implementing Web sites for public and private organizations. Marketing and design techniques are applied using state-of-the-art software.	3 Credits
Minimum Required Grade: C-		54 Total Credits Required

Writing Requirements

Rule: Pick 1 of the 2 courses below

Note: See Program Director for prerequisites, placement and advising.

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits

	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Math Requirements

Rule: Pick 1 of the 2 courses below

Note: See Program Director for prerequisites, placement and advising.

	Course	**Credits**
	M 105 - Contemporary Mathematics Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Accounting Requirements

Rule: Pick 1 of the 2 courses below

	Course	**Credits**
	ACTG 100 - Essentials of Accounting Offered autumn and spring. Introduction to basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, cash control and completing the accounting cycle.	4 Credits
	ACTG 101 - Accounting Procedures I Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.	4 Credits

Minimum Required Grade: C-	3 Total Credits Required

Hospitality Management A.A.S.

Associate of Applied Science - Hospitality Management

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 64

Required Cumulative GPA: 2.0

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

AAS Hospitality Management

Rule: All courses required.

	Course	Credits
	ACTG 101 - Accounting Procedures I Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.	4 Credits
	ACTG 102 - Accounting Procedures II Offered autumn and spring. Prereq., ACTG 101. Expansion of ACTG 101 including receivables, inventories, plant and intangible assets, and expanded liabilities. Includes partnerships, corporations, long-term liabilities, investments in debt and equity securities, and the statement of cash flows.	4 Credits
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	BMGT 216 - Psych of Mgmt & Supervision Offered autumn. Management theory, research, and the practice of management. Topics covered include leadership styles and techniques, effective communication approaches, time management, decision making, delegation, and the basic functions of supervisory skills.	4 Credits

	BMGT 245 - Customer Service Management Offered spring. Designed to prepare employees and managers to meet customers' expectations. Review of customer service philosophy and techniques. Services marketing, quality issues, service design and delivery, customer interaction systems, complaint handling and service recovery, customer relationships, loyalty management, and operations are addressed.	4 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	CULA 101 - Introduction to Food Service Offered every term. Introduction to fundamentals in food handling practice, history, cooking methods, tool and equipment skills, safety and sanitation, recipe and menu development.	5 Credits
	CULA 105 - Food Service Sanitation Offered autumn and summer. Introduction to fundamentals in safe and sanitary food handling practices. Emphasis on development of a well-designed food safety program centered on Hazard Analysis Critical Control Point (HACCP).	2 Credits
	CULA 270 - Purchasing and Cost Controls Offered autumn. Prereq., CULA 101 and CULA 105, M 095; or consent of instr. Principles of purchasing foods and materials based on needs, specifications, availability, and seasonality. Costs of doing business including products, labor, facilities, and preparing financial statements.	5 Credits
	CULA 299 - Culinary Arts Capstone Offered spring. Prereq., CULA 270. Students must be enrolled in final semester of program and maintain a minimum "C" in all CULA courses, or recommendation of Culinary Program Director. Coordinates with computer applications course to create virtual food establishments. Includes capstone experience integrating menu planning and design, facilities, publicity, labor, purchasing, and kitchen preparation culminating in a formal, multi-course dinner.	4 Credits
	HTR 107 - Intro Hospitality Management This course introduces students with an overview of the businesses in the hospitality industry, including hotel/lodging, restaurant, and travel/tourism. The course provides the history, present factors, and future trends that will affect the hospitality industry, as well as introductory practices in marketing, operations, economics, technology, and customer service.	3 Credits
	HTR 201 - Hotel Mngmt/Ops This course introduces students to the different management responsibilities within hotel and lodging operations. Students receive instruction on the responsibilities and requirements of management in the areas of front desk management, security/maintenance, housekeeping, administration, and food/beverage.	3 Credits

	HTR 298 - Internship This course provides students with the opportunity to gain practical experience in the hospitality industry. Students will secure a position in one of the areas of the hospitality industry and work at least 180 hours. Students will also gain knowledge in how to properly and effectively prepare a resume, cover letter, and for a job interview. The internship will culminate in a portfolio of their accomplishments as well as a paper detailing the knowledge gained from the experience in reference to their job outcomes and goals.	4 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		64 Total Credits Required

Hospitality Management Elective

Minimum Required Grade: C-

3 Total Credits Required

Entrepreneurship A.A.S.

Students selecting the Entrepreneurship option will focus on venture initiation, constructing business plans, generating financing, and beginning operations. Areas of study focus on the critical factors involved in accounting, sales strategy, advertising and marketing issues complemented with supervisory skills. Students gain knowledge of basic disciplines of business through both classroom and hands-on training. Computer technology and web development are added components to assist students to compete in today's changing business climate. Successful graduates will depart with a comprehensive business plan and presentation skills required to approach financiers.

Associate of Applied Science - Management

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 68

Required Cumulative GPA: 2.0

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

AAS Business Management, Entrepreneurship

Rule: All courses required

Note: BMGT 298 Management Internship is a 2 crt course.

	Course	Credits
	ACTG 101 - Accounting Procedures I Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.	4 Credits
	ACTG 102 - Accounting Procedures II Offered autumn and spring. Prereq., ACTG 101. Expansion of ACTG 101 including receivables, inventories, plant and intangible assets, and expanded liabilities. Includes partnerships, corporations, long-term liabilities, investments in debt and equity securities, and the statement of cash flows.	4 Credits
	ACTG 180 - Payroll Accounting Offered autumn and spring. Payroll Topics including Federal and Montana state payroll tax law. The course includes study of workers compensation, independent contractor determination and registration, preparation of payroll, payroll tax returns and deposits, and annual information payroll returns. Students will also be exposed to federal law affecting payroll such as Fair Labor Standards Act, ADA, Family Medical Leave Act, Civil Rights Act, etc. and applicable Montana state laws.	3 Credits
	BFIN 205S - Personal Finance Offered intermittently. Concepts, strategies and techniques in analyzing financial situations and investment opportunities from the individual's perspective.	3 Credits
	BGEN 235 - Business Law Offered autumn and spring. This course provides an overview of law as it applies to business transactions. Topics include the nature and source of law; courts and procedure; contracts, sales, and employment; commercial paper; bailment's; property; business organizations; insurance; wills and estate planning; consumer and creditor protection; torts; criminal law; and agency law. Credit not allowed for both BGEN 235 and BADM 257.	3 Credits

	BMGT 212 - Critical Analysis for Business This is an analysis, critical thinking, and writing course for students in the Business Technology fields. Students will also be introduced to traditional Western philosophy through study and discussion of Socrates, Plato and, Aristotle. To that end, students will analyze theories of knowledge and morality in relationship to current events within American Democracy and Law. Students will practice identifying elements of arguments, analyzing elements of arguments for logic, and developing coherent and comprehensive responses to arguments. This course will emphasize practical application rather than purely academic exercise.	3 Credits
	BMGT 216 - Psych of Mgmt & Supervision Offered autumn. Management theory, research, and the practice of management. Topics covered include leadership styles and techniques, effective communication approaches, time management, decision making, delegation, and the basic functions of supervisory skills.	4 Credits
	BMGT 298 - Management Internship (R-3) Offered every term. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 3 Credits
	BMGT 299 - Capstone:Entrepreneurship Offered spring. Prereq., CAPP 120. An overview of the skill areas and business principles needed to start and operate a small business. Includes developing a business plan, identifying sources of capital formation, managing growth, and marketing issues related to new ventures.	3 Credits
	BMKT 112 - Applied Sales Offered autumn. Course provides students with basic sales skills through the use of experiential training, role-playing and evaluating presentations. Includes the steps in prospecting, opening, presenting, demonstrating, handling objections, and closing the sale. Students will gain experience through role-playing activities, observations, and written presentations.	2 Credits
	BMKT 114 - Psychology of Selling Offered spring. Development of selling techniques which are used by many of the world's best companies and explanation of why they work. Includes the psychological reasons that prevent a prospect from purchasing a product or service and the techniques to motivate a prospect to buy.	3 Credits
	BMKT 225 - Marketing Offered autumn. An overview of marketing activities including the consumer buying decision process, distribution channels, the planning process, and new marketing trends. Students learn how to introduce a new product into the market place, target markets, and promote products through advertising and package design.	3 Credits

	BMKT 240 - Advertising Offered spring. Exposure to the history and fundamentals of advertising; in-depth exploration of advertising media, budget plans, ad campaign designs, and in-house promotion designs; and the production of actual radio, television, and print advertising.	3 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	MART 214 - Digital Publishing & Design Offered autumn. Prereq., CAPP 120, CSCI 105, or consent of instr. A comprehensive foundation of layout and design principles to integrate digital media essential for effective print-based and web-based business publications.	3 Credits
	MART 232 - Interactive Web II Offered autumn and spring. Prereq., CAPP 120, CSCI 105, or consent of instr. Provides a background and foundation skills required for designing and implementing Web sites for public and private organizations. Marketing and design techniques are applied using state-of-the-art software.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		68 Total Credits Required

Management Sales and Marketing A.A.S.

This option combines technical sales and promotional related courses as a foundation for students seeking middle to advanced positions in the sales and marketing field. Students will be required to complete sales presentations using appropriate techniques to apply consultative and negotiation selling skills. Students will study and demonstrate effective sales techniques, plan and implement effective visual displays and presentations, and develop strong record keeping skills and management of accounts. Additional emphases in computer skills, accounting, and technical writing provide students with the needed edge for this competitive career.

Associate of Applied Science - Management; Sales and Marketing Option

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 67

Required Cumulative GPA: 2.0

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

AAS Business Management, Sales & Marketing

Rule: All courses required

Note: BMGT 298 Management Internship is a 2 crt course.

__	**Course**	**Credits**
	ACTG 101 - Accounting Procedures I Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.	4 Credits

	ACTG 102 - Accounting Procedures II Offered autumn and spring. Prereq., ACTG 101. Expansion of ACTG 101 including receivables, inventories, plant and intangible assets, and expanded liabilities. Includes partnerships, corporations, long-term liabilities, investments in debt and equity securities, and the statement of cash flows.	4 Credits
	ACTG 180 - Payroll Accounting Offered autumn and spring. Payroll Topics including Federal and Montana state payroll tax law. The course includes study of workers compensation, independent contractor determination and registration, preparation of payroll, payroll tax returns and deposits, and annual information payroll returns. Students will also be exposed to federal law affecting payroll such as Fair Labor Standards Act, ADA, Family Medical Leave Act, Civil Rights Act, etc. and applicable Montana state laws.	3 Credits
	BGEN 235 - Business Law Offered autumn and spring. This course provides an overview of law as it applies to business transactions. Topics include the nature and source of law; courts and procedure; contracts, sales, and employment; commercial paper; bailment's; property; business organizations; insurance; wills and estate planning; consumer and creditor protection; torts; criminal law; and agency law. Credit not allowed for both BGEN 235 and BADM 257.	3 Credits
	BMGT 212 - Critical Analysis for Business This is an analysis, critical thinking, and writing course for students in the Business Technology fields. Students will also be introduced to traditional Western philosophy through study and discussion of Socrates, Plato and, Aristotle. To that end, students will analyze theories of knowledge and morality in relationship to current events within American Democracy and Law. Students will practice identifying elements of arguments, analyzing elements of arguments for logic, and developing coherent and comprehensive responses to arguments. This course will emphasize practical application rather than purely academic exercise.	3 Credits
	BMGT 216 - Psych of Mgmt & Supervision Offered autumn. Management theory, research, and the practice of management. Topics covered include leadership styles and techniques, effective communication approaches, time management, decision making, delegation, and the basic functions of supervisory skills.	4 Credits
	BMGT 298 - Management Internship (R-3) Offered every term. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 3 Credits
	BMKT 109 - Visual Merchandising & Display Offered spring. Introduction to various techniques used by retailers in the merchandising and displaying of goods. Analysis of different approaches and methods for effectiveness in actual retail settings. Includes display principles of balance, color, and focal point statements.	3 Credits

	BMKT 112 - Applied Sales Offered autumn. Course provides students with basic sales skills through the use of experiential training, role-playing and evaluating presentations. Includes the steps in prospecting, opening, presenting, demonstrating, handling objections, and closing the sale. Students will gain experience through role-playing activities, observations, and written presentations.	2 Credits
	BMKT 114 - Psychology of Selling Offered spring. Development of selling techniques which are used by many of the world's best companies and explanation of why they work. Includes the psychological reasons that prevent a prospect from purchasing a product or service and the techniques to motivate a prospect to buy.	3 Credits
	BMKT 225T - Marketing Offered autumn. An overview of marketing activities including the consumer buying decision process, distribution channels, the planning process, and new marketing trends. Students learn how to introduce a new product into the marketplace, target markets, and promote products through advertising and package design.	3 Credits
	BMKT 240 - Advertising Offered spring. Exposure to the history and fundamentals of advertising; in-depth exploration of advertising media, budget plans, ad campaign designs, and in-house promotion designs; and the production of actual radio, television, and print advertising.	3 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	COMX 250 - Intro to Public Relations Offered autumn and spring. Introduction to the origin, scope, and nature of public relations activities. Investigation of policies, strategies, and procedures available to an organization in establishing and controlling its communications. Course will explore the impact of public relations and media through case studies and writing exercises.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits

	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	MART 214 - Digital Publishing & Design Offered autumn. Prereq., CAPP 120, CSCI 105, or consent of instr. A comprehensive foundation of layout and design principles to integrate digital media essential for effective print-based and web-based business publications.	3 Credits
	MART 232 - Interactive Web II Offered autumn and spring. Prereq., CAPP 120, CSCI 105, or consent of instr. Provides a background and foundation skills required for designing and implementing Web sites for public and private organizations. Marketing and design techniques are applied using state-of-the-art software.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		67 Total Credits Required

Health Information Coding Specialty A.A.S.

Students are trained to analyze health records and to accurately abstract and code procedures and diagnoses utilizing legal and regulatory standards. An understanding of anatomy, medical terminology and disease processes will provide students with the necessary tools to determine correct codes and sequences.

Associate of Applied Science - Medical Information Technology; Health Information Coding Spec Option

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 62

Required Cumulative GPA: 2.0

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

Degree Core Courses

Rule: All Courses Required

Note: AHMS 291 Special Topics: Simulated Lab Medical Support is a 3 cr. course.

"Coding courses held on-line Great Falls College AHMS 201, AHMS 160, AHMS 162, AHMS 212, and AHMS 213". See program director for coding course information.

WRIT 101 may be substituted for WRIT 121 at the discretion of the program director.

	Course	Credits
	AHMS 108 - Health Data Content & Struct Offered spring. In-depth study of origin, use, content and structure of health records; storage and retrieval systems; numbering and filing systems; documentation requirements; use and structure of health care data sets; and how these components relate to primary and secondary record systems. Additional topics include gathering, compilation and computing of healthcare related statistics, use of research and statistical methods for developing healthcare data into information for various requesters.	2 Credits
	AHMS 144 - Medical Terminology Offered every term. Introduction to a medical word building system using Greek and Latin word roots, combining forms, suffixes, and prefixes.	3 Credits
	AHMS 156 - Medical Billing Fundamentals Offered every term. Prereq. or coreq., AHMS 220 or consent of instr. An introduction to insurance claim processing for the major medical insurance programs. Students will be provided with a basic knowledge of CPT and ICD-9 procedural and diagnostic coding. Emphasis on completing universal insurance forms to maximize reimbursement as well as trouble shoot denied or underpaid claims.	3 Credits
	AHMS 160 - Beginning Procedural Coding Offered autumn. Prereq., AHMS 156, AHMS 108 or consent of instr. Foundation for utilizing the CPT coding system to increase compatibility and comparability of medical data among users and providers.	3 Credits
	AHMS 164 - BEG DIAGNOSIS CODING:ICD-10 This course covers basic and intermediate levels of theory and application of ICD-CM principles and guidelines for coding and sequencing diagnoses and procedures. Students perform basic and intermediate coding using real health records, case studies, and scenarios. Application will focus on the use of the electronic ICD-10-CM with an overview of encoder software. This coding class involves hands-on coding, and knowledge of basic use of applicable coding books or the electronic ICD-10-CM. Currently the students take this course through Great Falls	3 Credits
	AHMS 175 - Medical Law & Ethics This course will introduce students to the common laws, regulations, and agencies affecting ambulatory medical facilities. Current issues of ethics and bioethics will also be discussed. This is a blended class.	2 Credits

	AHMS 212 - CPT Coding Offered spring. Prereq., AHMS 210 or consent of instr. Comprehensive application of the CPT coding system to assign codes for services, supplies and equipment for comparative analysis, research and reimbursement.	3 Credits
	AHMS 213 - ICD-10 CODING Prereq., AHMS 164. Basic understanding of diagnostic and procedural coding principles should already be established. The course requires interpreting ICD-10-CM coding and reporting guidelines to sequence and assign appropriate diagnostic codes for both inpatient and various outpatient settings. Compliance issues associated with various IPPS reimbursement systems such as MS-DRGs, as well as APCs are covered. Encoder software will complement the ICD-10-CM manual in the application of coding processes. Clinical information will be interpreted from brief case studies and progress to the coding of health record excerpts.	3 Credits
	AHMS 216 - Pharmaceutical Products Offered autumn. Fundamental principles of pharmacology and the implications of medication use. Includes the law as it pertains to drug use, dosage forms, routes of administration as well as the pharmacologic actions and uses of drugs.	3 Credits
	AHMS 220 - Medical Office Procedures Offered autumn. An introduction to the necessary skills and qualities required to function successfully in the medical arena. Emphasis on medico-legal and ethical responsibilities, records management and financial management of the medical practice, and interpersonal communications to include patient reception, telephone techniques and appointment scheduling.	4 Credits
	AHMS 245 - Simulated Lab Prereq., consent of instr. This course will use computer applications and software in maintaining health information in medical records through practice utilizing HIT applications through the AHIMA Virtual Lab, to include the following applications: Master Patient Index, Electronic Health Record, Encoder, Abstracting, Chart Tracking, Release of Information.	3 Credits
	AHMS 252 - Computerized Medical Billing Offered spring, Prereq., AHMS 156; prereq. or coreq. AHMS 220; or consent of instr. A medical package is used to enter and update patient data, enter charges, payments and adjustments, and generate management reports, insurance forms, and patient statements.	2 Credits
	AHMS 298 - Medical Info Internship Offered every term. Prereq., last semester in program, minimum of "C" in AHMS/AHMA (MED) courses, and approval of program director. On-the-job training in positions related to each student's career goal in the medical information field. This experience increases students' skills, prepares them for initial employment and advancement on the job, and increases occupational awareness and professionalism. Students work a minimum of 180 hours at an approved site and attend a scheduled one-hour seminar.	3 Credits
	BIOH 112 - Human Form and Function I Offered autumn. Explores the fundamentals of structure and function at basic cellular and tissue levels, in addition to the anatomy and physiology of the integumentary, musculoskeletal, and nervous systems.	3 Credits

	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	CAPP 154 - MS Word Offered autumn and spring. Prereq., CAPP 120 or basic computer experience and consent of instr. Preparation of business forms, correspondence, mail merges, columnar projects, and reports using up-to-date software. Business related application projects, graphics, and printer operation are included.	3 Credits
	CAPP 156 - MS Excel Offered autumn and spring. Prereq., CAPP 120; and M 090 or M 095. Emphasis on the use of workbooks and sheets to solve business problems. Includes projects relating to data and graphs/charts.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		62 Total Credits Required

Math Requirements

Rule: Any Math course M 105 or above

Minimum Required Grade: C-

3 Total Credits Required

Medical Administrative Assisting A.A.S.

Medical administrative assistants are trained to effectively greet patients, supervise office personnel, schedule appointments, post charges and payments, submit insurance claims using current coding procedures, maintain patient records, calculate payroll, create and update the office procedures manual, assist in improving work flow and office efficiencies, and transcribe letters and patient chart notes.

Students successfully completing the program are awarded the Associate of Applied Science degree. Students may enter either autumn or spring semester.

Students entering autumn semester may complete the program in four semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

Associate of Applied Science - Medical Information Technology; Medical Administrative Assist Option

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 63

Required Cumulative GPA: 2.0

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

Degree Core Courses

Rule: All Courses Required

Note: ACTG 101 may be substituted for ACTG 100 at the discretion of the program director.
WRIT 101 may be substituted for WRIT 121 at the discretion of the program director.

	Course	Credits
	ACTG 100 - Essentials of Accounting Offered autumn and spring. Introduction to basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, cash control and completing the accounting cycle.	4 Credits
	ACTG 180 - Payroll Accounting Offered autumn and spring. Payroll Topics including Federal and Montana state payroll tax law. The course includes study of workers compensation, independent contractor determination and registration, preparation of payroll, payroll tax returns and deposits, and annual information payroll returns. Students will also be exposed to federal law affecting payroll such as Fair Labor Standards Act, ADA, Family Medical Leave Act, Civil Rights Act, etc. and applicable Montana state laws.	3 Credits
	AHMS 108 - Health Data Content & Struct Offered spring. In-depth study of origin, use, content and structure of health records; storage and retrieval systems; numbering and filing systems; documentation requirements; use and structure of health care data sets; and how these components relate to primary and secondary record systems. Additional topics include gathering, compilation and computing of healthcare related statistics, use of research and statistical methods for developing healthcare data into information for various requesters.	2 Credits
	AHMS 144 - Medical Terminology Offered every term. Introduction to a medical word building system using Greek and Latin word roots, combining forms, suffixes, and prefixes.	3 Credits
	AHMS 156 - Medical Billing Fundamentals Offered every term. Prereq. or coreq., AHMS 220 or consent of instr. An introduction to insurance claim processing for the major medical insurance programs. Students will be provided with a basic knowledge of CPT and ICD-9 procedural and diagnostic coding. Emphasis on completing universal insurance forms to maximize reimbursement as well as trouble shoot denied or underpaid claims.	3 Credits

	AHMS 175 - Medical Law & Ethics This course will introduce students to the common laws, regulations, and agencies affecting ambulatory medical facilities. Current issues of ethics and bioethics will also be discussed. This is a blended class.	2 Credits
	AHMS 220 - Medical Office Procedures Offered autumn. An introduction to the necessary skills and qualities required to function successfully in the medical arena. Emphasis on medico-legal and ethical responsibilities, records management and financial management of the medical practice, and interpersonal communications to include patient reception, telephone techniques and appointment scheduling.	4 Credits
	AHMS 252 - Computerized Medical Billing Offered spring, Prereq., AHMS 156; prereq. or coreq. AHMS 220; or consent of instr. A medical package is used to enter and update patient data, enter charges, payments and adjustments, and generate management reports, insurance forms, and patient statements.	2 Credits
	AHMS 298 - Medical Info Internship Offered every term. Prereq., last semester in program, minimum of "C" in AHMS/AHMA (MED) courses, and approval of program director. On-the-job training in positions related to each student's career goal in the medical information field. This experience increases students' skills, prepares them for initial employment and advancement on the job, and increases occupational awareness and professionalism. Students work a minimum of 180 hours at an approved site and attend a scheduled one-hour seminar.	3 Credits
	AMGT 145 - Records Management Offered every term. Introduction to alphabetic filing techniques and electronic database records management. Current technical developments utilizing automated records systems, biometric access control devices, electronic file organization, ergonomics, the Internet, image technology, and integrated security systems.	2 Credits
	AMGT 240 - Admin Support for the Office Offered autumn. Prereq., CAPP 134. Overview of the procedures and scope of the administrative assistant’s role in today’s automated office, including traditional and electronic communications, operation of multi-media equipment, and managing office technology.	3 Credits
	BIOH 112 - Human Form and Function I Offered autumn. Explores the fundamentals of structure and function at basic cellular and tissue levels, in addition to the anatomy and physiology of the integumentary, musculoskeletal, and nervous systems.	3 Credits
	BMGT 216 - Psych of Mgmt & Supervision Offered autumn. Management theory, research, and the practice of management. Topics covered include leadership styles and techniques, effective communication approaches, time management, decision making, delegation, and the basic functions of supervisory skills.	4 Credits

	BMGT 245 - Customer Service Management Offered spring. Designed to prepare employees and managers to meet customers' expectations. Review of customer service philosophy and techniques. Services marketing, quality issues, service design and delivery, customer interaction systems, complaint handling and service recovery, customer relationships, loyalty management, and operations are addressed.	4 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	CAPP 154 - MS Word Offered autumn and spring. Prereq., CAPP 120 or basic computer experience and consent of instr. Preparation of business forms, correspondence, mail merges, columnar projects, and reports using up-to-date software. Business related application projects, graphics, and printer operation are included.	3 Credits
	CAPP 156 - MS Excel Offered autumn and spring. Prereq., CAPP 120; and M 090 or M 095. Emphasis on the use of workbooks and sheets to solve business problems. Includes projects relating to data and graphs/charts.	3 Credits
	CAPP 254 - Advanced MS Word Offered spring. Prereq., CAPP 154. Analysis of the concepts of advanced work processing document production underlying mastery of the software. Business-related application projects utilizing critical thinking included. Speed and timing component to increase skills essential for employment.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		60 Total Credits Required

Math Requirements

Rule: Any Math Course M 105 or above
Minimum Required Grade: C-
3 Total Credits Required

Paralegal Studies A.A.S.

Tom Stanton, Director

This program is approved by the American Bar Association. The Paralegal Studies program prepares students for challenging and diverse careers in private law practices and in the law-related areas of business, industry, and government. The goals of the Paralegal Studies program are to enable students, through theoretical and practical legal education, to understand the function of law, to work as paralegals in the effective delivery of legal services, and to enhance the legal profession. This program is designed to equip students with skills to analyze legal issues and to perform a variety of activities including drafting legal documents, interviewing clients, conducting legal research, and preparing cases for trial. Students utilize current technology through Internet research and legal and general office software applications. Paralegal studies students receive the necessary legal training to take advantage of new career opportunities in all sectors of the economy. Students are exposed to the principles of legal ethics and are cautioned regarding restrictions against the unauthorized practice of law by laypersons. Paralegals may not provide legal services directly to the public, except as permitted by law.

Associate of Applied Science - Paralegal Studies

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 70

Required Cumulative GPA: 2.0

Note: Two year/four semester in-step degree. If classes are taken out of sequence, or Spring enrollment, additional semesters are required for graduation. Also note, LEG prefix (legal specialty) are only offered in the semester indicated.

See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

Associate in Applied Sciences in Paralegal Studies Course Requirements

Rule: All Courses Required

	Course	Credits
	ACTG 100 - Essentials of Accounting Offered autumn and spring. Introduction to basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, cash control and completing the accounting cycle.	4 Credits
	BMGT 212 - Critical Analysis for Business This is an analysis, critical thinking, and writing course for students in the Business Technology fields. Students will also be introduced to traditional Western philosophy through study and discussion of Socrates, Plato and, Aristotle. To that end, students will analyze theories of knowledge and morality in relationship to current events within American Democracy and Law. Students will practice identifying elements of arguments, analyzing elements of arguments for logic, and developing coherent and comprehensive responses to arguments. This course will emphasize practical application rather than purely academic exercise.	3 Credits

	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	CAPP 154 - MS Word Offered autumn and spring. Prereq., CAPP 120 or basic computer experience and consent of instr. Preparation of business forms, correspondence, mail merges, columnar projects, and reports using up-to-date software. Business related application projects, graphics, and printer operation are included.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	CRT 188T - Computers and Law Offered autumn. Prereq., CAPP 120 and LEG 185T. Intermediate concepts of computer systems, operating systems, graphical environments, electronic mail, Internet, and file management. A variety of applications including word processing, spreadsheet, database, presentation, and law-related software are included.	3 Credits
	LEG 183 - Contracts Offered spring. Sources of law affecting the formation, enforceability, and interpretation of contracts. Includes the necessary elements of a contract, the basic doctrines of contract law, and practical approaches to drafting a contract.	2 Credits
	LEG 184 - Legal Ethics Offered autumn. Introduction to ethics for the paralegal, including confidentiality, paralegal-attorney relationship, fee arrangements, Code of Professional Conduct, attorney-client privilege, fiduciary responsibilities, and public service.	2 Credits
	LEG 185 - Introduction Paralegal Studies Offered autumn. Consent of instr. Students will develop an ability to analyze basic legal principles in real property law and practical experience increasing, organizing, and completing real estate transactions. Students in the course will develop fundamental skills; real estate, landlord-tenant, and land use law. Further, students will continue development of drafting skills, legal research, and case analysis.	3 Credits
	LEG 186 - Introduction to Legal Research Offered autumn. Prereq., acceptance into program or consent of instr. Introduction to legal research focusing on how to find, use, understand, and correctly cite law library resources.	2 Credits
	LEG 187 - Leg Res & Wrtg I Offered spring. Prereq., LEG 186. Advanced legal research focusing on how to find, use, understand, and correctly cite legal resources. Electronic research methods are presented. Application of legal research to writing is introduced.	2 Credits

	LEG 188 - Prin of Real Estate Offered spring. Consent of instr. Students will develop an ability to analyze basic legal principles in real property law and practical experience increasing, organizing, and completing real estate transactions. Students in the course will develop fundamental skills; real estate, landlord-tenant, and land use law. Further, students will continue development of drafting skills, legal research, and case analysis.	2 Credits
	LEG 189 - Criminal Procedures Offered spring. Consent of instr. Criminal prosecution and defense representation with an overview of criminal law principles. Training in criminal procedure involving felonies and misdemeanors in federal, Montana, and municipal courts.	3 Credits
	LEG 270 - Civil Litigation Offered autumn. Prereq., LEG 185T, LEG 187T or consent of instr. Introduction to rules governing civil litigation involving the general nature of how lawsuits arise including client interviews and data gathering, pleading and practice from the filing of suit to file preparation for trial, and core considerations of ethics and professionalism.	3 Credits
	LEG 282 - Contemporary Legal Issues Offered spring. Prereq., LEG 270, or consent of instr. Capstone experience designed to investigate topical legal issues of immediate importance. Although the course has delineated structure, the nature of the course will allow both relevant concentrated focus as well as traditional disciplined examination of numerous areas of law practice and theory. The various pedagogical modules will offer students the opportunity to explore statutory structure, analyze case law, and draft legal forms.	3 Credits
	LEG 283 - Trial Preparation Offered spring. Prereq., LEG 270, or consent of instr. Capstone experience designed to investigate topical legal issues of immediate importance. Although the course has delineated structure, the nature of the course will allow both relevant concentrated focus as well as traditional disciplined examination of numerous areas of law practice and theory. The various pedagogical modules will offer students the opportunity to explore statutory structure, analyze case law, and draft legal forms.	3 Credits
	LEG 285 - Family Law Offered spring. Prereq., LEG 185, LEG 286 or consent of instr. Study of Montana law relating to marriage, husband and wife, parent and child, termination of marriage, adoption, joint and sole custody arrangements and modifications, child support guidelines, and juvenile issues. Includes preparation of standard family law documents.	3 Credits
	LEG 286 - Legal Res & Writing II Offered autumn. Prereq., LEG 186T/187T. Advanced legal research and writing with emphasis on drafting and composing legal memoranda; legal research skills and development of legal writing ability.	2 Credits

	LEG 287 - Legal Res. & Writing III Offered spring. Prereq., LEG 286. Continued development of legal research and writing skills including advanced legal theory/case law synthesis, drafting correspondence, pleadings, discovery documents, persuasive writing. Upon completion of this course, the student will be able to: research, analyze, synthesize, and prioritize law cases, treatises, doctrines, theory of the law, legal rules, and other information and draft appropriate correspondence, pleadings, motions, briefs, discovery documents or memoranda relating to that information as would be anticipated in a law office.	2 Credits
	LEG 288 - Estate Administration Offered spring. Prereq., LEG 185, LEG 286 or consent of instr. This course provides an overview of the law as it applies to wills, trusts, and other estate matters. Topics include the nature and sources of the law relating to wills, trusts, and estates, estate planning, intestate succession, family protection, probate, and estate taxes.	2 Credits
	LEG 298 - Paralegal Studies Internship Offered autumn and spring. Prereq., last semester in program, minimum of "C" in LEG courses, and approval of program director. On-the-job experience as a paralegal trainee under the supervision of an employer, attorney, or court official. This experience increases students' skills, prepares them for initial employment and advancement on the job, and increases occupational awareness and professionalism. Students work a minimum of 90 hours at an approved site and attend a weekly one-hour seminar.	2 Credits
	M 105 - Contemporary Mathematics Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.	3 Credits
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
	SOCI 101S - Introduction to Sociology Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits

Minimum Required Grade: C-	70 Total Credits Required

Psychology Requirement

Rule: Take one of these two courses

	Course	Credits
	BMGT 216 - Psych of Mgmt & Supervision Offered autumn. Management theory, research, and the practice of management. Topics covered include leadership styles and techniques, effective communication approaches, time management, decision making, delegation, and the basic functions of supervisory skills.	4 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Culinary Arts Certificate

Tom Campbell, Director

The Bureau of Labor Statistics indicates that the hospitality field is America's number one retail employer and predicts its growth will increase 30 percent over the next two years. Students entering the Culinary Arts Certificate program or Food Service Management degree program prepare for careers in the hospitality industry. Students develop the skills needed to then seek employment in hotels, restaurants, resorts, casinos, clubs, catering, and corporate dining. Culinary careers encompass hospitality management, sales, product development, and entrepreneurship.

To meet the growing demand of the hospitality industry, two program options are available. Students may earn a Culinary Arts Certificate of Applied Science or a Food Service Management Associate of Applied Science degree.

The Culinary Arts certificate program is three semesters and provides an introduction to the field of culinary arts. Students prepare for an entry-level position in the expanding and challenging food service industry. This program incorporates comprehensive hands-on learning experiences complemented by supportive courses designed to prepare students for a wide range of career opportunities. This program also allows for a seamless transition into the Food Service Management degree.

Certificate of Applied Science - Culinary Arts

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 45

Required Cumulative GPA: 2.0

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

CAS Culinary Arts Certificate

Rule: All courses required.

	Course	Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	CULA 101 - Introduction to Food Service Offered every term. Introduction to fundamentals in food handling practice, history, cooking methods, tool and equipment skills, safety and sanitation, recipe and menu development.	5 Credits
	CULA 105 - Food Service Sanitation Offered autumn and summer. Introduction to fundamentals in safe and sanitary food handling practices. Emphasis on development of a well-designed food safety program centered on Hazard Analysis Critical Control Point (HACCP).	2 Credits
	CULA 156 - Dining Room Procedures Offered every term. Prereq., CULA 101 and CULA 105 with a "C" or better. Introduction to foundations of dining room service: such as American, French, English and Russian style services. With buffet and tableside presentation along with beverage service and protocol for customer service, sanitation and menu design. Techniques include espresso service, fine dining service and tableside presentation. Personal hygiene, applied math, basic culinary terminology, beverage management, and tableside cooking methods are practiced.	3 Credits
	CULA 157 - Pantry & Garde Manger Offered autumn and spring. Prereq., CULA 101 and CULA 105 with a "C" or better. Identification of fresh greens, vegetables, and fruits reviewed. General and specific knife skills and garnish techniques practiced. Standards of quality, preparation, and presentation discussed and practiced. Practice preparation of entrée salads, cold sauces, appetizers, finger sandwiches, pâtés, gelatins, mousses, ice carvings, as well as banquet and buffet presentation.	3 Credits
	CULA 158 - Short Order Cookery Offered every term. Prereq., CULA 101 and CULA 105 with a “C” or better. Hands-on experience in all facets of short order cookery. Emphasis on coordination, speed, presentation, and basic food preparation as well as cooking methods.	4 Credits
	CULA 160 - Soups, Stocks, & Sauces Offered every term. Prereq., CULA 101 and CULA 105 with a “C” or better. Hands-on preparation of basic soups, stocks, sauces, glazes, thickening agents, and garnishes.	3 Credits
	CULA 161 - Meats & Vegetables Offered every term. Prereq., CULA 101 and CULA 105 with a “C” or better. Hands-on experience with the fundamental cooking methods for meats, vegetables, grains, legumes, and pastas.	3 Credits

	CULA 165 - Baking & Pastry Offered every term. Prereq., CULA 101, CULA 105, M 095 with a "C" or better or consent of instr. Introduction to various ingredients and how they affect the finished product. Covers six basic functions of ingredients and the techniques of scaling, pan preparation, sifting, chocolate, and pastry bag work.	3 Credits
	CULA 210 - Nutritional Cooking Offered spring. Prereq., CULA 101 and CULA 105 or consent of instr. Principles of healthy and nutritious culinary procedures. Adjustment of classic methods to suit preparations designed to extend variety on "lighter" menus.	3 Credits
	M 105 - Contemporary Mathematics Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		44 Total Credits Required

Customer Relations Certificate

Cheryl Galipeau, Director

The Customer Relations program provides students with the skills to promote excellent customer relations in business settings. Coursework includes service-level decision making, formulation of service policies, customer service management, and the development of staff. Students gain knowledge of customer care, effective communication, and the importance of public relations to promote a positive company image. Students develop an understanding of challenges and conflicts while servicing both internal and external customers. Emphases in business, computers, and communications provide a solid background for customer relations positions in the current business environment.

Certificate of Applied Science - Customer Relations

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 33

Required Cumulative GPA: 2.0

Note: The Certificate of Applied Science in Customer Relations is available online.
See Program Director for scope and sequence advising.

CAS Customer Relations Course Requirements

Rule: All courses required

	Course	Credits
	AMGT 145 - Records Management Offered every term. Introduction to alphabetic filing techniques and electronic database records management. Current technical developments utilizing automated records systems, biometric access control devices, electronic file organization, ergonomics, the Internet, image technology, and integrated security systems.	2 Credits
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	BGEN 235 - Business Law Offered autumn and spring. This course provides an overview of law as it applies to business transactions. Topics include the nature and source of law; courts and procedure; contracts, sales, and employment; commercial paper; bailment's; property; business organizations; insurance; wills and estate planning; consumer and creditor protection; torts; criminal law; and agency law. Credit not allowed for both BGEN 235 and BADM 257.	3 Credits
	BMGT 245 - Customer Service Management Offered spring. Designed to prepare employees and managers to meet customers' expectations. Review of customer service philosophy and techniques. Services marketing, quality issues, service design and delivery, customer interaction systems, complaint handling and service recovery, customer relationships, loyalty management, and operations are addressed.	4 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	CAPP 154 - MS Word Offered autumn and spring. Prereq., CAPP 120 or basic computer experience and consent of instr. Preparation of business forms, correspondence, mail merges, columnar projects, and reports using up-to-date software. Business related application projects, graphics, and printer operation are included.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits

	COMX 250 - Intro to Public Relations Offered autumn and spring. Introduction to the origin, scope, and nature of public relations activities. Investigation of policies, strategies, and procedures available to an organization in establishing and controlling its communications. Course will explore the impact of public relations and media through case studies and writing exercises.	3 Credits
Minimum Required Grade: C-		24 Total Credits Required

Math Requirements

Rule: Pick 1 of the 2 courses below

Note: See Program Director for prerequisites, placement and advising.

	Course	Credits
	M 105 - Contemporary Mathematics Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Writing Requirements

Rule: Pick 1 of the 2 courses below

Note: See Program Director for prerequisites, placement and advising.

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits

	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Computer Science Requirements

Rule: Pick 1 of the 2 courses below

Note: See Program Director for prerequisites, placement and advising.

	Course	**Credits**
	CAPP 156 - MS Excel Offered autumn and spring. Prereq., CAPP 120; and M 090 or M 095. Emphasis on the use of workbooks and sheets to solve business problems. Includes projects relating to data and graphs/charts.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Medical Reception Certificate

Michelle Boller, Interim Director

The Medical Reception curriculum provides students with the skills needed to provide exceptional service to patients in a medical setting. In this role, essential duties include scheduling appointments, screening telephone calls, obtaining and entering patient registration information, releasing appropriate medical information, maintaining medical records and managing patient flow. Medical Reception students are instructed in the financial transactions of a practice and will have a clear understanding of all the activities in the billing and collection cycle. Students are provided a broad overview of medical law and the principles of medical ethics as well as the guidelines established by HIPAA. This training also prepares students for the position of a hospital ward secretary.

Certificate of Applied Science - Medical Reception

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 33

Required Cumulative GPA: 2.0

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

CAS Medical Reception

Rule: All courses required.

Note: ACTG 101 may be substituted for ACTG 100 at the discretion of the program director.
WRIT 101 may be substituted for WRIT 121 at the discretion of the program director.

	Course	Credits
	ACTG 100 - Essentials of Accounting Offered autumn and spring. Introduction to basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, cash control and completing the accounting cycle.	4 Credits
	AHMS 144 - Medical Terminology Offered every term. Introduction to a medical word building system using Greek and Latin word roots, combining forms, suffixes, and prefixes.	3 Credits
	AHMS 156 - Medical Billing Fundamentals Offered every term. Prereq. or coreq., AHMS 220 or consent of instr. An introduction to insurance claim processing for the major medical insurance programs. Students will be provided with a basic knowledge of CPT and ICD-9 procedural and diagnostic coding. Emphasis on completing universal insurance forms to maximize reimbursement as well as trouble shoot denied or underpaid claims.	3 Credits
	AHMS 175 - Medical Law & Ethics This course will introduce students to the common laws, regulations, and agencies affecting ambulatory medical facilities. Current issues of ethics and bioethics will also be discussed. This is a blended class.	2 Credits
	AHMS 220 - Medical Office Procedures Offered autumn. An introduction to the necessary skills and qualities required to function successfully in the medical arena. Emphasis on medico-legal and ethical responsibilities, records management and financial management of the medical practice, and interpersonal communications to include patient reception, telephone techniques and appointment scheduling.	4 Credits
	AHMS 252 - Computerized Medical Billing Offered spring, Prereq., AHMS 156; prereq. or coreq. AHMS 220; or consent of instr. A medical package is used to enter and update patient data, enter charges, payments and adjustments, and generate management reports, insurance forms, and patient statements.	2 Credits
	AMGT 145 - Records Management Offered every term. Introduction to alphabetic filing techniques and electronic database records management. Current technical developments utilizing automated records systems, biometric access control devices, electronic file organization, ergonomics, the Internet, image technology, and integrated security systems.	2 Credits

	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	CAPP 154 - MS Word Offered autumn and spring. Prereq., CAPP 120 or basic computer experience and consent of instr. Preparation of business forms, correspondence, mail merges, columnar projects, and reports using up-to-date software. Business related application projects, graphics, and printer operation are included.	3 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		33 Total Credits Required

Math Requirements

Rule: Any Math course M 105 or above.

Note: Appropriate placement into mathematics courses required. Prerequisites may apply.

Minimum Required Grade: C-

3 Total Credits Required

Sales and Marketing Certificate

Brian Larson, Director

Students in the Sales and Marketing program are trained in sales and supportive tasks relating to retail or wholesale organizations. They study the application of the latest counselor selling techniques to assist clients in meeting needs. The curriculum also involves marketing activities, bookkeeping functions, and merchandising skills.

Certificate of Applied Science - Sales and Marketing

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 34

Required Cumulative GPA: 2.0

CAS Sales and Marketing

Rule: All courses required

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

	Course	Credits
	ACTG 101 - Accounting Procedures I Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.	4 Credits
	ACTG 102 - Accounting Procedures II Offered autumn and spring. Prereq., ACTG 101. Expansion of ACTG 101 including receivables, inventories, plant and intangible assets, and expanded liabilities. Includes partnerships, corporations, long-term liabilities, investments in debt and equity securities, and the statement of cash flows.	4 Credits
	BMKT 109 - Visual Merchandising & Display Offered spring. Introduction to various techniques used by retailers in the merchandising and displaying of goods. Analysis of different approaches and methods for effectiveness in actual retail settings. Includes display principles of balance, color, and focal point statements.	3 Credits
	BMKT 112 - Applied Sales Offered autumn. Course provides students with basic sales skills through the use of experiential training, role-playing and evaluating presentations. Includes the steps in prospecting, opening, presenting, demonstrating, handling objections, and closing the sale. Students will gain experience through role-playing activities, observations, and written presentations.	2 Credits
	BMKT 114 - Psychology of Selling Offered spring. Development of selling techniques which are used by many of the world's best companies and explanation of why they work. Includes the psychological reasons that prevent a prospect from purchasing a product or service and the techniques to motivate a prospect to buy.	3 Credits
	BMKT 225 - Marketing Offered autumn. An overview of marketing activities including the consumer buying decision process, distribution channels, the planning process, and new marketing trends. Students learn how to introduce a new product into the market place, target markets, and promote products through advertising and package design.	3 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	COMX 250 - Intro to Public Relations Offered autumn and spring. Introduction to the origin, scope, and nature of public relations activities. Investigation of policies, strategies, and procedures available to an organization in establishing and controlling its communications. Course will explore the impact of public relations and media through case studies and writing exercises.	3 Credits

	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		34 Total Credits Required

Social Media Management

Associate of Applied Science - Administrative Management; Social Media Management Option

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 66

Required Cumulative GPA: 2.0

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

AAS, Administrative Management, Social Media Management Option Course Requirements

Rule: All courses required

Note: See Program Director for advising regarding BMKT 291, Special Topics: Social Media Strategies and Management, 3 cr, offered spring.

Pick 1 of 2: either WRIT 101 College Writing I or WRIT 121 Intro to Technical Writing.

	Course	**Credits**

	AMGT 240 - Admin Support for the Office Offered autumn. Prereq., CAPP 134. Overview of the procedures and scope of the administrative assistant's role in today's automated office, including traditional and electronic communications, operation of multi-media equipment, and managing office technology.	3 Credits
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	BGEN 235 - Business Law Offered autumn and spring. This course provides an overview of law as it applies to business transactions. Topics include the nature and source of law; courts and procedure; contracts, sales, and employment; commercial paper; bailment's; property; business organizations; insurance; wills and estate planning; consumer and creditor protection; torts; criminal law; and agency law. Credit not allowed for both BGEN 235 and BADM 257.	3 Credits
	BMGT 245 - Customer Service Management Offered spring. Designed to prepare employees and managers to meet customers' expectations. Review of customer service philosophy and techniques. Services marketing, quality issues, service design and delivery, customer interaction systems, complaint handling and service recovery, customer relationships, loyalty management, and operations are addressed.	4 Credits
	BMKT 114 - Psychology of Selling Offered spring. Development of selling techniques which are used by many of the world's best companies and explanation of why they work. Includes the psychological reasons that prevent a prospect from purchasing a product or service and the techniques to motivate a prospect to buy.	3 Credits
	BMKT 225 - Marketing Offered autumn. An overview of marketing activities including the consumer buying decision process, distribution channels, the planning process, and new marketing trends. Students learn how to introduce a new product into the market place, target markets, and promote products through advertising and package design.	3 Credits
	BMKT 240 - Advertising Offered spring. Exposure to the history and fundamentals of advertising; in-depth exploration of advertising media, budget plans, ad campaign designs, and in-house promotion designs; and the production of actual radio, television, and print advertising.	3 Credits

	BMKT 265 - Social Media Strat & Mgmt Offered spring. Prereq., CAPP 120 or CSCI 105. Students will analyze and select appropriate communication channels and technologies according to relevant publics, evaluate suitability of media content and use best communication practices to promote a positive organizational image, and apply business relationship marketing techniques to enhance social communities. Students will monitor issues and analyze trends across various social media platforms and manage media through professional, accessible, and ethical practices expected in our global society.	3 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	COMX 140L - Intro to Visual Rhetoric Offered autumn and spring. An introduction to the persuasive nature of visual symbols as texts. Readings will include historical to contemporary rhetorical criticisms on advertising, billboards, bodies, cartoons, memorials, and photography.	3 Credits
	COMX 250 - Intro to Public Relations Offered autumn and spring. Introduction to the origin, scope, and nature of public relations activities. Investigation of policies, strategies, and procedures available to an organization in establishing and controlling its communications. Course will explore the impact of public relations and media through case studies and writing exercises.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	HMR 290T - Adm Mgmt Internship Offered autumn and spring. Prereq., last semester in program, minimum of “C” in program courses, and approval of program director. On the job training in positions related to each student's career goal in the administrative field. This experience increases students' skills, prepares them for initial employment and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend weekly scheduled one-hour seminars.	2 Credits

	JRNL 100H - Media History and Literacy Offered autumn. A survey of the history, development and role of the media in society, including newspapers, magazines, radio, television, books, movies, recordings and the World Wide Web. The course examines ethical, political, financial and other issues related to mass media. Also included is an introduction to media literacy and critical thinking about the media and their messages.	3 Credits
	JRNL 257 - Beginning Visual Journalism Offered autumn and spring. This course provides an introduction to photo and video journalism using digital cameras. Students will learn the basics of editing still images with Photoshop and video with Final Cut Pro. Students will learn how to take compelling, content-driven photographs using light, composition and depth of field. Students will also learn about capturing quality video, audio and natural sound used to build video sequences. The overall emphasis is on visual storytelling.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	MART 214 - Digital Publishing & Design Offered autumn. Prereq., CAPP 120, CSCI 105, or consent of instr. A comprehensive foundation of layout and design principles to integrate digital media essential for effective print-based and web-based business publications.	3 Credits
	MART 232 - Interactive Web II Offered autumn and spring. Prereq., CAPP 120, CSCI 105, or consent of instr. Provides a background and foundation skills required for designing and implementing Web sites for public and private organizations. Marketing and design techniques are applied using state-of-the-art software.	3 Credits
Minimum Required Grade: C-		66 Total Credits Required

Entrepreneurship Start-up

Technical Certificate - Entrepreneurship/Start-up

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 12
Required Cumulative GPA: 2.0

Core Courses

Rule: Must complete all of the following courses:

	Course	**Credits**

	ACTG 101 - Accounting Procedures I Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.	4 Credits
	BMGT 299 - Capstone:Entrepreneurship Offered spring. Prereq., CAPP 120. An overview of the skill areas and business principles needed to start and operate a small business. Includes developing a business plan, identifying sources of capital formation, managing growth, and marketing issues related to new ventures.	3 Credits
	BMKT 114 - Psychology of Selling Offered spring. Development of selling techniques which are used by many of the world's best companies and explanation of why they work. Includes the psychological reasons that prevent a prospect from purchasing a product or service and the techniques to motivate a prospect to buy.	3 Credits
	BMKT 240 - Advertising Offered spring. Exposure to the history and fundamentals of advertising; in-depth exploration of advertising media, budget plans, ad campaign designs, and in-house promotion designs; and the production of actual radio, television, and print advertising.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Hospitality Management Certificate

Certificate of Applied Science - Hospitality Management

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 32
Required Cumulative GPA: 2.0

Core Courses

Rule: Must complete all of the following courses:

	Course	**Credits**
	ACTG 101 - Accounting Procedures I Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.	4 Credits

	ACTG 102 - Accounting Procedures II Offered autumn and spring. Prereq., ACTG 101. Expansion of ACTG 101 including receivables, inventories, plant and intangible assets, and expanded liabilities. Includes partnerships, corporations, long-term liabilities, investments in debt and equity securities, and the statement of cash flows.	4 Credits
	BMGT 245 - Customer Service Management Offered spring. Designed to prepare employees and managers to meet customers' expectations. Review of customer service philosophy and techniques. Services marketing, quality issues, service design and delivery, customer interaction systems, complaint handling and service recovery, customer relationships, loyalty management, and operations are addressed.	4 Credits
	CULA 198 - Internship Introduction to foundations of dining room service and protocol. Includes techniques in dining room service. Personal hygiene, applied math, basic culinary terminology, beverage management, and table side cooking methods are practiced.	1 To 6 Credits
	HTR 107 - Intro to Hosp Mngmt This course introduces students with an overview of the businesses in the hospitality industry, including hotel/lodging, restaurant, and travel/tourism. The course provides the history, present factors, and future trends that will affect the hospitality industry, as well as introductory practices in marketing, operations, economics, technology, and customer service.	3 Credits
	HTR 201 - Hotel Mngmt/Ops This course introduces students to the different management responsibilities within hotel and lodging operations. Students receive instruction on the responsibilities and requirements of management in the areas of front desk management, security/maintenance, housekeeping, administration, and food/beverage.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		32 Total Credits Required

Business Media Design

Certificate of Applied Science - Business Media Design

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 33
Required Cumulative GPA: 2.0
Note: See Program Director for scope and sequence advising.

CAS Business Media Design Course Requirements

Rule: All courses required

	Course	**Credits**
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	COMX 140L - Intro to Visual Rhetoric Offered autumn and spring. An introduction to the persuasive nature of visual symbols as texts. Readings will include historical to contemporary rhetorical criticisms on advertising, billboards, bodies, cartoons, memorials, and photography.	3 Credits

	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	MART 101L - Intro to Media Arts Offered every term. Overview of the media arts and their interaction, integration and development in the creation of story beginning with the early years of photography and movie-making through the introduction of radio and television up to the digital revolution.	3 Credits
	MART 102 - Digital Technology in the Arts Offered every term. An introduction to the relationship between aesthetics and the emerging capacities of digital technology. The course will explore the basic evolution of hardware, system software, and the Internet and will present a brief history of the pioneers of both traditional and digital art. It will also look at contemporary and emerging trends in the artistic application of digital technology.	3 Credits
	MART 111A - Intro to Photoshop Offered every term. Online Course. This project-oriented design and compositing course introduces students to the fundamentals of Adobe Photoshop while focusing on artistic expression in a digital technology environment.	3 Credits
	MART 112A - Introduction to Film Editing Offered every term. Study of the history, process and philosophy of narrative film/video editing and an introduction to Final Cut nonlinear editing software.	3 Credits
	MART 214 - Digital Publishing & Design Offered autumn. Prereq., CAPP 120, CSCI 105, or consent of instr. A comprehensive foundation of layout and design principles to integrate digital media essential for effective print-based and web-based business publications.	3 Credits
	MART 232 - Interactive Web II Offered autumn and spring. Prereq., CAPP 120, CSCI 105, or consent of instr. Provides a background and foundation skills required for designing and implementing Web sites for public and private organizations. Marketing and design techniques are applied using state-of-the-art software.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits

Minimum Required Grade: C-	33 Total Credits Required

Computer Science Requirements

Rule: Pick 1 of the 2 courses below

Note: See Program Director for prerequisites, placement and advising.

	Course	Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	CSCI 105 - Computer Fluency Offered autumn and spring. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CSCI 105 and CRT 111 and CS 111.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Food Service Management A.A.S.

Tom Campbell, Director

The Food Service Management program culminates in an Associate of Applied Science Degree. This program combines theory, practical training, and industry experience to prepare students for entry-level and management positions in the diverse and dynamic hospitality industry. The degree program is designed to continue principles taught in the Culinary Arts certificate program. The spectrum of learning is expanded to include more in-depth professional studies thereby enhancing employment options. Accreditation by the American Culinary Federation ensures graduates' eligibility for certification as an ACF "Certified Culinarian".

Technical subject areas include introduction to the industry, basic baking, patisserie, cost control, dining room service, Garde manger, nutritional cooking, fundamental cooking principles, short order cookery, a la carte stations, menu planning, supervised internship, and the recognized sanitation certificate awarded by the National Restaurant Association Educational Foundation.

Associate of Applied Science - Food Service Management

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 66

Required Cumulative GPA: 2.0

Note: See Program Director for scope and sequence advising.
Please refer to online schedule for online course availability.

AAS Food Service Management

Rule: All courses required.

	Course	Credits
	BMGT 216 - Psych of Mgmt & Supervision Offered autumn. Management theory, research, and the practice of management. Topics covered include leadership styles and techniques, effective communication approaches, time management, decision making, delegation, and the basic functions of supervisory skills.	4 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	CULA 101 - Introduction to Food Service Offered every term. Introduction to fundamentals in food handling practice, history, cooking methods, tool and equipment skills, safety and sanitation, recipe and menu development.	5 Credits
	CULA 105 - Food Service Sanitation Offered autumn and summer. Introduction to fundamentals in safe and sanitary food handling practices. Emphasis on development of a well-designed food safety program centered on Hazard Analysis Critical Control Point (HACCP).	2 Credits
	CULA 156 - Dining Room Procedures Offered every term. Prereq., CULA 101 and CULA 105 with a "C" or better. Introduction to foundations of dining room service: such as American, French, English and Russian style services. With buffet and tableside presentation along with beverage service and protocol for customer service, sanitation and menu design. Techniques include espresso service, fine dining service and tableside presentation. Personal hygiene, applied math, basic culinary terminology, beverage management, and tableside cooking methods are practiced.	3 Credits
	CULA 157 - Pantry & Garde Manger Offered autumn and spring. Prereq., CULA 101 and CULA 105 with a "C" or better. Identification of fresh greens, vegetables, and fruits reviewed. General and specific knife skills and garnish techniques practiced. Standards of quality, preparation, and presentation discussed and practiced. Practice preparation of entrée salads, cold sauces, appetizers, finger sandwiches, pâtés, gelatins, mousses, ice carvings, as well as banquet and buffet presentation.	3 Credits
	CULA 158 - Short Order Cookery Offered every term. Prereq., CULA 101 and CULA 105 with a “C” or better. Hands-on experience in all facets of short order cookery. Emphasis on coordination, speed, presentation, and basic food preparation as well as cooking methods.	4 Credits

	CULA 160 - Soups, Stocks, & Sauces Offered every term. Prereq., CULA 101 and CULA 105 with a “C” or better. Hands-on preparation of basic soups, stocks, sauces, glazes, thickening agents, and garnishes.	3 Credits
	CULA 161 - Meats & Vegetables Offered every term. Prereq., CULA 101 and CULA 105 with a “C” or better. Hands-on experience with the fundamental cooking methods for meats, vegetables, grains, legumes, and pastas.	3 Credits
	CULA 165 - Baking & Pastry Offered every term. Prereq., CULA 101, CULA 105, M 095 with a “C” or better or consent of instr. Introduction to various ingredients and how they affect the finished product. Covers six basic functions of ingredients and the techniques of scaling, pan preparation, sifting, chocolate, and pastry bag work.	3 Credits
	CULA 205 - Catering Mangement Offered autumn and spring. Prereq., CULA 101, 105. This course will introduce the student to a comprehensive look at planning, starting and operating a successful catering business. Whether on-premise, off-premise, mobile, inside a hotel, part of a restaurant or run from a home kitchen, the student will learn the necessary skills from competence in cooking to managerial skills.	2 Credits
	CULA 210 - Nutritional Cooking Offered spring. Prereq., CULA 101 and CULA 105 or consent of instr. Principles of healthy and nutritious culinary procedures. Adjustment of classic methods to suit preparations designed to extend variety on “lighter” menus.	3 Credits
	CULA 270 - Purchasing and Cost Controls Offered autumn. Prereq., CULA 101 and CULA 105, M 095; or consent of instr. Principles of purchasing foods and materials based on needs, specifications, availability, and seasonality. Costs of doing business including products, labor, facilities, and preparing financial statements.	5 Credits
	CULA 275 - Patisserie Offered spring. Prereq., CULA 165, M 095 or consent of instr. Advanced principles and techniques in preparing custard sauces, pastry cream, puddings, custards, mousses, Bavarians, soufflés, ices, crepes, fruits, and dessert sauces. Emphasis on presentation of plated desserts.	2 Credits
	CULA 298 - Food Service Internship Offered spring & fall. Prereq., Students must be enrolled in final semester of program and maintain a minimum "C" in all CULA (CUL & FSM) courses, or recommendation of Culinary Program Director. On-the-job training in position delegated by the Culinary Arts Internship Director. This experience increases students’ skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of 300 hours at approved event sites and attend scheduled on campus meetings.	4 Credits

	CULA 299 - Culinary Arts Capstone Offered spring. Prereq., CULA 270. Students must be enrolled in final semester of program and maintain a minimum "C" in all CULA courses, or recommendation of Culinary Program Director. Coordinates with computer applications course to create virtual food establishments. Includes capstone experience integrating menu planning and design, facilities, publicity, labor, purchasing, and kitchen preparation culminating in a formal, multi-course dinner.	4 Credits
	M 105 - Contemporary Mathematics Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		66 Total Credits Required

Missoula College

Shannon O'Brien, Dean

Clint Reading, Associate Dean

MISSION

The Mission of Missoula College is to create a comprehensive, accessible, student-centered learning environment that fosters individual growth, facilitates workforce development, and provides a foundation for advanced academic achievement.

Vision of Excellence

We envision a future where Missoula College is recognized as a model of excellence for two-year education in Montana, empowering students to succeed in higher education and continuing to serve the needs of the community and workforce. We elevate the awareness of two-year education as a result of our high retention, graduation and placement rates. Through this demonstration of excellence, more students will enroll in two-year colleges, more businesses and industries will partner with two-year schools, and the state will receive the benefits of a more educated citizenry/workforce.

The Missoula College offers programs and services on four campuses: the East Campus at 909 South Avenue West, the West Campus at 3639 South Avenue West, Mountain Campus at 32 Campus Drive, and the Bitterroot College in Hamilton. The student support offices including Enrollment Services, Disability Services for Students, Financial Aid, Registrar, Career Services, Educational Opportunity (EOC), Outreach Programming Office, Academic Advising, and administrative offices are located at the East Campus. All business technology programs, applied computing and engineering technology programs, culinary arts programs, health professions programs, as well as a branch of the Mansfield Library, The Bookstore at the Missoula College, and a dining room are located on the East Campus. All industrial technology programs are located on the West Campus.

Students may attend courses at four campus sites and online. Courses are scheduled at a variety of times between 7 a.m. and 10 p.m., Monday through Saturday. The Missoula College Dean's Office, department chairs and/or program directors may be contacted for specific program and scheduling information.

Bachelor of Applied Science Degree Program

A Bachelor of Applied Science (B.A.S.) degree is offered by the University of Montana - Missoula in collaboration with the Missoula College. The initial contact for information and degree planning for the B.A.S. degree is the Missoula College Academic Advising Center. This degree program is available for students who have completed an Associate of Applied Science degrees from accredited institutions and who wish to continue toward completing a baccalaureate degree. For more information, see the Bachelor of Applied Science section of the catalog.

Associate of Applied Science and Certificate of Applied Science Programs

The Associate of Applied Science (A.A.S.) and Certificate of Applied Science (C.A.S.) programs are designed to prepare an individual for employment in a specific career or career pathway. In some instances, particularly in Health Professions, the degree or certificate is a prerequisite for taking a licensing examination. The A.A.S. degree is not typically considered a transfer degree, although opportunities do exist at the University of Montana and some other baccalaureate degree-granting institutions for continuing in programs such as the University's Bachelor of Applied Science degree program.

The College's Surgical Technology and Respiratory Care programs are reviewed by their respective Joint Review Committees and accredited by the Commission on Accreditation of Allied Health Education Programs. The Food Service Management program is accredited by the American Culinary Federation Educational Institute Accrediting Commission, the Paralegal Studies program is approved by the American Bar Association, and the Nursing programs are approved by the Montana Board of Nursing and Accredited by Accreditation Commission for Education in Nursing (ACEN). The Pharmacy Technology Program is accredited by American Society of Health System Pharmacists/Accreditation Council for Pharmacy Education (ASHP/ACPE).

Associate of Arts Degree Program

The Associate of Arts degree is a general education transfer degree and does not officially include a major or minor course of study but students may focus on specific areas of emphasis in order to satisfy the degree requirements. To receive an Associate of Arts (AA) degree, students must successfully complete all the general education requirements as described by Montana Board of Regents policy 301.10 Appendix 1. The minimum grade point average for the 60 credits required for the A.A. is 2.0. At least 30 of the 60 required credits must be earned at UM, through either Missoula College or University of Montana-Missoula.

Credit Applicable Toward Associate of Arts and Baccalaureate Degrees

Students may count up to 15 technical course credits towards the A.A. and baccalaureate degrees (except the B.A.S.; see the B.A.S. section of the catalog for more information). UP to 20 technical course credits may count if the student has previously earned an A.A.S. degree. Refer to the section on Technical Courses and Credit Maximums in this catalog for additional information. Students should visit with their advisor for more information.

Academic Support Services

Services designed to increase the success of students enrolled at Missoula College are available at the College. Such services include the Academic Advising Center, tutoring and computer-based academic learning tools in the Academic Support Center, study skills workshops, basic skills developmental courses, access to Disability Services for Students, academic and financial aid reinstatement and follow-up assistance, individual student retention services, and other learning support activities.

Name	Minor	Certificate	Associate	Bachelor
Accounting Technology			Requirements	
Administrative Management			Requirements	
Business Media Design		Requirements		
Computed Tomography		Requirements		
Computer Aided Design		Requirements		
Computer Support		Requirements		
Construction Helper		Requirements		

Name	Minor	Certificate	Associate	Bachelor
Culinary Arts		Requirements		
Customer Relations		Requirements		
Cybersecurity		Requirements		
Diesel Technology			Requirements	
Electronics Technology		Requirements	Requirements	
Energy Auditor		Requirements		
Energy Technology		Requirements	Requirements	
Entrepreneurship/Start-up		Requirements		
Facility Management		Requirements		
Food Service Management			Requirements	
General AA			Requirements	
HVAC Technician		Requirements		
Health Information Technology		Requirements		
Heavy Equipment Operation		Requirements		
Hospitality Management		Requirements	Requirements	
Information Technology			Requirements	
Management			Requirements	
Medical Assisting			Requirements	
Medical Information Technology			Requirements	
Medical Reception		Requirements		
Paralegal Studies			Requirements	
Pharmacy Technology		Requirements		
Practical Nursing			Requirements	
Precision Machine Technology		Requirements		
Radiologic Technology			Requirements	
Recreational Power Equipment		Requirements		
Recycling Technology		Requirements		

Name	Minor	Certificate	Associate	Bachelor
Registered Nursing			Requirements	
Respiratory Care			Requirements	
Sales and Marketing		Requirements		
Surgical Technology			Requirements	
Sustainable Construction		Requirements		
Sustainable Construction Tech		Requirements	Requirements	
Welding Technology		Requirements	Requirements	

Industrial Technology Department

William Hillman, Chair

The mission of the Department of Industrial Technology is to provide the regional workforce with credentialed, skilled, and competent entry-level technicians and to be responsive to emerging workforce needs. The Department encourages the development of teamwork and interpersonal communication skills required in the workplace. It also stresses the importance of a strong work ethic and the value of continuing education and lifelong learning. The instruction for the Department of Industrial Technology Certificate of Applied Science and Associate of Applied Science (A.A.S.) degree programs are primarily delivered at the West Campus at 3639 South Avenue West. Some instruction is delivered at the East Campus or Mountain Campus.

All students admitted to Industrial Technology programs are required to submit writing and math placement scores immediately upon admission to the Missoula College or make arrangements to take these assessments as soon as possible. Thereafter, students needing to take a math and/or writing assessment should contact the Academic Support Center at 406-243-7826 to schedule an appointment to take the placement assessments as soon as possible. Students who live outside of the Western Montana area may take a math and writing assessment at their local community college. Contact the Academic Support Center at 406-243-7826.

Construction Trades

Back to Top

- CSTN 120 - Carpentry Bscs & Rough-In Frmg
  Credits: 5. Introduction to the carpentry trade, including history, career opportunities, and requirements. The course covers building materials, fasteners, adhesives, hand tools, and power tools. OSHA rules and regulations for a safe working place and procedures for compliance are covered. This course includes a two-credit imbedded lab. Students will also learn now to install windows and an exterior door. Course Attributes: Technical Course
- CSTN 122 - Beginning Carpentry Lab
  Credits: 5. Lab to support CSTN 102 and 120.
- CSTN 142 - Int & Ext Finish Carpentry
  Credits: 4. Prereq: CSTN 120 and 122. Study of various types of siding, gutter systems, roof venting requirements, and framing with metal studs. Installation of sheathing, exterior siding, roofing felt, shingles, insulation vapor barriers, and stairs on small building constructed in CSTN 120. Installation of wood and metal doors. Demonstration of materials, layout and installation of suspended ceilings. Selection and installation of countertops, base cabinets and wall cabinets. Window, door, floor, ceiling trim and drywall are installed in a small building. This course includes a one-credit imbedded lab.
- CSTN 143 - Intermediate Carpentry Lab
  Credits: 4. Lab to accompany CSTN 142. Prereq: CSTN 102, CSTN 120 and CSTN 122.
- CSTN 171 - Site Prep, Found, Concrete Ins

Credits: 3. Offered Autumn. Prereq., CSTN 100 or consent of instr. Introduces the process of distance measurement as well as differential and trigonometric leveling for site layout. It covers the principles, equipment, and methods used to perform the site layout tasks that require making angular measurements. This course is designed to let students apply the blueprint reading skills learned so far to a practical exercise.

- CSTN 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- CSTN 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course

- CSTN 205 - Advanced Carpentry Lecture

  Credits: 6. Prereq: CSTN 102, 120, 122, 142, and 143. Study of the process for angular measurement, using transits, theodolites, electronic distance measuring devices, lasers, and trigonometric calculating to lay out foundations and determine elevations. Installation of standing seam, lap seam, and built-up roofing systems; concrete, vinyl, wooden, tile, and carpeted floors as well as radiant heating; paneling, wainscoting, movable partitions, curtain walls and fire-rated commercial wall construction. Advanced stair systems, including shop built and prefabricated stairs, balustrades, mitered risers and treads, and layout of elliptical fastening methods, and assembly techniques. Project planning, scheduling, estimating, and management skills included. This course includes a two-credit lab. Course Attributes: Technical Course

- CSTN 206 - Advanced Carpentry Lab

  Credits: 2. Laboratory to accompany CSTN 205. Prereq: CSTN 102, 120, 122, 142, and 143. Course Attributes: Technical Course

- CSTN 261 - Building Management

  Credits: 4. Prereq: CSTN 120, 122, 142, 143, 171. Introduction to building business and project management including overhead costs, payroll costs, estimating and scheduling. Covers elements of payroll computation and preparation, payroll tax returns, information returns, and identification and compensation of independent contractors. Students are introduced to building cost estimating, and scheduling of subcontractors and building inspections. This course includes a one-credit imbedded lab.

- CSTN 278 - Applied Building Practices Lab

  Credits: 6. Offered spring. Prereq., CSTN 102, 103, 120, 122, 142, 143. Students work on a variety of projects either at the college or in the community to practice and develop their skills as well as learn new skills. Knowing and following OSHA rules and regulations is emphasized. Students are expected to produce a professional quality product.

- CSTN 279 - Commercial Construction

  Credits: 4. Prereq.CSTN 171, 120, 122, 142, and 143. Study and develop skills in metal stud framing, commercial roofing systems, metal and masonry buildings, metal doors and door hardware, suspended ceilings, and fire rated commercial walls.

- CSTN 282 - Green Bldg Concept & Design I

  Credits: 4. Offered fall semester of the 2nd year. This course takes a holistic approach to natural resource conservation and energy efficiency in the construction industry. From integrated design, building site selection and evaluation, through building design, material selection and efficiencies, passive heating and cooling, and construction techniques. Students design an energy efficient residence to be built by next years class.

- CSTN 283 - Green Bldg Concept & Design II

  Credits: 3. Prereq., CSTN 282. Spring semester. A course fee of $50.00 is required. This course builds on concepts learned in CSTN 282 Green Building Concepts and Design I. Students learn how to weatherize existing buildings and green remodeling and preservation techniques, design and build outdoor living spaces, and green landscaping practices. They learn how to document building for green rating for both NAHB Standards and LEED. They will conduct blower door tests and learn to test for and mitigate radon gas. Students will also refine the energy efficient residential plan they produced in Green Building Concepts and Design I.

- CSTN 286 - Advanced Wood Buildings

  Credits: 3. Curriculum will provide current and future industry participants education in the history, benefits, sourcing, design, products, applications and techniques in modern and emerging

wood and wood frame construction. It will further showcase the inherent qualities of responsibly sourced wood as a rapidly renewable resource in single family residential, low rise multifamily, mixed use commercial and high rise buildings and inform both current practitioners and future industry workforce members on the products, techniques and tools in wood building construction that provide the maximum economic and sustainable benefits.

- CSTN 291 - Special Topics

  Credits: 3 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- CSTN 295 - Practicum

  Credits: 1 TO 3. (R-3) Offered autumn. The course will be an elective for all students within the Sustainable Construction Technology Program and a requirement for any student pursuing a CTS in Green Building. The practicum will allow students to apply concepts learned in CSTN 282 Green Building and Design I, CSTN 283 Green Building and Design II, and CSTN 261 Building Management in a hands on project, research activity or other relevant designated undertaking.

- CSTN 299 - Capstone: Carpentry

  Credits: 2. Capstone laboratory to accompany CSTN 102, 120, 122, 142, 143, 205, 206, and 261. This course provides hands-on experience in which the student applies the skills and knowledge presented in the Carpentry Program. The course will emphasize advanced application in the areas of exterior finishing and interior finishing, and other constructed topics.

Diesel Service Tech

Back to Top

- DST 120 - Electrical Systems

  Credits: 8. Offered spring. The theory of AC/DC electricity including Ohm's Law, magnetism, wiring diagrams, and circuit analysis. Starting, charging, and related systems are covered in-depth using test equipment commonly found in heavy equipment repair facilities. Electronic systems are reviewed and tested using common electronic test equipment. Course Attributes: Technical Course

- DST 128 - Engine Service I

  Credits: 4. Offered autumn. Introduction to the construction and operation of internal combustion engines with the diesel engine being examined in detail. The use of measuring tools and related special tools is covered extensively along with common manufacture rebuild procedures. Start-up and running practices are demonstrated on various running diesel engines. Students must complete this course with a letter grade of "C" or better to enroll in U 135T Power Trains the second-half of the semester. Course Attributes: Technical Course

- DST 135 - Power Trains (UMCOT)

  Credits: 7. Offered autumn. Chassis and drive train components used in light and heavy-duty trucks and other equipment. Clutches, manual transmissions, differentials, and final drives are covered. Course Attributes: Technical Course

- DST 191 - Special Topics

  Credits: 1 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.

- DST 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course

- DST 221 - Brakes Suspn and Undercarr

  Credits: 6. Offered autumn. Air brake design, construction, and operating principles including an in-depth study of diagnostic procedures for troubleshooting and repairing brake systems. Suspension systems and undercarriage design and repair are covered along with common axle alignment procedures found in industry. Students must complete this course with a letter grade of "C" or better to enroll in U225T Hydraulics in the second-half of the semester. Course Attributes: Technical Course

- DST 225 - Hydraulics (UMCOT)

  Credits: 6. Offered autumn. Theory and application of hydraulics relative to mobile construction equipment and industrial hydraulic systems. Includes valves, pumps, motors, actuators, and

related hydraulic components, system maintenance, troubleshooting, and repair. Course Attributes: Technical Course

- DST 229 - Engine Service II

  Credits: 7. Offered spring. Prereq., DET 128T. A continuation of Engine Service I with a major emphasis placed on the rebuilding of a diesel engine. Engine components repair and failure analysis are reviewed along with tune-up and running of diesel engines commonly found in the heavy equipment trade. Shop flat-rate procedures, work order procedures, and warranty requirements are covered. Students must complete this course with a letter grade of "C" or better to enroll in U230T Air Conditioning in the second-half of the semester. Course Attributes: Technical Course

- DST 230 - Air Conditioning

  Credits: 3. Offered spring. Prereq., DET 120T, DET 225T. Principles, theories, and the hazards of working with R-12 and R-34, including laws governing these refrigerants. An in-depth study of the components of an air conditioning system including hands-on practice. Discharging and charging principles are discussed, including leakage testing and other general diagnostic principles found in the field.

- DST 231 - Fuel Systems

  Credits: 5. Offered spring. A comprehensive study of diesel fuel injection systems to include: Cummins, Roosa Master, Caterpillar, Detroit Diesel, and Bosch. Disassembly and repair of these systems are covered in-depth along with calibration practices. Installation, timing, and on-engine adjustments are made on diesel engines. On-engine diagnosis of the fuel systems using special diesel engine diagnostic tools is reviewed. Course Attributes: Technical Course

- DST 235 - Advanced Power Trains

  Credits: 2. Offered spring. Prereq., DET 135T. A continuation of DET 135T with an emphasis on heavy automatic transmission, torque converters, and powershift transmission. In-depth coverage of component review troubleshooting and repair. Course Attributes: Technical Course

- DST 270 - Diesel and Gaseous Fueled Engi

  Credits: 3. Offered summer. Prereq., completion of an accredited diesel program or consent of instr. Overview of the diesel engine and its operating principles including the fuel systems found in the power generation field. Both mechanical and electronic type systems studied in depth. Gaseous/spark ignited internal combustion with in-depth look at both the ignition system and fuel system. Emission systems, preventive maintenance and general tune-up included. Course Attributes: Technical Course

- DST 271 - Power Generators

  Credits: 5. Offered summer. Prereq., completion of accredited diesel program and DET 270T. Introduction to generators as found in the power generation field including the review of electrical laws that pertain to A/C and D/C current. The operation of a typical internal combustion powered generator will be covered in depth including troubleshooting and rebuilding practices found in the power generation field. Generator mounting/alignment practices and generator installations, including flow requirements for combustion and cooling. Course Attributes: Technical Course

- DST 272 - Power Generation Controls

  Credits: 4. Offered summer. Prereq., completion of accredited diesel program and DET 271T. Operation of the generator and controls including governing devices and other specialized devices such as reverse power relays and volt/amp reactive power factor (VAR) controllers. Intensive troubleshooting including in depth coverage of service and repair of control systems. Course Attributes: Technical Course

FacilityManagement Engineering

Back to Top

- FME 122 - Electricity

  Credits: 6. Offered spring. The electrical laws and principles pertaining to DC and AC circuits. Includes current, voltage, resistance, power, load, panels, feeders, lamps, motors, and fuses. Introduction to wiring methods and materials in conformance with the National Electric Code (NEC). Includes installation and replacement of light fixtures, heaters, GFCI's, switches, receptacles, raceways and electrical thermostats. Upon successful completion, students will receive the NCCER certification for Electricity

- FME 123 - Carpentry

  Credits: 6. Offered autumn. Application of carpentry principles and techniques. Construction and maintenance of foundation, floor, wall, ceiling, and roof systems. Includes safe use of tools and materials common to the industry. Additional topics are painting, masonry, insulation, and ventilation of commercial buildings.

- FME 127 - High/Low Pressure Boilers

  Credits: 3. Offered spring. The fundamentals of high/low pressure boiler operation and maintenance. Covers steam, feed-water, fuel, and draft systems. Includes boiler water treatment and hot water heating systems. Introduces safe mechanical operating procedures used in the industry. This course allows students to sit for the Third Class Boiler License Exam with 40 hours of hands-on training verses the 960 hours required by the state.

- FME 128 - Plumbing & Maintenance

  Credits: 3. Offered autumn. Maintenance principles pertaining to lawns, groundcovers, trees, swimming pools, and plumbing equipment. Emphasis is placed on safe application of chemicals; maintenance frequency; and the identification and safe uses of associated tools and materials.

- FME 130 - Heating & Air Conditioning

  Credits: 6. Offered spring. The fundamentals of heating, ventilating, and air conditioning. Covers heating and refrigeration cycles, gas furnaces, refrigerants, system evacuation and charging, and components used in associated systems. Introduces the basic mechanical service procedures used in the industry. Students will also sit for the Universal 608 EPA exam and receive the NCCER certification for Heating, Ventilation, Air conditioning and Refrigeration (HVAC).

- FME 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.

- FME 192 - Independent Study

  Credits: 1 TO 6. (R-6) Course material appropriate to the needs and objectives of the individual student.

Heavy Equipment Operation

Back to Top

- HEO 146 - Safety & Basic Controls

  Credits: 5. Offered autumn. Co-reqs., M 111 and CAPP 120. Orientation to the safe operation and basic control of crawler-tractors, scrapers, front-end loaders, motor graders, backhoes, trucks, and other heavy equipment units. Sufficient time is allowed for the development of basic machine operational skills.

- HEO 148 - Operational Skill Bldg

  Credits: 5. Offered autumn. Prereq., HEO 146T. Advancement of basic skills. Proper understanding and operation of heavy equipment is pursued. Time is allowed for development of proper operational techniques.

- HEO 150 - Job Simulation

  Credits: 6. Offered spring. Prereq., HEO 146, HEO 148T Incorporates learned skills into entry-level, industrial situations. Emphasis is on advanced equipment usage, problem definition and resolution, project-type earth moving assignments, proper equipment, and safety regulations. Course may allow participation in cooperative project efforts within the community.

- HEO 151 - Service & Maintenance

  Credits: 2. Offered autumn. Different types of lubricants and their applications, scheduled and preventive maintenance procedures, and importance of periodic services and maintenance. Also included are safety procedures and regulations.

- HEO 153 - Const. Theory & Spec. Equip.

  Credits: 5. Offered spring. Prereq., M 111, HEO 148. Study of construction principles, specialized equipment, production estimates, and various related subjects.

- HEO 191 - Special Topics

Credits: 1 TO 6. (R-6) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.

- HEO 192 - Independent Study
  Credits: 1 TO 6. Course material appropriate to the needs and objectives of the individual student.

Metals & Machining Technology

Back to Top

- MCH 101 - Introduction to Manufacturing Processes
  Credits: 1. This course is designed to introduce the student with an overview of manufacturing to include engineering materials and product attributes, material removal processes, property enhancing and surface processing operations, special processes and assembly technologies, and manufacturing systems.
- MCH 102 - Introduction to Manufacturing Materials
  Credits: 2. This is an introductory course in the study of materials used in the manufacturing industry. Topics include selection and identification of steels, selection and identification of nonferrous metals, mechanical behavior of various plastics, hardening, case hardening, tempering, annealing, normalizing, stress relieving, and the use of the Rockwell and Brinell hardness testers.
- MCH 112 - Related Metals Processes I
  Credits: 1. Offered spring. Use of hand tools and machines which relate to the repair of heavy equipment. Instruction covers fasteners, layout, bench metal, threads and threading, drills and drilling, and tool sharpening. Course Attributes: Technical Course
- MCH 114 - Related Metals Processes II
  Credits: 3. Offered autumn. Instruction and use of drills, files, threads and threading processes, basic lathe, drill press, and band saw operation, including precision measuring instruments. Fasteners, layout procedures, and basic hand tools are covered. Course Attributes: Technical Course
- MCH 115 - Related Metals Processes III
  Credits: 3. Offered autumn and spring. A basic metalworking course covering fasteners, layout, bench metal, heat treating, threads and threading, drills and drilling, basic machining, and tool sharpening. Course Attributes: Technical Course
- MCH 120 - Blueprint Reading & Ingterpretation for Machining
  Credits: 3. This course introduces the fundamental concepts necessary to interpret and make drawings with symbols, various schematics and diagrams, dimensioning techniques, section views, auxiliary views, threads and fasteners, and sketching typical to all shop drawings. Interpretation of specifications and determination of acceptable tolerance requirements to ensure quality control measures for design parts will also be stressed.
- MCH 122 - Introduction to CAM
  Credits: 3. This course introduces Computer Aided Manufacturing (CAM) operational basics for both mill and lathe programming using current CAM software. The course includes terminology relevant to PC-based CAD/CAM work, hardware familiarity, system operation and management, folders, file type and structure, menu structure and use, and 3 axis (milling machines) and 2 axis (lathes) tool paths. Emphasis is placed on proper geometric creation, management, relevant utilities, and toolbar and menu functions.
- MCH 125 - Introduction to CNC Lathes
  Credits: 3. Prereq., MCH 132 . This course provides opportunities for students to develop skills in the safe setup, maintenance, and operation of CNC lathes and related periphery tools and skills. Topics covered include CNC lathe parts, controls, tool holding, tool insert geometry, chip formation, speeds and feeds, operation and process planning, threads, fits, dimensioning and tolerances, surface finish, and the following lathe processes: facing, turning, tapering, drilling, boring, reaming, chamfering, grooving, parting-off, internal and external threading, tapering, and knurling. Graded projects based on chuck, collet, and fixturing will be done. Related periphery tooling, use and care of precision measuring tools, in addition to related math used in the trade, will also be covered.
- MCH 127 - Introduction to CNC Mills

Credits: 3. Prereq., MCH 134. This course provides instruction in the setup and operation of CNC mills. Student projects include specialty tooling and multi-axis machining. Students will also gain experience in process control. Topics include specialty tooling, multi-axis machining, process control, and laboratory exercises in part production.

- MCH 129 - Machine Quality Control and Precision Measurements

  Credits: 3. Students will develop the knowledge to analyze and evaluate the processes and methodology required in an industrial production environment to determine whether quality control standards are being met. Topics include use of non-precision measuring tools, use of precision measuring tools, use of comparison gauges, and analysis of measurements in a CNC environment.

- MCH 130 - Machine Shop

  Credits: 3. The course content covers a broad range of shop fundamentals in manual and CNC machining. This course includes an emphasis on shop and work area safety. Instruction covers standard shop work, such as measurement, layout, basic hand tools, drills, drill presses, and taps and dies. Use of pedestal grinder will be covered. Work assignments incorporate projects requiring use of the above machines, tooling, and emphasizes safety.

- MCH 132 - Introduction to Manual Engine Lathes

  Credits: 4. Prereq., or corereq., MCH 120 and MCH 129. This introduction to Manual Engine Lathes will cover the safety, maintenance and operation of manual engine lathes and related periphery tools and skills. Subjects covered include HSS tool bit grinding and tool bit geometry, chip formation, speeds and feeds, operation and process planning, threads, fits, dimensioning and tolerances, surface finish, and the following lathe processes: facing, turning, tapering, drilling, boring, reaming, chamfering, grooving, parting-off, internal and external threading, tapering, knurling, filing and polishing. Graded projects using between centers and chuck work turning will be done. Related periphery tooling, use and care of precision measuring tools, in addition to related math used in the trade, will also be covered.

- MCH 134 - Introduction to Manual Mills

  Credits: 4. Prereq.,/coreq., MCH 120 and MCH 129. The student will perform advanced hands-on machine shop operations: set up and operation of manual milling machines, drill presses, band saws, grinders, and other equipment commonly found in manufacturing facilities. The student will use precision measuring tools and methods, utilize blueprints, and perform project process planning. Various types of steel and aluminum are use.

- MCH 191 - Special Topics

  Credits: 1 TO 6. (R-6). Offered intermittently. Prereq. Consent of instr.

- MCH 196 - Independent Study Variable

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Course Attributes:
  Service Learning/Volunteer Technical Course

- MCH 198 - Internship

  Credits: 1 TO 6. Prereq., consent of department. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

- MCH 214 - Advanced Related Metals Proc

  Credits: 3. Offered autumn. Prereq., MPR 114T or 115T. Advanced skill development using machine tools such as milling machines, lathes, surface grinders, and drill presses, emphasizing safety and providing greater complexity than provided in MPR 114T. Welding and machining are used together demonstrating how sequencing work improves quality and productivity. Course Attributes: Technical Course

- MCH 292 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently

Small Engine Technology

Back to Top

- SET 178 - Marine Elec & Fuel Syst

Credits: 5. Offered spring. Prereq., SET 160T. Theory of and testing and troubleshooting of problems with ignition, charging, and cranking systems. Includes the design, testing, and troubleshooting of marine carburetion and fuel injection systems. Course Attributes: Technical Course

- SET 179 - Marine Powerhds/Low Units

  Credits: 6. Offered spring. Prereq., SET 178T. Theory of design, function and components of outboard motor powerheads and lower units. Includes basic rigging, power trim and tilt, propping, and personal watercraft design, function, and maintenance. Course Attributes: Technical Course

- SET 181 - Snowmobile Main & Rep II

  Credits: 2. Offered spring. Prereq., SET 180T. Principles and theory of snowmobile electrical, fuel, front suspension, and brake systems. Course Attributes: Technical Course

- SET 182 - Comp Apps Motorsports

  Credits: 1. Offered spring. Prereq., CRT 100. Use of recreational power equipment software for parts retrieval, invoicing and payment methods. Students build, query, and create reports using database software, and create a business plan for a hypothetical dealership. Course Attributes: Technical Course

- SET 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course

Surveying

Back to Top

- SRVY 108 - Construction Surveying

  Credits: 2. Offered autumn. Basic principles of surveying and the use of surveying equipment. Calculation of angles and distances to determine grade elevations. Introduction to Global Positioning Systems, lasers and their relationship to the heavy equipment operator. Course Attributes: Technical Course

Welding

Back to Top

- WLDG 101 - Welding Fund Auto Tech/Diesel

  Credits: 2. Offered autumn. Basic and intermediate processes of shielded metal arc welding (SMAW) and oxyacetylene welding are covered in flat, horizontal, and vertical positions in a variety of joint configurations. Instruction in the oxyacetylene cutting process. This course is designed for Diesel students only. Course Attributes: Technical Course

- WLDG 103 - Welding Fund Constructn Trades

  Credits: 2. Offered spring. Basic welding processes of shielded metal arc welding (SMAW), flux core arc welding (FCAW) are covered in the flat, horizontal, and vertical positions in a variety of joint configurations. The instruction in flux core arc welding is focused on the carpentry building trades. Instruction in the oxyacetylene cutting process is also provided. Safe operation of equipment is covered and work is evaluated to industrial standards. This course is designed for carpentry students.

- WLDG 117 - Blueprint Rdng & Weldng Symbls

  Credits: 3. Offered spring. Prereq., WLDG 150 (Practical experience in reading and drawing orthographic projections, interpreting dimensions, notes, scales, and welding symbols. Isometric projection (pictorial), sections, and auxiliary views with practical experience using conventional drafting tools and computer aided drafting (CAD). Course Attributes: Technical Course

- WLDG 139 - Welding Maint & Repair -Diesel

  Credits: 1. Offered autumn. Prereq., MPR 115T, WLDG 101. Combines the skills gained in welding and machine shop for practical applications such as repairing a broken cylinder block. Major emphasis is placed on repair techniques. Common repair procedures using machine shop and welding equipment is demonstrated. This course is designed for Diesel students only. Course Attributes: Technical Course

- WLDG 145 - Fabrication Basics

  Credits: 4. Offered spring. Prereq., MPR 114T; WLDG 180; coreq., WLDG 117, 187. Conception, design, and construction of a metal structure to industry standards using shears, presses, and other machine tools common to the welding industry. Skills are developed in the areas of shielded metal arc welding and flux core arc welding, oxyacetylene cutting, plasma arc cutting, and air carbon arc cutting. Course Attributes: Technical Course

- WLDG 150 - Welding Layout Techniques

  Credits: 2. Using practical layout techniques students develop basics for blueprint construction, layout on pipe and structural steel, and use of tools common to material layout. Course Attributes: Technical Course

- WLDG 180 - Shielded Metal Arc Welding

  Credits: 4. Offered autumn. Theory and safe operation of shielded metal arc welding (SMAW) of carbon steel on plate and structural components in all positions to industry standards. Visual inspection and destructive testing used to determine acceptability based upon industry standards (American Welding Society Structural Welding Code-Steel). Power sources and electrodes are covered in depth. Materials are prepared using mechanical plate shears and thermal cutting techniques. Thermal cutting techniques are examined relative to theory of operation and safe practices. Processes used are oxy-fuel cutting, plasma arc cutting, and air carbon arc cutting. Theory and operation of oxyacetylene welding examined. Course Attributes: Technical Course

- WLDG 184 - OSHA Rules & Regulations Wldng

  Credits: 1. Offered spring. Study of the Occupational Safety and Health Administration rules and regulations that affect the welding and construction industries. Course Attributes: Technical Course

- WLDG 187 - Flux Core Arc Welding

  Credits: 4. Offered spring. Prereq., WLDG 180 (Theory, practice, and safe operation of flux core arc welding equipment. Coupons are welded in the flat, horizontal, and vertical positions to industry standards using a variety of welding electrodes, diameters, and power sources, which prepare students for welding qualification to the American Welding Society Structural Welding Code specifications. Course Attributes: Technical Course

- WLDG 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course

- WLDG 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course

- WLDG 205 - Applied Metallurgy

  Credits: 4. Offered autumn. Covers the manufacturing of iron and steel. Examination of physical and mechanical properties. Phase changes with the application of heating and cooling cycles. Ferrous crystal types and properties. Suggested welding procedures for low, medium, and high carbon steels, alloy steels, and cast iron. Course Attributes: Technical Course

- WLDG 210 - Pipe Welding - Integrated Lab

  Credits: 4. Offered autumn. Prereq., WLDG 180; coreq., WLDG 215. Emphasis on skill development in the welding of pipe sections to extremely high quality levels as required by national codes and standards. Pipe welding using GTAW for the root pass and SMAW for the remaining passes in all positions. Visual inspection and destructive testing used to evaluate work according to industry standards. Students will be able to attempt welding qualification test as to code procedure set from American Welding Society –D1.1 Structural Welding Code-Steel. This test will certify them to a determined process on carbon steel from prequalified variables. Course Attributes: Technical Course

- WLDG 215 - GTAW (integrated lab)

  Credits: 4. Offered autumn. Prereq., WLDG 180, 187, 210 The theory and safe operation of Gas Tungsten Arc Welding (GTAW). Examination of power source controls and operation along with associated consumables such as gasses, electrode filler materials for carbon steel, stainless steel, and aluminum. Welding skill development according to industry standards using these materials in the flat, horizontal, and vertical positions. Course Attributes: Technical Course

- WLDG 245 - Metal Fab Design/Construction

  Credits: 4. Offered spring. Prereq., MPR 114T, MPR 214T; WLDG 117, 180, 187, 215, 275. Students combine all knowledge and skills developed in the welding program to design and draw a full set of plans (blueprints) for an instructor-approved project using extensive welding, metal fabrication equipment, machining processes and automation. High quality performance, consistent with business and industry required. Course Attributes: Technical Course

- WLDG 275 - Gas Metal Arc Welding

  Credits: 4. Offered spring. Prereq., WLDG 187. Theory and safe operation of Gas Metal Arc Welding (GMAW). Theory of flux core arc welding applied to GMAW. Primary focus on application, practical skill development, and producing welds that meet industry standards. Metals welded are low carbon steel, stainless steel, and aluminum. Short circuit arc and spray arc transfer used. Examination of gas and electrode selection. Course Attributes: Technical Course

- WLDG 280 - Weld Testing Certification

  Credits: 2. Offered spring. Prereq., WLDG 180, 187, 215, 275. Fundamental concepts and requirements of the American Society of Mechanical Engineers (ASME) and American Welding Society (AWS) are examined. Through laboratory experience students are provided the opportunity to qualify (certify) under the two codes mentioned above. Course Attributes: Technical Course

- WLDG 285 - Automation in Welding

  Credits: 3. Offered spring. Prereq., WLDG 117, 150, 187, 215, CADX 110 Application of the welding process to automation. Examination of simple automation techniques such as tools, clamping, and fixturing to aid in the rapid joining of production runs. Increasing complexity is examined leading into equipment that carries the welding gun, tractors, and carriages by fully automated systems with the student performing set-up and troubleshooting (Submerged Arc Welding) and automated parts processing (optical tracer torch). Programmable controllers are investigated and used. Programming and use of a PUMA 650 Industrial Robot. Course Attributes: Technical Course

- WLDG 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course

Diesel Technology A.A.S.

The mission of the Diesel Technology Program is to provide the regional workforce with credentialed, skilled and competent diesel technicians and to be responsive to emerging workforce needs.

Students in the Diesel Technology program train to be diesel mechanics that repair diesel-powered trucks and heavy equipment. Students study hydraulics, electrical systems, fuel systems, power trains, air conditioning, brakes and suspension, engine theory, and engine diagnosis, beginning with basic principles and proceeding to an advanced level of system technology. Along with these core courses, students take classes in welding, machining, computers, communications, and math. Credit for independent study is available to those desiring additional instruction in diesel mechanics. Students who complete the program successfully are awarded the Associate of Applied Science degree.

The program often has a waiting list. Prospective students are encouraged to apply one year prior to anticipated school attendance. Contact the Jim Headlee, Program Director, at 406-243-7648 or email for more information.

Associate of Applied Science - Diesel Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 66

Required Cumulative GPA: 2.0

Diesel Technology

Rule: All courses required

	Course	Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	COMX 102 - Interprsnl Skills in Workplace This course will introduce students to interpersonal communication theory which can be applied to a workplace environment. Students will learn effective communication strategies that promote success in professional and personal relationships.	1 Credits
	DST 120 - Electrical Systems Offered spring. The theory of AC/DC electricity including Ohm's Law, magnetism, wiring diagrams, and circuit analysis. Starting, charging, and related systems are covered in-depth using test equipment commonly found in heavy equipment repair facilities. Electronic systems are reviewed and tested using common electronic test equipment.	8 Credits
	DST 128 - Engine Service I Offered autumn. Introduction to the construction and operation of internal combustion engines with the diesel engine being examined in detail. The use of measuring tools and related special tools is covered extensively along with common manufacture rebuild procedures. Start-up and running practices are demonstrated on various running diesel engines. Students must complete this course with a letter grade of "C" or better to enroll in U 135T Power Trains the second-half of the semester.	4 Credits
	DST 135 - Power Trains (UMCOT) Offered autumn. Chassis and drive train components used in light and heavy-duty trucks and other equipment. Clutches, manual transmissions, differentials, and final drives are covered.	7 Credits
	DST 221 - Brakes Suspn and Undercarr Offered autumn. Air brake design, construction, and operating principles including an in-depth study of diagnostic procedures for troubleshooting and repairing brake systems. Suspension systems and undercarriage design and repair are covered along with common axle alignment procedures found in industry. Students must complete this course with a letter grade of "C" or better to enroll in U225T Hydraulics in the second-half of the semester.	6 Credits
	DST 225 - Hydraulics (UMCOT) Offered autumn. Theory and application of hydraulics relative to mobile construction equipment and industrial hydraulic systems. Includes valves, pumps, motors, actuators, and related hydraulic components, system maintenance, troubleshooting, and repair.	6 Credits

	DST 229 - Engine Service II Offered spring. Prereq., DET 128T. A continuation of Engine Service I with a major emphasis placed on the rebuilding of a diesel engine. Engine components repair and failure analysis are reviewed along with tune-up and running of diesel engines commonly found in the heavy equipment trade. Shop flat-rate procedures, work order procedures, and warranty requirements are covered. Students must complete this course with a letter grade of "C" or better to enroll in U230T Air Conditioning in the second-half of the semester.	7 Credits
	DST 230 - Air Conditioning Offered spring. Prereq., DET 120T, DET 225T. Principles, theories, and the hazards of working with R-12 and R-34, including laws governing these refrigerants. An in-depth study of the components of an air conditioning system including hands-on practice. Discharging and charging principles are discussed, including leakage testing and other general diagnostic principles found in the field.	3 Credits
	DST 231 - Fuel Systems Offered spring. A comprehensive study of diesel fuel injection systems to include: Cummins, Roosa Master, Caterpillar, Detroit Diesel, and Bosch. Disassembly and repair of these systems are covered in-depth along with calibration practices. Installation, timing, and on-engine adjustments are made on diesel engines. On-engine diagnosis of the fuel systems using special diesel engine diagnostic tools is reviewed.	5 Credits
	DST 235 - Advanced Power Trains Offered spring. Prereq., DET 135T. A continuation of DET 135T with an emphasis on heavy automatic transmission, torque converters, and powershift transmission. In-depth coverage of component review troubleshooting and repair.	2 Credits
	M 111 - Technical Mathematics Offered autumn and spring. Prereq., ALEKS placement >= 2 or M 065. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing. Markdowns, inventory turnover, and other basic formulas. Credit does not count toward Associate of Arts or Baccalaureate degrees. MC	3 Credits
	MCH 115 - Related Metals Processes III Offered autumn and spring. A basic metalworking course covering fasteners, layout, bench metal, heat treating, threads and threading, drills and drilling, basic machining, and tool sharpening.	3 Credits
	WLDG 101 - Welding Fund Auto Tech/Diesel Offered autumn. Basic and intermediate processes of shielded metal arc welding (SMAW) and oxyacetylene welding are covered in flat, horizontal, and vertical positions in a variety of joint configurations. Instruction in the oxyacetylene cutting process. This course is designed for Diesel students only.	2 Credits
	WLDG 139 - Welding Maint & Repair -Diesel Offered autumn. Prereq., MPR 115T, WLDG 101. Combines the skills gained in welding and machine shop for practical applications such as repairing a broken cylinder block. Major emphasis is placed on repair techniques. Common repair procedures using machine shop and welding equipment is demonstrated. This course is designed for Diesel students only.	1 Credits

	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		64 Total Credits Required

Welding Technology (A.A.S.)

The mission of the Welding Technology Program is to provide the regional workforce with credentialed, skilled, and competent welders and to be responsive to emerging workforce needs. The Welding Technology Program prepares students to operate and troubleshoot a variety of welding power sources and related equipment. The program prepares students to solve problems using computational skills and other problem-solving techniques essential to welding and steel fabrication. It also encourages the development of the teamwork and interpersonal skills required on the job.

Welding students develop skills in six different welding processes: oxyacetylene (OAW), shielded metal arc (SMAW), gas metal arc (GMAW), flux core arc, (FCAW), submerged arc (SAW), and gas tungsten arc welding (GTAW). Students also develop additional skills, such as blueprint reading and layout, metallurgy, and gain an understanding of how heating and cooling cycles affect the properties of metals. Students also study the design of jigs and fixtures and how to incorporate these into an automated welding system.

Courses such as Computer Aided Design and Drafting (CADD), OSHA Rules and Compliance, and Related Metals Processes provide for a solid background in the metals industry. Fabrication basics and Metal Design and Construction utilize all of the gained knowledge in an instructor-approved/student-designed project.

Welding technology students have the opportunity to become certified to American Welding Society Standards and receive documentation stating qualifications.

Students are awarded the Certificate of Applied Science upon successful completion of the first year of the Welding Technology program. Students are awarded the Associate of Applied Science degree upon successfully completing the two-year program.

The program often has a waiting list. For more detailed information, visit our web site or contact Zach Reddig, Program Director, at 406-243-7644 or by email.

Associate of Applied Science - Welding Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 67

Required Cumulative GPA: 2.0

First Year Welding Program

Rule: All Courses Required for Certification in Welding

	Course	**Credits**

	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	COMX 102 - Interprsnl Skills in Workplace This course will introduce students to interpersonal communication theory which can be applied to a workplace environment. Students will learn effective communication strategies that promote success in professional and personal relationships.	1 Credits
	M 111 - Technical Mathematics Offered autumn and spring. Prereq., ALEKS placement >= 2 or M 065. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing. Markdowns, inventory turnover, and other basic formulas. Credit does not count toward Associate of Arts or Baccalaureate degrees. MC	3 Credits
	MCH 114 - Related Metals Processes II Offered autumn. Instruction and use of drills, files, threads and threading processes, basic lathe, drill press, and band saw operation, including precision measuring instruments. Fasteners, layout procedures, and basic hand tools are covered.	3 Credits
	WLDG 117 - Blueprint Rdng & Weldng Symbls Offered spring. Prereq., WLDG 150 (Practical experience in reading and drawing orthographic projections, interpreting dimensions, notes, scales, and welding symbols. Isometric projection (pictorial), sections, and auxiliary views with practical experience using conventional drafting tools and computer aided drafting (CAD).	3 Credits
	WLDG 145 - Fabrication Basics Offered spring. Prereq., MPR 114T; WLDG 180; coreq., WLDG 117, 187. Conception, design, and construction of a metal structure to industry standards using shears, presses, and other machine tools common to the welding industry. Skills are developed in the areas of shielded metal arc welding and flux core arc welding, oxyacetylene cutting, plasma arc cutting, and air carbon arc cutting.	4 Credits
	WLDG 150 - Welding Layout Techniques Using practical layout techniques students develop basics for blueprint construction, layout on pipe and structural steel, and use of tools common to material layout.	2 Credits

	WLDG 180 - Shielded Metal Arc Welding Offered autumn. Theory and safe operation of shielded metal arc welding (SMAW) of carbon steel on plate and structural components in all positions to industry standards. Visual inspection and destructive testing used to determine acceptability based upon industry standards (American Welding Society Structural Welding Code-Steel). Power sources and electrodes are covered in depth. Materials are prepared using mechanical plate shears and thermal cutting techniques. Thermal cutting techniques are examined relative to theory of operation and safe practices. Processes used are oxy-fuel cutting, plasma arc cutting, and air carbon arc cutting. Theory and operation of oxyacetylene welding examined.	4 Credits
	WLDG 184 - OSHA Rules & Regulations Wldng Offered spring. Study of the Occupational Safety and Health Administration rules and regulations that affect the welding and construction industries.	1 Credits
	WLDG 187 - Flux Core Arc Welding Offered spring. Prereq., WLDG 180 (Theory, practice, and safe operation of flux core arc welding equipment. Coupons are welded in the flat, horizontal, and vertical positions to industry standards using a variety of welding electrodes, diameters, and power sources, which prepare students for welding qualification to the American Welding Society Structural Welding Code specifications.	4 Credits
	WLDG 205 - Applied Metallurgy Offered autumn. Covers the manufacturing of iron and steel. Examination of physical and mechanical properties. Phase changes with the application of heating and cooling cycles. Ferrous crystal types and properties. Suggested welding procedures for low, medium, and high carbon steels, alloy steels, and cast iron.	4 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		37 Total Credits Required

Second Year Welding Program

Rule: All Courses Required for Certification in Welding

__	**Course**	**Credits**
	BMGT 242 - Front Line Supervision Offered spring. Introduces basic employee development with emphasis on the responsibilities of a newly-appointed supervisor. Emphasizes organizational structure, motivation, delegation of authority, the hiring process, employee development, employee performance, evaluations, and dealing with employee conflict.	3 Credits

	DDSN 114 - Introduction to CAD Offered autumn. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to computer aided design and drafting software for production of drawings and plans for architecture and engineering systems. Fundamentals of two dimensional drafting and drawing management for professional design.	3 Credits
	MCH 214 - Advanced Related Metals Proc Offered autumn. Prereq., MPR 114T or 115T. Advanced skill development using machine tools such as milling machines, lathes, surface grinders, and drill presses, emphasizing safety and providing greater complexity than provided in MPR 114T. Welding and machining are used together demonstrating how sequencing work improves quality and productivity.	3 Credits
	WLDG 210 - Pipe Welding - Integrated Lab Offered autumn. Prereq., WLDG 180; coreq., WLDG 215. Emphasis on skill development in the welding of pipe sections to extremely high quality levels as required by national codes and standards. Pipe welding using GTAW for the root pass and SMAW for the remaining passes in all positions. Visual inspection and destructive testing used to evaluate work according to industry standards. Students will be able to attempt welding qualification test as to code procedure set from American Welding Society –D1.1 Structural Welding Code-Steel. This test will certify them to a determined process on carbon steel from prequalified variables.	4 Credits
	WLDG 215 - GTAW (integrated lab) Offered autumn. Prereq., WLDG 180, 187, 210 The theory and safe operation of Gas Tungsten Arc Welding (GTAW). Examination of power source controls and operation along with associated consumables such as gasses, electrode filler materials for carbon steel, stainless steel, and aluminum. Welding skill development according to industry standards using these materials in the flat, horizontal, and vertical positions.	4 Credits
	WLDG 245 - Metal Fab Design/Construction Offered spring. Prereq., MPR 114T, MPR 214T; WLDG 117, 180, 187, 215, 275. Students combine all knowledge and skills developed in the welding program to design and draw a full set of plans (blueprints) for an instructor-approved project using extensive welding, metal fabrication equipment, machining processes and automation. High quality performance, consistent with business and industry required.	4 Credits
	WLDG 275 - Gas Metal Arc Welding Offered spring. Prereq., WLDG 187. Theory and safe operation of Gas Metal Arc Welding (GMAW). Theory of flux core arc welding applied to GMAW. Primary focus on application, practical skill development, and producing welds that meet industry standards. Metals welded are low carbon steel, stainless steel, and aluminum. Short circuit arc and spray arc transfer used. Examination of gas and electrode selection.	4 Credits
	WLDG 280 - Weld Testing Certification Offered spring. Prereq., WLDG 180, 187, 215, 275. Fundamental concepts and requirements of the American Society of Mechanical Engineers (ASME) and American Welding Society (AWS) are examined. Through laboratory experience students are provided the opportunity to qualify (certify) under the two codes mentioned above.	2 Credits

	WLDG 285 - Automation in Welding Offered spring. Prereq., WLDG 117, 150, 187, 215, CADX 110 Application of the welding process to automation. Examination of simple automation techniques such as tools, clamping, and fixturing to aid in the rapid joining of production runs. Increasing complexity is examined leading into equipment that carries the welding gun, tractors, and carriages by fully automated systems with the student performing set-up and troubleshooting (Submerged Arc Welding) and automated parts processing (optical tracer torch). Programmable controllers are investigated and used. Programming and use of a PUMA 650 Industrial Robot.	3 Credits
Minimum Required Grade: C-		30 Total Credits Required

Facility Management Engineering Certificate

The mission of the Facility Management Engineering Certificate program is to provide the regional workforce with credentialed, skilled, and competent facility management professionals and to be responsive to emerging workforce needs.

Students in the Facility Management Engineering program are trained as facility management professionals capable of maintaining commercial buildings. Subject matter in the program includes plumbing, electricity, carpentry, and heating/air conditioning. Students learn physical and electrical theories that enable them to understand building systems. In addition, they study landscape maintenance, pool care, computers, and boiler operation. Water treatment is discussed in both the pool and boiler courses. The program introduces current environmental and energy problems that can be reduced through efficient building operation. It also encourages resource development, teamwork, and interpersonal skills required on the job.

Upon successful completion of the program, students are awarded a Certificate of Applied Science which can be applied toward an AAS in Sustainable Construction Technology. Contact William Hillman, Program Director, at 406-243-7645 or email for more information.

Certificate of Applied Science - Facility Management

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 36
Required Cumulative GPA: 2.0

Facility Management Engineering

Rule: All courses required

	Course	**Credits**
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits

	COMX 102 - Interprsnl Skills in Workplace This course will introduce students to interpersonal communication theory which can be applied to a workplace environment. Students will learn effective communication strategies that promote success in professional and personal relationships.	1 Credits
	FME 122 - Electricity Offered spring. The electrical laws and principles pertaining to DC and AC circuits. Includes current, voltage, resistance, power, load, panels, feeders, lamps, motors, and fuses. Introduction to wiring methods and materials in conformance with the National Electric Code (NEC). Includes installation and replacement of light fixtures, heaters, GFCI's, switches, receptacles, raceways and electrical thermostats. Upon successful completion, students will receive the NCCER certification for Electricity	6 Credits
	FME 123 - Carpentry Offered autumn. Application of carpentry principles and techniques. Construction and maintenance of foundation, floor, wall, ceiling, and roof systems. Includes safe use of tools and materials common to the industry. Additional topics are painting, masonry, insulation, and ventilation of commercial buildings.	6 Credits
	FME 127 - High/Low Pressure Boilers Offered spring. The fundamentals of high/low pressure boiler operation and maintenance. Covers steam, feed-water, fuel, and draft systems. Includes boiler water treatment and hot water heating systems. Introduces safe mechanical operating procedures used in the industry. This course allows students to sit for the Third Class Boiler License Exam with 40 hours of hands-on training verses the 960 hours required by the state.	3 Credits
	FME 128 - Plumbing & Maintenance Offered autumn. Maintenance principles pertaining to lawns, groundcovers, trees, swimming pools, and plumbing equipment. Emphasis is placed on safe application of chemicals; maintenance frequency; and the identification and safe uses of associated tools and materials.	3 Credits
	FME 130 - Heating & Air Conditioning Offered spring. The fundamentals of heating, ventilating, and air conditioning. Covers heating and refrigeration cycles, gas furnaces, refrigerants, system evacuation and charging, and components used in associated systems. Introduces the basic mechanical service procedures used in the industry. Students will also sit for the Universal 608 EPA exam and receive the NCCER certification for Heating, Ventilation, Air conditioning and Refrigeration (HVAC).	6 Credits
	M 111 - Technical Mathematics Offered autumn and spring. Prereq., ALEKS placement >= 2 or M 065. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing. Markdowns, inventory turnover, and other basic formulas. Credit does not count toward Associate of Arts or Baccalaureate degrees. MC	3 Credits

	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		36 Total Credits Required

Sustainable Construction Certificate

The mission of this one-year certificate is to give students an overview of the green building industry with instruction and hands-on experience in the principles of green building, energy efficiency, green rating systems, including the ICC700 and LLED programs, and prepare them for further study or entry-level careers in the emerging green building industry.

Technical Certificate - Sustainable Construction

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 29
Required Cumulative GPA: 2.0

Certificate of Technical Studies in Sustainable Contruction

Rule: All courses required

	Course	**Credits**
	BGEN 160S - Issues in Sustainability Offered every term. Same as CCN 160S. This literature-intensive course is intended to expose the student to a variety of essays addressing the balance of economic development with the principles of sustainability and social equity. The student is offered an introduction to sustainability concepts, natural systems/cycles and environmental economics. Natural capitalism and triple bottom line maximization is explored, along with the role of corporations and small businesses in sustainable development. A survey of issues surrounding corporate social responsibility and sustainability-driven innovation will be conducted.	3 Credits
	BMGT 242 - Front Line Supervision Offered spring. Introduces basic employee development with emphasis on the responsibilities of a newly-appointed supervisor. Emphasizes organizational structure, motivation, delegation of authority, the hiring process, employee development, employee performance, evaluations, and dealing with employee conflict.	3 Credits

	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	CSTN 191 - Special Topics (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	CSTN 261 - Building Management Prereq: CSTN 120, 122, 142, 143, 171. Introduction to building business and project management including overhead costs, payroll costs, estimating and scheduling. Covers elements of payroll computation and preparation, payroll tax returns, information returns, and identification and compensation of independent contractors. Students are introduced to building cost estimating, and scheduling of subcontractors and building inspections. This course includes a one-credit imbedded lab.	4 Credits
	CSTN 282 - Green Bldg Concept & Design I Offered fall semester of the 2nd year. This course takes a holistic approach to natural resource conservation and energy efficiency in the construction industry. From integrated design, building site selection and evaluation, through building design, material selection and efficiencies, passive heating and cooling, and construction techniques. Students design an energy efficient residence to be built by next years class.	4 Credits
	CSTN 286 - Advanced Wood Buildings Curriculum will provide current and future industry participants education in the history, benefits, sourcing, design, products, applications and techniques in modern and emerging wood and wood frame construction. It will further showcase the inherent qualities of responsibly sourced wood as a rapidly renewable resource in single family residential, low rise multifamily, mixed use commercial and high rise buildings and inform both current practitioners and future industry workforce members on the products, techniques and tools in wood building construction that provide the maximum economic and sustainable benefits.	3 Credits
	M 111 - Technical Mathematics Offered autumn and spring. Prereq., ALEKS placement >= 2 or M 065. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing. Markdowns, inventory turnover, and other basic formulas. Credit does not count toward Associate of Arts or Baccalaureate degrees. MC	3 Credits

	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		33 Total Credits Required

Design and Efficiency

Rule: Take one of the following

	Course	Credits
	CSTN 283 - Green Bldg Concept & Design II Prereq., CSTN 282. Spring semester. A course fee of $50.00 is required. This course builds on concepts learned in CSTN 282 Green Building Concepts and Design I. Students learn how to weatherize existing buildings and green remodeling and preservation techniques, design and build outdoor living spaces, and green landscaping practices. They learn how to document building for green rating for both NAHB Standards and LEED. They will conduct blower door tests and learn to test for and mitigate radon gas. Students will also refine the energy efficient residential plan they produced in Green Building Concepts and Design I.	3 Credits
	NRGY 235 - Building Energy Efficiency Offered Spring. Prereq., NRGY 101. Provides an overview of energy efficiency opportunities in residential buildings with an emphasis on the Passivhaus standard. Prepares the student to take the National RESNET Home Energy Rater Exam, which is a required final exam. Local home and industry tours, and hands-on exposure to HVAC controls and maintenance are also offered. Study of the analysis techniques used for reduction of energy consumption and energy management, including energy accounting and energy auditing. Residential and commercial building energy efficiency opportunities will be covered. Other topics addressed include motors, pumps, green building, and purchasing energy supplies. Career opportunities in energy efficiency will be discussed. Several local tours of energy-efficient homes will occur throughout the semester.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Heavy Equipment Operation Certificate

The mission of the Heavy Equipment Operation Program is to provide the regional workforce with credentialed, skilled and competent heavy equipment operators and to be responsive to emerging workforce needs. The Heavy Equipment Operation Program provides students with a basic understanding of fundamental machine functions and is designed to develop apprentice-level skills in the operation of heavy equipment.

Students are trained to safely and properly operate and maintain a variety of heavy equipment, including crawler-tractors, graders, scrapers, front-end loaders, excavators, backhoes, and dump trucks. Students develop an understanding of basic surveying techniques, receive extensive training in safety regulations and procedures, and learn how to handle controls precisely and judge distances accurately. The program also promotes an awareness of potential job site difficulties and allows students to gain knowledge of the work ethic expected by employers in the construction industry.

A Certificate of Applied Science is awarded upon successful completion of the program.

This is a Autumn Semester entry program, and enrollment is limited. Prospective students are encouraged to apply early. Contact Joseph Janssen, Program Director, at 406-243-7643 or email for more information.

Certificate of Applied Science - Heavy Equipment Operation

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 36

Required Cumulative GPA: 2.0

Note: TRK 106T Commercial Driver's License (CDL) Training non-credit is a recommended elective.

Heavy Equipment Operation

Rule: Required for Certification in Heavy Equipment Operation

	Course	Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	COMX 102 - Interprsnl Skills in Workplace This course will introduce students to interpersonal communication theory which can be applied to a workplace environment. Students will learn effective communication strategies that promote success in professional and personal relationships.	1 Credits
	HEO 146T - Safety & Basic Controls Offered autumn. Co-reqs., M 111 and CAPP 120. Orientation to the safe operation and basic control of crawler-tractors, scrapers, front-end loaders, motor graders, backhoes, trucks, and other heavy equipment units. Sufficient time is allowed for the development of basic machine operational skills.	5 Credits
	HEO 148T - Operational Skill Bldg Offered autumn. Prereq., HEO 146T. Advancement of basic skills. Proper understanding and operation of heavy equipment is pursued. Time is allowed for development of proper operational techniques.	5 Credits
	HEO 150T - Job Simulation Offered spring. Prereq., HEO 146T, HEO 148T. Incorporates learned skills into entry-level, industrial situations. Emphasis is on advanced equipment usage, problem definition and resolution, project-type earth moving assignments, proper equipment, and safety regulations. Course may allow participation in cooperative project efforts within the community.	6 Credits

	HEO 151T - Service & Maintenance Offered autumn. Different types of lubricants and their applications, scheduled and preventive maintenance procedures, and importance of periodic services and maintenance. Also included are safety procedures and regulations.	2 Credits
	HEO 153T - Const Theory & Spec Equip Offered spring. Prereq., M 111, HEO 148T. Study of construction principles, specialized equipment, production estimates, and various related subjects.	5 Credits
	M 111 - Technical Mathematics Offered autumn and spring. Prereq., ALEKS placement >= 2 or M 065. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing. Markdowns, inventory turnover, and other basic formulas. Credit does not count toward Associate of Arts or Baccalaureate degrees. MC	3 Credits
	MCH 112 - Related Metals Processes I Offered spring. Use of hand tools and machines which relate to the repair of heavy equipment. Instruction covers fasteners, layout, bench metal, threads and threading, drills and drilling, and tool sharpening.	1 Credits
	SRVY 108 - Construction Surveying Offered autumn. Basic principles of surveying and the use of surveying equipment. Calculation of angles and distances to determine grade elevations. Introduction to Global Positioning Systems, lasers and their relationship to the heavy equipment operator.	2 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		36 Total Credits Required

Recreational Power Equipment Certificate

The mission of the Recreational Power Equipment Program is to provide the regional workforce with credentialed, skilled, and competent power equipment technicians and to be responsive to emerging workforce needs.

The Recreational Power Equipment Program prepares students to repair and maintain a wide variety of two-cycle and four-cycle engines and related equipment. Students work on motorcycles, ATVs, snowmobiles, outboard motors, and personal watercraft. Units of instruction include mechanical, fuel, and electrical systems. The program also encourages the development of teamwork and interpersonal skills required on the job.

For more detailed information including program costs, tool requirements, student class schedules, and course syllabi, visit: http://www.cte.umt.edu/industrialtech/rpe/

Contact Mike Steffenson, Program Director, at 406-243-7693 or Michael.Steffenson@umontana.edu for more information.

Certificate of Applied Science - Recreational Power Equipment

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 39
Required Cumulative GPA: 2.0

Recreational Power Equipment

Rule: Required for Certification in Recreational Power Equipment

Note: Please note: SET 160 is first half only, SET 176 is first half only, SET 177 second half first 5 weeks and SET 180 is second half last 5 weeks.

	Course	Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	COMX 102 - Interprsnl Skills in Workplace This course will introduce students to interpersonal communication theory which can be applied to a workplace environment. Students will learn effective communication strategies that promote success in professional and personal relationships.	1 Credits
	M 111 - Technical Mathematics Offered autumn and spring. Prereq., ALEKS placement >= 2 or M 065. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing. Markdowns, inventory turnover, and other basic formulas. Credit does not count toward Associate of Arts or Baccalaureate degrees. MC	3 Credits
	MCH 115 - Related Metals Processes III Offered autumn and spring. A basic metalworking course covering fasteners, layout, bench metal, heat treating, threads and threading, drills and drilling, basic machining, and tool sharpening.	3 Credits
	SET 160 - Basic Electricity for RPE Offered autumn. The theory of AC/DC electricity including Ohm's Law, magnetism, series circuits, parallel circuits, the use of meters, and electrical test equipment. Includes electrical symbols, soldering, storage batteries, cranking motors, and electrical safety.	3 Credits
	SET 176 - Motorcy/ATV Eng, Sus, Chas Offered autumn. Study of the design and function of several types of engines, transmissions, suspension, and brake systems.	3 Credits
	SET 177 - Motorcy/ATV Elect & Fuel Offered autumn. Prereq., SET 160T. Principles of ignition, charging, and cranking systems. Design and function of carburetor, fuel injection, and lubrication systems. Hands-on diagnosis of problems and testing of systems.	4 Credits

	SET 178 - Marine Elec & Fuel Syst Offered spring. Prereq., SET 160T. Theory of and testing and troubleshooting of problems with ignition, charging, and cranking systems. Includes the design, testing, and troubleshooting of marine carburetion and fuel injection systems.	5 Credits
	SET 179 - Marine Powerhds/Low Units Offered spring. Prereq., SET 178T. Theory of design, function and components of outboard motor powerheads and lower units. Includes basic rigging, power trim and tilt, propping, and personal watercraft design, function, and maintenance.	6 Credits
	SET 180 - Snowmobile Main & Rep I Offered autumn. Prereq., SET 177T. The repair and maintenance of air cooled and liquid cooled engines. Includes clutch, track, and rear suspension service and maintenance.	2 Credits
	SET 181 - Snowmobile Main & Rep II Offered spring. Prereq., SET 180T. Principles and theory of snowmobile electrical, fuel, front suspension, and brake systems.	2 Credits
	SET 182 - Comp Apps Motorsports Offered spring. Prereq., CRT 100. Use of recreational power equipment software for parts retrieval, invoicing and payment methods. Students build, query, and create reports using database software, and create a business plan for a hypothetical dealership.	1 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		39 Total Credits Required

Welding Technology Certificate

The mission of the Welding Technology Program is to provide the regional workforce with credentialed, skilled, and competent welders and to be responsive to emerging workforce needs. The Welding Technology Program prepares students to operate and troubleshoot a variety of welding power sources and related equipment. The program prepares students to solve problems found within the welding industry using computational skills and other problem-solving techniques essential to welding and steel fabrication. It also encourages the development of teamwork and interpersonal skills required on the job.

Welding students develop skills in six different welding processes–oxyacetylene (OAW), shielded metal arc (SMAW), gas metal arc (GMAW), flux core arc, (FCAW), submerged arc (SAW), and gas tungsten arc welding (GTAW). Beyond the development of welding skills and understanding of the process, they also study other skills, such as blueprint reading and layout, metallurgy, and gain an understanding of how heating and cooling cycles affect the properties of metals. Students also study the design of jigs and fixtures and how to incorporate these into an automated welding system.

The Welding Technology Program also has courses that provide for a solid background in the metals industry. Such courses are Computer Aided Design and Drafting (CADD), OSHA Rules and Compliance, and Related Metals Processes. Fabrication basics and Metal Design and Construction utilize all of the gained knowledge with an instructor approved/student designed project.

Welding technology students have the opportunity to become certified to American Welding Society Standards and receive documentation stating qualifications.

Students are awarded the Certificate of Applied Science upon successful completion of the first year of the Welding Technology program. Students are awarded the Associate of Applied Science degree upon successfully completing the two-year program.

The program often has a waiting list. For more detailed information, visit our web site, or contact Zach Reddig, Program Director, at 406-243-7644 or by email.

Certificate of Applied Science - Welding Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 37

Required Cumulative GPA: 2.0

Welding

Rule: All courses are required

	Course	Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	M 111 - Technical Mathematics Offered autumn and spring. Prereq., ALEKS placement >= 2 or M 065. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing. Markdowns, inventory turnover, and other basic formulas. Credit does not count toward Associate of Arts or Baccalaureate degrees. MC	3 Credits
	MCH 114 - Related Metals Processes II Offered autumn. Instruction and use of drills, files, threads and threading processes, basic lathe, drill press, and band saw operation, including precision measuring instruments. Fasteners, layout procedures, and basic hand tools are covered.	3 Credits
	WLDG 117 - Blueprint Rdng & Weldng Symbls Offered spring. Prereq., WLDG 150 (Practical experience in reading and drawing orthographic projections, interpreting dimensions, notes, scales, and welding symbols. Isometric projection (pictorial), sections, and auxiliary views with practical experience using conventional drafting tools and computer aided drafting (CAD).	3 Credits

	WLDG 145 - Fabrication Basics Offered spring. Prereq., MPR 114T; WLDG 180; coreq., WLDG 117, 187. Conception, design, and construction of a metal structure to industry standards using shears, presses, and other machine tools common to the welding industry. Skills are developed in the areas of shielded metal arc welding and flux core arc welding, oxyacetylene cutting, plasma arc cutting, and air carbon arc cutting.	4 Credits
	WLDG 150 - Welding Layout Techniques Using practical layout techniques students develop basics for blueprint construction, layout on pipe and structural steel, and use of tools common to material layout.	2 Credits
	WLDG 180 - Shielded Metal Arc Welding Offered autumn. Theory and safe operation of shielded metal arc welding (SMAW) of carbon steel on plate and structural components in all positions to industry standards. Visual inspection and destructive testing used to determine acceptability based upon industry standards (American Welding Society Structural Welding Code-Steel). Power sources and electrodes are covered in depth. Materials are prepared using mechanical plate shears and thermal cutting techniques. Thermal cutting techniques are examined relative to theory of operation and safe practices. Processes used are oxy-fuel cutting, plasma arc cutting, and air carbon arc cutting. Theory and operation of oxyacetylene welding examined.	4 Credits
	WLDG 184 - OSHA Rules & Regulations Wldng Offered spring. Study of the Occupational Safety and Health Administration rules and regulations that affect the welding and construction industries.	1 Credits
	WLDG 187 - Flux Core Arc Welding Offered spring. Prereq., WLDG 180 (Theory, practice, and safe operation of flux core arc welding equipment. Coupons are welded in the flat, horizontal, and vertical positions to industry standards using a variety of welding electrodes, diameters, and power sources, which prepare students for welding qualification to the American Welding Society Structural Welding Code specifications.	4 Credits
	WLDG 205 - Applied Metallurgy Offered autumn. Covers the manufacturing of iron and steel. Examination of physical and mechanical properties. Phase changes with the application of heating and cooling cycles. Ferrous crystal types and properties. Suggested welding procedures for low, medium, and high carbon steels, alloy steels, and cast iron.	4 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		37 Total Credits Required

Sustainable Construction Certificate

This one-year certificate in Sustainable Construction is for students looking to obtain a hands-on working knowledge of basic carpentry skills. Students will get instruction and practice in entry-level skills, including site preparation and layout, concrete forming and placement, residential framing, roofing, siding, and window installation.

Certificate of Applied Science - Sustainable Construction Tech

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 33
Required Cumulative GPA: 2.0

Certificate of Applied Science in Sustainable Construction Technology

Rule: All courses required

	Course	Credits
	BMGT 242 - Front Line Supervision Offered spring. Introduces basic employee development with emphasis on the responsibilities of a newly-appointed supervisor. Emphasizes organizational structure, motivation, delegation of authority, the hiring process, employee development, employee performance, evaluations, and dealing with employee conflict.	3 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	CSTN 120 - Carpentry Bscs & Rough-In Frmg Introduction to the carpentry trade, including history, career opportunities, and requirements. The course covers building materials, fasteners, adhesives, hand tools, and power tools. OSHA rules and regulations for a safe working place and procedures for compliance are covered. This course includes a two-credit imbedded lab. Students will also learn now to install windows and an exterior door.	5 Credits
	CSTN 122 - Beginning Carpentry Lab Lab to support CSTN 102 and 120.	5 Credits
	CSTN 142 - Int & Ext Finish Carpentry Prereq: CSTN 120 and 122. Study of various types of siding, gutter systems, roof venting requirements, and framing with metal studs. Installation of sheathing, exterior siding, roofing felt, shingles, insulation vapor barriers, and stairs on small building constructed in CSTN 120. Installation of wood and metal doors. Demonstration of materials, layout and installation of suspended ceilings. Selection and installation of countertops, base cabinets and wall cabinets. Window, door, floor, ceiling trim and drywall are installed in a small building. This course includes a one-credit imbedded lab.	4 Credits

	CSTN 143 - Intermediate Carpentry Lab Lab to accompany CSTN 142. Prereq: CSTN 102, CSTN 120 and CSTN 122.	4 Credits
	CSTN 171 - Site Prep, Found, Concrete Ins Offered Autumn. Prereq., CSTN 100 or consent of instr. Introduces the process of distance measurement as well as differential and trigonometric leveling for site layout. It covers the principles, equipment, and methods used to perform the site layout tasks that require making angular measurements. This course is designed to let students apply the blueprint reading skills learned so far to a practical exercise.	3 Credits
	M 111 - Technical Mathematics Offered autumn and spring. Prereq., ALEKS placement >= 2 or M 065. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing. Markdowns, inventory turnover, and other basic formulas. Credit does not count toward Associate of Arts or Baccalaureate degrees. MC	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		33 Total Credits Required

Sustainable Construction A.A.S.

This two-year Associate of Applied Science course of study is designed to prepare students for a wide range of building industry career paths. Students will get hands-on training in various job-site skills, including safety training as well as instruction and practice in entry-level skills, including site preparation and layout, concrete forming and placement, residential framing, roofing, siding, and window installation.

Additionally, students will be exposed to basic job-site control practices, scheduling, estimating, and the major guiding principles of green building and sustainable construction. Working on an actual on-site modular home, students completing the program will have experience and exposure to all aspects of residential construction, including foundations, framing, roofing, siding, insulation, drywall, cabinetry, floor finishes, and the process of basic project management.

Associate of Applied Science - Sustainable Construction Tech

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 69
Required Cumulative GPA: 2.0

AAS in Sustainable Construction Technology

Rule: All courses required

	Course	Credits
	BMGT 242 - Front Line Supervision Offered spring. Introduces basic employee development with emphasis on the responsibilities of a newly-appointed supervisor. Emphasizes organizational structure, motivation, delegation of authority, the hiring process, employee development, employee performance, evaluations, and dealing with employee conflict.	3 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	CSTN 120 - Carpentry Bscs & Rough-In Frmg Introduction to the carpentry trade, including history, career opportunities, and requirements. The course covers building materials, fasteners, adhesives, hand tools, and power tools. OSHA rules and regulations for a safe working place and procedures for compliance are covered. This course includes a two-credit imbedded lab. Students will also learn now to install windows and an exterior door.	5 Credits
	CSTN 122 - Beginning Carpentry Lab Lab to support CSTN 102 and 120.	5 Credits
	CSTN 142 - Int & Ext Finish Carpentry Prereq: CSTN 120 and 122. Study of various types of siding, gutter systems, roof venting requirements, and framing with metal studs. Installation of sheathing, exterior siding, roofing felt, shingles, insulation vapor barriers, and stairs on small building constructed in CSTN 120. Installation of wood and metal doors. Demonstration of materials, layout and installation of suspended ceilings. Selection and installation of countertops, base cabinets and wall cabinets. Window, door, floor, ceiling trim and drywall are installed in a small building. This course includes a one-credit imbedded lab.	4 Credits
	CSTN 143 - Intermediate Carpentry Lab Lab to accompany CSTN 142. Prereq: CSTN 102, CSTN 120 and CSTN 122.	4 Credits
	CSTN 171 - Site Prep, Found, Concrete Ins Offered Autumn. Prereq., CSTN 100 or consent of instr. Introduces the process of distance measurement as well as differential and trigonometric leveling for site layout. It covers the principles, equipment, and methods used to perform the site layout tasks that require making angular measurements. This course is designed to let students apply the blueprint reading skills learned so far to a practical exercise.	3 Credits

	M 111 - Technical Mathematics Offered autumn and spring. Prereq., ALEKS placement >= 2 or M 065. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing. Markdowns, inventory turnover, and other basic formulas. Credit does not count toward Associate of Arts or Baccalaureate degrees. MC	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		33 Total Credits Required

AAS in Sustainable Construction Technology

Rule: All courses required

	Course	**Credits**
	CSTN 205 - Advanced Carpentry Lecture Prereq: CSTN 102, 120, 122, 142, and 143. Study of the process for angular measurement, using transits, theodolites, electronic distance measuring devices, lasers, and trigonometric calculating to lay out foundations and determine elevations. Installation of standing seam, lap seam, and built-up roofing systems; concrete, vinyl, wooden, tile, and carpeted floors as well as radiant heating; paneling, wainscoting, movable partitions, curtain walls and fire-rated commercial wall construction. Advanced stair systems, including shop built and prefabricated stairs, balustrades, mitered risers and treads, and layout of elliptical fastening methods, and assembly techniques. Project planning, scheduling, estimating, and management skills included. This course includes a two-credit lab.	6 Credits
	CSTN 206 - Advanced Carpentry Lab Laboratory to accompany CSTN 205. Prereq: CSTN 102, 120, 122, 142, and 143.	2 Credits

	CSTN 261 - Building Management Prereq: CSTN 120, 122, 142, 143, 171. Introduction to building business and project management including overhead costs, payroll costs, estimating and scheduling. Covers elements of payroll computation and preparation, payroll tax returns, information returns, and identification and compensation of independent contractors. Students are introduced to building cost estimating, and scheduling of subcontractors and building inspections. This course includes a one-credit imbedded lab.	4 Credits
	CSTN 278 - Applied Building Practices Lab Offered spring. Prereq., CSTN 102, 103, 120, 122, 142, 143. Students work on a variety of projects either at the college or in the community to practice and develop their skills as well as learn new skills. Knowing and following OSHA rules and regulations is emphasized. Students are expected to produce a professional quality product.	6 Credits
	CSTN 279 - Commercial Construction Prereq.CSTN 171, 120, 122, 142, and 143. Study and develop skills in metal stud framing, commercial roofing systems, metal and masonry buildings, metal doors and door hardware, suspended ceilings, and fire rated commercial walls.	4 Credits
	CSTN 282 - Green Bldg Concept & Design I Offered fall semester of the 2nd year. This course takes a holistic approach to natural resource conservation and energy efficiency in the construction industry. From integrated design, building site selection and evaluation, through building design, material selection and efficiencies, passive heating and cooling, and construction techniques. Students design an energy efficient residence to be built by next years class.	4 Credits
	CSTN 283 - Green Bldg Concept & Design II Prereq., CSTN 282. Spring semester. A course fee of $50.00 is required. This course builds on concepts learned in CSTN 282 Green Building Concepts and Design I. Students learn how to weatherize existing buildings and green remodeling and preservation techniques, design and build outdoor living spaces, and green landscaping practices. They learn how to document building for green rating for both NAHB Standards and LEED. They will conduct blower door tests and learn to test for and mitigate radon gas. Students will also refine the energy efficient residential plan they produced in Green Building Concepts and Design I.	3 Credits
	CSTN 299 - Capstone: Carpentry Capstone laboratory to accompany CSTN 102, 120, 122, 142, 143, 205, 206, and 261. This course provides hands-on experience in which the student applies the skills and knowledge presented in the Carpentry Program. The course will emphasize advanced application in the areas of exterior finishing and interior finishing, and other constructed topics.	2 Credits
	DDSN 114 - Introduction to CAD Offered autumn. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to computer aided design and drafting software for production of drawings and plans for architecture and engineering systems. Fundamentals of two dimensional drafting and drawing management for professional design.	3 Credits

	WLDG 103 - Welding Fund Constructn Trades Offered spring. Basic welding processes of shielded metal arc welding (SMAW), flux core arc welding (FCAW) are covered in the flat, horizontal, and vertical positions in a variety of joint configurations. The instruction in flux core arc welding is focused on the carpentry building trades. Instruction in the oxyacetylene cutting process is also provided. Safe operation of equipment is covered and work is evaluated to industrial standards. This course is designed for carpentry students.	2 Credits
Minimum Required Grade: C-		36 Total Credits Required

Precision Machine Technology Certificate

The Certificate of Technical Studies in Precision Machine Technology provides instruction in the theory and operation of manual mills and lathes, precision measurements, blueprint reading, and the use of other tools related to the machinist trade. Students can earn NIMS credentials in all phases of the training. Upon completion of this program, students will enter the workforce at entry level, pursue apprenticeship, or continue their machining training to earn the CAS.

Technical Certificate - Precision Machine Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 21
Required Cumulative GPA: 2.0

Certificate of Technical Studies in Precision Machine Technology

Rule: All courses required

	Course	**Credits**
	MCH 101 - Intro Manf Proc This course is designed to introduce the student with an overview of manufacturing to include engineering materials and product attributes, material removal processes, property enhancing and surface processing operations, special processes and assembly technologies, and manufacturing systems.	1 Credits
	MCH 120 - Bluepr Read & Interp for Mach This course introduces the fundamental concepts necessary to interpret and make drawings with symbols, various schematics and diagrams, dimensioning techniques, section views, auxiliary views, threads and fasteners, and sketching typical to all shop drawings. Interpretation of specifications and determination of acceptable tolerance requirements to ensure quality control measures for design parts will also be stressed.	3 Credits
	MCH 129 - Mach Qual Contr and Prec Meas Students will develop the knowledge to analyze and evaluate the processes and methodology required in an industrial production environment to determine whether quality control standards are being met. Topics include use of non-precision measuring tools, use of precision measuring tools, use of comparison gauges, and analysis of measurements in a CNC environment.	3 Credits

	MCH 132 - Intro to Man Eng Lathes Prereq., or corereq., MCH 120 and MCH 129. This introduction to Manual Engine Lathes will cover the safety, maintenance and operation of manual engine lathes and related periphery tools and skills. Subjects covered include HSS tool bit grinding and tool bit geometry, chip formation, speeds and feeds, operation and process planning, threads, fits, dimensioning and tolerances, surface finish, and the following lathe processes: facing, turning, tapering, drilling, boring, reaming, chamfering, grooving, parting-off, internal and external threading, tapering, knurling, filing and polishing. Graded projects using between centers and chuck work turning will be done. Related periphery tooling, use and care of precision measuring tools, in addition to related math used in the trade, will also be covered.	4 Credits
	MCH 134 - Introduction to Manual Mills Prereq.,/coreq., MCH 120 and MCH 129. The student will perform advanced hands-on machine shop operations: set up and operation of manual milling machines, drill presses, band saws, grinders, and other equipment commonly found in manufacturing facilities. The student will use precision measuring tools and methods, utilize blueprints, and perform project process planning. Various types of steel and aluminum are use.	4 Credits
Minimum Required Grade: C-		21 Total Credits Required

Precision Machine Technology (C.A.S.)

The Precision Machine Technology Certificate of Applied Science program provides instruction in the theory and operation of mills and lathes, both manual and CNC, other tools related to the machinist trade, and associated programming. Students can earn NIMS credentials in all phases of the training. Upon completion of this program, students will enter employment in the machining industry, pursue apprenticeship in machining, or further their education toward higher academic degrees.

Certificate of Applied Science - Precision Machine Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 34
Required Cumulative GPA: 2.0

Certificate of Applied Science in Precision Machine Technology

Rule: All courses required

	Course	**Credits**

	DDSN 135 - Solidworks his course aggregates fundamental concepts of Blueprint Reading and Interpretation (MCH 120) and Machine Quality Control and Precision Measurements (MCH 129) in the form of gaining practical application of concepts to 3D solid modeling. 3D models will include drawings with symbols, various schematics and diagrams, dimensioning techniques, section views, auxiliary views, threads and fasteners typical to shop drawings. Application of specifications and acceptable tolerance requirements to ensure quality control measures for design parts and assemblies will also be stressed.	2 Credits
	MCH 101 - Intro Manf Proc This course is designed to introduce the student with an overview of manufacturing to include engineering materials and product attributes, material removal processes, property enhancing and surface processing operations, special processes and assembly technologies, and manufacturing systems.	1 Credits
	MCH 102 - Intro to Manf Materials This is an introductory course in the study of materials used in the manufacturing industry. Topics include selection and identification of steels, selection and identification of nonferrous metals, mechanical behavior of various plastics, hardening, case hardening, tempering, annealing, normalizing, stress relieving, and the use of the Rockwell and Brinell hardness testers.	2 Credits
	MCH 120 - Bluepr Read & Interp for Mach This course introduces the fundamental concepts necessary to interpret and make drawings with symbols, various schematics and diagrams, dimensioning techniques, section views, auxiliary views, threads and fasteners, and sketching typical to all shop drawings. Interpretation of specifications and determination of acceptable tolerance requirements to ensure quality control measures for design parts will also be stressed.	3 Credits
	MCH 122 - Introduction to CAM This course introduces Computer Aided Manufacturing (CAM) operational basics for both mill and lathe programming using current CAM software. The course includes terminology relevant to PC-based CAD/CAM work, hardware familiarity, system operation and management, folders, file type and structure, menu structure and use, and 3 axis (milling machines) and 2 axis (lathes) tool paths. Emphasis is placed on proper geometric creation, management, relevant utilities, and toolbar and menu functions.	3 Credits
	MCH 125 - Introduction to CNC Lathes Prereq., MCH 132 . This course provides opportunities for students to develop skills in the safe setup, maintenance, and operation of CNC lathes and related periphery tools and skills. Topics covered include CNC lathe parts, controls, tool holding, tool insert geometry, chip formation, speeds and feeds, operation and process planning, threads, fits, dimensioning and tolerances, surface finish, and the following lathe processes: facing, turning, tapering, drilling, boring, reaming, chamfering, grooving, parting-off, internal and external threading, tapering, and knurling. Graded projects based on chuck, collet, and fixturing will be done. Related periphery tooling, use and care of precision measuring tools, in addition to related math used in the trade, will also be covered.	3 Credits

	MCH 127 - Introduction to CNC Mills Prereq., MCH 134. This course provides instruction in the setup and operation of CNC mills. Student projects include specialty tooling and multi-axis machining. Students will also gain experience in process control. Topics include specialty tooling, multi-axis machining, process control, and laboratory exercises in part production.	3 Credits
	MCH 129 - Mach Qual Contr and Prec Meas Students will develop the knowledge to analyze and evaluate the processes and methodology required in an industrial production environment to determine whether quality control standards are being met. Topics include use of non-precision measuring tools, use of precision measuring tools, use of comparison gauges, and analysis of measurements in a CNC environment.	3 Credits
	MCH 130 - Machine Shop The course content covers a broad range of shop fundamentals in manual and CNC machining. This course includes an emphasis on shop and work area safety. Instruction covers standard shop work, such as measurement, layout, basic hand tools, drills, drill presses, and taps and dies. Use of pedestal grinder will be covered. Work assignments incorporate projects requiring use of the above machines, tooling, and emphasizes safety.	3 Credits
	MCH 132 - Intro to Man Eng Lathes Prereq., or corereq., MCH 120 and MCH 129. This introduction to Manual Engine Lathes will cover the safety, maintenance and operation of manual engine lathes and related periphery tools and skills. Subjects covered include HSS tool bit grinding and tool bit geometry, chip formation, speeds and feeds, operation and process planning, threads, fits, dimensioning and tolerances, surface finish, and the following lathe processes: facing, turning, tapering, drilling, boring, reaming, chamfering, grooving, parting-off, internal and external threading, tapering, knurling, filing and polishing. Graded projects using between centers and chuck work turning will be done. Related periphery tooling, use and care of precision measuring tools, in addition to related math used in the trade, will also be covered.	4 Credits
	MCH 134 - Introduction to Manual Mills Prereq.,/coreq., MCH 120 and MCH 129. The student will perform advanced hands-on machine shop operations: set up and operation of manual milling machines, drill presses, band saws, grinders, and other equipment commonly found in manufacturing facilities. The student will use precision measuring tools and methods, utilize blueprints, and perform project process planning. Various types of steel and aluminum are use.	4 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		34 Total Credits Required

Technical Certificate - HVAC Technician

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 12
Required Cumulative GPA: 2.0

HVAC

Rule: All courses required

	Course	Credits
	FME 122 - Electricity Offered spring. The electrical laws and principles pertaining to DC and AC circuits. Includes current, voltage, resistance, power, load, panels, feeders, lamps, motors, and fuses. Introduction to wiring methods and materials in conformance with the National Electric Code (NEC). Includes installation and replacement of light fixtures, heaters, GFCI's, switches, receptacles, raceways and electrical thermostats. Upon successful completion, students will receive the NCCER certification for Electricity	6 Credits
	FME 130 - Heating & Air Conditioning Offered spring. The fundamentals of heating, ventilating, and air conditioning. Covers heating and refrigeration cycles, gas furnaces, refrigerants, system evacuation and charging, and components used in associated systems. Introduces the basic mechanical service procedures used in the industry. Students will also sit for the Universal 608 EPA exam and receive the NCCER certification for Heating, Ventilation, Air conditioning and Refrigeration (HVAC).	6 Credits
Minimum Required Grade: C-		12 Total Credits Required

Construction Helper Certificate

This one-semester certificate program is designed to prepare candidates for entry-level positions across the construction industry. Designed to make students job-site ready, the program covers job-site safety as well as a hands on introduction to site and foundation work and basic carpentry.

Technical Certificate - Construction Helper

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 16
Required Cumulative GPA: 2.0

Certificate of Technical Studies, Construction Helper

Rule: All courses required

	Course	Credits
	CSTN 120 - Carpentry Bscs & Rough-In Frmg Introduction to the carpentry trade, including history, career opportunities, and requirements. The course covers building materials, fasteners, adhesives, hand tools, and power tools. OSHA rules and regulations for a safe working place and procedures for compliance are covered. This course includes a two-credit imbedded lab. Students will also learn now to install windows and an exterior door.	5 Credits
	CSTN 122 - Beginning Carpentry Lab Lab to support CSTN 102 and 120.	5 Credits
	CSTN 171 - Site Prep, Found, Concrete Ins Offered Autumn. Prereq., CSTN 100 or consent of instr. Introduces the process of distance measurement as well as differential and trigonometric leveling for site layout. It covers the principles, equipment, and methods used to perform the site layout tasks that require making angular measurements. This course is designed to let students apply the blueprint reading skills learned so far to a practical exercise.	3 Credits
	NRGY 120 - Industrial Safety and Rigging This course provides an overview of safe industrial practices and provides students with hands-on experiences in rigging for a variety of industries. Students will complete the requirements for an OSHA 30 certification, construct a scaffold system, identify equipment for shifting heavy loads such as may be used in the wind and solar industries. Load security, fall gear, arrest equipment, confined spaces, safety data sheets will be covered. Students will also learn elements of first aid, cardio-pulmonary resuscitation (CPR), and proper use of Automated External Defibrillators (AED's).	3 Credits
Minimum Required Grade: C-		16 Total Credits Required

Health Professions Department

Nick Arthur, Chair

The Health Professions Department of Missoula College-University of Montana seeks to prepare students to be health practitioners who are technically competent and who are safe and in a variety of clinical, agency and community settings. The Health Professions Department offers four Associate of Applied Science (A.A.S.) Degrees, one Associate of Science (A.S.) Degree, and one Certificate of Applied Science (CAS) program with courses and learning experiences that contribute to understanding the health needs of individuals and society. Clinical affiliations and on-site experiences are essential elements of all programs; local and regional communities, their agencies, and organizations are a valuable resource and provide cooperative learning experiences in health delivery systems.

Allied Health Medical Support

Back to Top

- AHMS 108 - Health Data Content & Struct

  Credits: 2. Offered spring. In-depth study of origin, use, content and structure of health records; storage and retrieval systems; numbering and filing systems; documentation requirements; use and structure of health care data sets; and how these components relate to primary and secondary record systems. Additional topics include gathering, compilation and computing of healthcare related statistics, use of research and statistical methods for developing healthcare data into information for various requesters. Course Attributes: Technical Course

- AHMS 144 - Medical Terminology

  Credits: 3. Offered every term. Introduction to a medical word building system using Greek and Latin word roots, combining forms, suffixes, and prefixes. Course Attributes: Technical Course

- AHMS 156 - Medical Billing Fundamentals

  Credits: 3. Offered every term. Prereq. or coreq., AHMS 220 or consent of instr. An introduction to insurance claim processing for the major medical insurance programs. Students will be provided with a basic knowledge of CPT and ICD-9 procedural and diagnostic coding. Emphasis on completing universal insurance forms to maximize reimbursement as well as trouble shoot denied or underpaid claims. Course Attributes: Technical Course

- AHMS 160 - Beginning Procedural Coding

  Credits: 3. Offered autumn. Prereq., AHMS 156, AHMS 108 or consent of instr. Foundation for utilizing the CPT coding system to increase compatibility and comparability of medical data among users and providers.

- AHMS 164 - AHMS 164 Beginning Diagnosis Coding: ICD-10

  Credits: 3. This course covers basic and intermediate levels of theory and application of ICD-CM principles and guidelines for coding and sequencing diagnoses and procedures. Students perform basic and intermediate coding using real health records, case studies, and scenarios. Application will focus on the use of the electronic ICD-10-CM with an overview of encoder software. This coding class involves hands-on coding, and knowledge of basic use of applicable coding books or the electronic ICD-10-CM. Currently the students take this course through Great Falls

- AHMS 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- AHMS 192 - Independent Study

  Credits: 1 TO 9. Course material appropriate to the needs and objectives of the individual student.

- AHMS 212 - CPT Coding

  Credits: 3. Offered spring. Prereq., AHMS 210 or consent of instr. Comprehensive application of the CPT coding system to assign codes for services, supplies and equipment for comparative analysis, research and reimbursement.

- AHMS 213 - ICD-10 CODING

  Credits: 3. Prereq., AHMS 164. Basic understanding of diagnostic and procedural coding principles should already be established. The course requires interpreting ICD-10-CM coding and reporting guidelines to sequence and assign appropriate diagnostic codes for both inpatient and various outpatient settings. Compliance issues associated with various IPPS reimbursement systems such as MS-DRGs, as well as APCs are covered. Encoder software will complement the ICD-10-CM manual in the application of coding processes. Clinical information will be interpreted from brief case studies and progress to the coding of health record excerpts.

- AHMS 216 - Pharmaceutical Products

  Credits: 3. Offered autumn. Fundamental principles of pharmacology and the implications of medication use. Includes the law as it pertains to drug use, dosage forms, routes of administration as well as the pharmacologic actions and uses of drugs.

- AHMS 220 - Medical Office Procedures

  Credits: 4. Offered autumn. An introduction to the necessary skills and qualities required to function successfully in the medical arena. Emphasis on medico-legal and ethical responsibilities, records management and financial management of the medical practice, and interpersonal communications to include patient reception, telephone techniques and appointment scheduling. Course Attributes: Technical Course

- AHMS 245 - Simulated Lab

  Credits: 3. Prereq., consent of instr. This course will use computer applications and software in maintaining health information in medical records through practice utilizing HIT applications through the AHIMA Virtual Lab, to include the following applications: Master Patient Index, Electronic Health Record, Encoder, Abstracting, Chart Tracking, Release of Information.

- AHMS 252 - Computerized Medical Billing

  Credits: 3. Offered spring, Prereq., AHMS 156; prereq. or coreq. AHMS 220; or consent of instr. A medical package is used to enter and update patient data, enter charges, payments and

adjustments, and generate management reports, insurance forms, and patient statements.

- AHMS 270E - Medical Ethics

  Credits: 3. Offered every term. Ethical decision-making tools for addressing common ethical issues in the health professions. Course Attributes: Ethical & Human Values Course

- AHMS 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- AHMS 292 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

- AHMS 298 - Medical Info Internship

  Credits: 3. Offered every term. Prereq., last semester in program, minimum of "C" in AHMS/AHMA (MED) courses, and approval of program director. On-the-job training in positions related to each student's career goal in the medical information field. This experience increases students' skills, prepares them for initial employment and advancement on the job, and increases occupational awareness and professionalism. Students work a minimum of 180 hours at an approved site and attend a scheduled one-hour seminar. Course Attributes: Internships/Practicums

Allied Health Respiratory Care

Back to Top

- AHRC 101 - Communication Management

  Credits: 1. Offered autumn. Prereq., Acceptance into Respiratory Care Program. Study of respiratory care departmental organization and administration procedures, effective communication strategies, and legal and ethical issues for the Respiratory care professional.

- AHRC 115 - Blood Gas Analysis

  Credits: 2. Offered autumn. Prereq., acceptance into the Respiratory Care program. Study of the indications, rational, methods, instrumentation, and analysis of Blood Gases. Emphasis will be placed on the physiology and clinical implications of acid-base abnormalities.

- AHRC 129 - Patient Care & Assessment

  Credits: 4. Offered autumn. Prereq., BIOH 201N-202N. Introduction to nursing- related knowledge and skills with emphasis on application of microbiology to aseptic technique. Assessment of the respiratory system with cardiopulmonary diagnostic and laboratory tests interpretation. Observation and interpretation of overall patient condition is integrated throughout the course. Course Attributes: Technical Course

- AHRC 130 - Respiratory Care Lab IB

  Credits: 1. Offered autumn. Prereq., acceptance into the Respiratory Care program. Basic clinical competencies taught in RES 129 are studied in a laboratory setting. Peer and instructor review of competencies included. Students focus on patient assessment skills and techniques/equipment.

- AHRC 131 - Resp Care Fundamentals

  Credits: 5. Offered autumn. Prereq., acceptance into the Respiratory Care program. Orientation to basic respiratory care science including the application of principles of physics and chemistry. Emphasis on theory, operation and troubleshooting of equipment used at the entry level of practice. Microbiology in relation to equipment processing, pulmonary rehabilitation and home care included. Course Attributes: Technical Course

- AHRC 133 - Resp Care Pharmacology

  Credits: 3. Offered spring. Prereq., acceptance into the Respiratory Care Program or consent of instr. Principles of basic chemistry introduced with an application to pharmacology as related to the pulmonary system. Cardiovascular and related pharmacology studied in preparation for ACLS and ventilator management. Course Attributes: Technical Course

- AHRC 150 - Respiratory Care Lab I

  Credits: 1. Offered autumn. Prereq., acceptance into the Respiratory Care program. Basic clinical competencies taught in RES 131 are studied in a laboratory setting. Peer and instructor review of

competencies included. Students earn their BLS certification. Course Attributes: Technical Course

- AHRC 231 - Resp Crit Care

  Credits: 4. Offered spring. Prereq., RES 120, 129, 131, 133, 150. Continuation of RES 131. Physiology, indication, contraindications, and application of mechanical ventilation. Emphasis on patient assessment, monitoring, stabilization and weaning during assisted pressure breathing. Analysis of the various modes of ventilation, including optimizing the patient-ventilator interface in the adult through various advanced airway techniques. Course Attributes: Technical Course

- AHRC 232 - Resp Path & Disease

  Credits: 3. Offered spring. Prereq., RES 120, 129, 131, 133, 150. Special lectures in medicine and disease as related to the cardiopulmonary system. Emphasis on recognition of signs and symptoms of disease and implications for treatment through the study of selected case studies. Course Attributes: Technical Course

- AHRC 235 - Cardiopulm Anat & Phys

  Credits: 3. Offered spring. Prereq., RES 120, 129, 131, 133, 150 or consent of instr. Principles of physiologic chemistry are introduced and applied to the macro and micro anatomy of the cardiopulmonary system with a focus on structure and function. Application made to pathology and assessment of patients receiving mechanical ventilation. Course Attributes: Technical Course

- AHRC 242 - Respiratory Management

  Credits: 1. Offered autumn. Prereq., RES 260T, 265T. Study of respiratory care departmental organization and administration procedures. Course Attributes: Technical Course

- AHRC 243 - Perinat & Pediat Res Care

  Credits: 3. Offered autumn. Prereq., RES 260, 265. Study of perinatal and pediatric respiratory care with emphasis on assessment, resuscitation and mechanical ventilation of the neonate and pediatric patient. The theory of Neonatal Resuscitations (NRP) will be presented. Neonatal and pediatric diseases will be studied. Course Attributes: Technical Course

- AHRC 250 - Respiratory Care Lab II

  Credits: 2. Offered spring. Prereq., RES 120, 129, 131, 133, 150. A continuation of RES 150 with emphasis on adult critical care. Clinical competencies taught in RES 231 and RES 235 are studied in a laboratory setting. Peer and instructor review of competencies included. Course Attributes: Technical Course

- AHRC 252 - Respiratory Care Review

  Credits: 2. Offered autumn. Prereq., RES 260, 265. A review of respiratory care in preparation for credentialing exams. Students must take an Entry Level Self-Assessment Exam, a Written Registry Self- Assessment Exam, and a Clinical Simulation Self-Assessment Exam. Course Attributes: Technical Course

- AHRC 255 - Clinical Experience I

  Credits: 5. Offered spring. Prereq., RES 120, 129, 131, 133, 150. Emphasis on the student directly performing basic clinical skills in a patient care setting to include hospitals, home care, and pulmonary function laboratories. Students also participate in physician rounds. Course Attributes: Technical Course

- AHRC 260 - Resp Care Lab III

  Credits: 1. Offered summer. Prereq., RES 231, 232, 235, 250, 255. Students study principles and theory of advanced life support. Peer and instructor review are included. Students will be Advanced Cardiac Life Support (ACLS) and Pediatric Advance Life Support (PALS) certified at the end of this class. Course Attributes: Technical Course

- AHRC 265 - Clinical Experience II

  Credits: 5. Offered summer. Prereq., RES 231, 232, 235, 250, 255. Continuation of clinical skills learned in RES 255. Introduction to adult critical care along with sleep and cardiac diagnostics. Students also participate in physician rounds. Course Attributes: Technical Course

- AHRC 270 - Resp Care Lab IV

  Credits: 1. Offered autumn. Prereq., RES 260, 265. Emphasis on neonatal and pediatric critical care. Clinical competencies introduced in RES 241 are studied. Peer and instructor review of competencies are included. Course Attributes: Technical Course

- AHRC 275 - Clinical Exp III
  Credits: 6. Offered autumn. Prereq., RES 260, 265, 270. Continuation of RES 265 with critical care of the adult. Neonatal and pediatric critical care experiences are emphasized. Students also participate in physician rounds. Course Attributes: Technical Course
- AHRC 291 - Special Topics
  Credits: 1 TO 8. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course
- AHRC 292 - Independent Study
  Credits: 1 TO 6. Course material appropriate to the needs and objectives of the individual student.

Surgical Technology

Back to Top

- AHST 101 - Introduction to Surgical Techn
  Credits: 3. Offered spring. Prereq., admission to the program. Provides an orientation to the scrub and circulatory roles of the surgical technologist in the preoperative, intraoperative and postoperative periods. Entry level skills and theories are emphasized. Course Attributes: Technical Course
- AHST 115 - Surgical Lab I
  Credits: 2. Offered spring. Prereq., admission to the program. Demonstration of sterile technique in the campus lab, various skills and their application in the operating room. Course Attributes: Technical Course
- AHST 154 - Surgical Pharmacology
  Credits: 3. Offered spring. Prereq., admission to the program, M 090. Basic overview of the medications that are commonly used before, during and after a surgical procedure.
- AHST 191 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Ethical & Human Values Course Technical Course
- AHST 200 - Operating Room Techniques
  Credits: 5. Offered autumn. Prereq., completion of all second semester courses. Focus on the scrub and circulator roles of the surgical technologist in the preoperative, intraoperative, and postoperative periods. More complex skills and theories; impact of new technologies in the 21 century st operating room. Course Attributes: Technical Course
- AHST 201 - Surgical Procedures I
  Credits: 4. Offered autumn. Prereq., completion of all second semester courses. A study of surgical procedures following the patient through the preoperative, intraoperative, and post-operative stages of specific surgical specialties. Course Attributes: Technical Course
- AHST 202 - Surgical Procedures II
  Credits: 5. A study of surgical procedures following the patient through the preoperative, intraoperative, and postoperative stage of CV/thoracic, orthopedic, neurological, and ophthalmic specialties. Course Attributes: Technical Course
- AHST 215 - Surgical Lab II
  Credits: 2. Offered spring. Demonstration of more complex skills in the campus lab, including assistant circulating, and their application in the operating room. Course Attributes: Technical Course
- AHST 250 - Surgical Clinical I
  Credits: 4. Offered autumn. Prereq., completion of all second semester courses and successful completion of AHST 215. Perioperative experience in the minor surgical procedure role through a supervised clinical hospital rotation.
- AHST 251 - Surgical Clinical II

Credits: 5. Offered spring. Prereq., completion of all third semester courses. Perioperative experience in the major surgical procedure role through a supervised clinical hospital rotation. Course Attributes: Technical Course

- AHST 298 - Surgical Internship

  Credits: 5. Offered spring. Prereq., successful completion of AHST 202, 251T. Capstone experience in the perioperative role in preparation for initial employment, increasing occupational awareness and professionalism. Students take call for emergency surgeries alongside experienced hospital staff. Course Attributes: Internships/Practicums

Radiologic Technology

Back to Top

- AHXR 100 - Intro to Diagnostic Imaging

  Credits: 3. Offered fall. Introduction to the field of radiology and its mix of technical equipment, lab work, hospital environment, patient care and team work. Course Attributes: Technical Course

- AHXR 121 - Radiographic Imaging I

  Credits: 4. Offered autumn. Introduction to fundamental physics principles underlying radiology and diagnostic x-ray production. Topics include electromagnetic waves, electricity and magnetism, electrical energy, and power and circuits as they relate to radiography. Factors of image quality and exposure methods: density, contrast, recorded detail, distortion, technique charts, manual and automatic exposure control, and tube rating charts. Course Attributes: Technical Course

- AHXR 140 - Radiographic Methods

  Credits: 3. Offered autumn. Knowledge and skills necessary for quality patient care during standard and specialty radiographic procedures. Course Attributes: Technical Course

- AHXR 141 - Radiology Lab

  Credits: 1. Co-Requisite AHXR 140 Radiological Methods. Students will practice all patient positioning skills necessary for competency as Radiologic Technologists.

- AHXR 192 - Independent Study

  Credits: 1 TO 6. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course

- AHXR 195 - Radiographic Clinical: I

  Credits: 1 TO 14. (R-20) Offered over two semesters throughout the Radiology Technology program, beginning Spring semester. Students will begin with an introduction to patient management and basic radiographic procedures. The final semester offers opportunities in advanced patient management skills and experience with highly skilled radiographic procedures. Each semester builds on the previous semester, always emphasizing the principles of ALARA. Course Attributes: Internships/Practicums

- AHXR 221 - Radiographic Imaging II

  Credits: 3. Offered spring. Offers students more technical and detailed information on the use of image receptor systems, processing principles, advanced digital imaging systems and imaging modalities used in radiology.

- AHXR 225 - Radiobiology/Radiation Protctn

  Credits: 2. Offered spring. Principles of radiation protection and radio biology. Topics include the effects of ionizing radiation on body tissues, protective measures for limiting exposure to the patient and personnel, and radiation monitoring devices. Course Attributes: Technical Course

- AHXR 240 - Radiological Methods II

  Credits: 2. Offered spring. Coreq., AHXR 241. Preparation in the procedures associated with radiology in standard radiographic environments.

- AHXR 241 - Radiology Lab II

  Credits: 1. Offered spring. Prereq., BIOH 201N, 202N, and 211N, coreq., AHXR 240. Students will practice all patient positioning skills necessary for competency as Radiologic Technologists.

- AHXR 270 - Radiographic Registry Review

Credits: 2. Offered spring. An overview of imaging concepts as a review for the national certification test. Topics include a systematic approach for image evaluation, patient care, radiation protection and the physics of radiographic imaging. Course Attributes: Technical Course

- AHXR 274 - Cross Sectional Anatomy

  Credits: 3. Course offered on line each semester. Students must be ARRT certified with a current state license to register for the CT courses. This course will cover information specific to ARRT guidelines in preparation for the Computed Tomography Exam. The regions of the body to be included are: Head, Neck, Chest, Abdomen, Pelvis and Musculoskeletal. Within each of these categories, focus will be placed on these relevant factors. Sectional Anatomy (axial, sagittal and coronal planes), Contrast Media (types, contraindications, administration), Imaging Processes (scout acquisition and methods, parameter selection, protocol modification) and Special Procedures (Reformatting, 3-D rendering, biopsies/drains, screening).

- AHXR 275 - Physics and Instrumentation

  Credits: 2. Course offered on line each semester. Students must be ARRT certified with a current state license to register for the CT courses. This course will cover information specific to ARRT guidelines in preparation for the Computed Tomography Exam. The course will be broken down in to the following sections: Patient Assessment and Preparation (to include patient history, screening, and consent. Immobilization, patient monitoring, accessory medical devices, lab values and medications/dosage). Contrast Administration (to include contrast media types, considerations, administration and dosage, venipuncture, injection techniques, post-procedure care and adverse reactions). Radiation Safety and Dosimetry (to include technical factors, protection and shielding, dose measurement and dose reduction/optimization).

- AHXR 291 - Special Topics

  Credits: 1 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- AHXR 295 - Radiographic Clinical: I

  Credits: 8 TO 24. (R-20) Offered over two semesters throughout the Radiology Technology program, beginning Spring semester. Students will begin with an introduction to patient management and basic radiographic procedures. The final semester offers opportunities in advanced patient management skills and experience with highly skilled radiographic procedures. Each semester builds on the previous semester, always emphasizing the principles of ALARA. Course Attributes: Internships/Practicums

- AHXR 298 - Internship

  Credits: 1. Extended classroom experience which provides practical application of classroom learning during placements off campus. Course Attributes: Internships/Practicums

Nursing

Back to Top

- NRSG 100 - Introduction to Nursing

  Credits: 1. Offered each semester. This online course is a prerequisite to the Practical Nursing program. Student will be presented with an introductory level of the core concepts of nursing practice and other issues such as the legal concerns and ethical/cultural issues that face professional nurses on a consistent basis. Course Attributes: Practical Nursing Prog Rqrmnt Registered Nursing Prog Rqrmnt

- NRSG 106 - Nursing Assistant

  Credits: 4. The Nursing Assistant course will prepare students for careers in health care under the supervision of the licensed nurse. Students will learn the basic entry-level nursing skills to work in health care setting as a Certified Nursing Assistant. Course includes providing or assisting in client care, bathing, dressing, grooming, toileting, ambulation, transferring, feeding, using equipment, documenting and reporting the general well-being of the client.

- NRSG 110 - Dosage Calculation Hlth Prof

  Credits: 2. This course is intended to provide the student the theory and psychomotor skills to correctly and safely calculate medications for clients in diverse health care settings. It will prepare students for the calculations used in health care professions. Students will review various systems of weights and measures (metric, apothecary, and household), conversions between these

systems, ratio/proportions, dosage calculations, percentage preparations, reducing and enlarging formulas, dilution, concentrations, and intravenous flow rates.

- NRSG 131 - Fundamentals of Nursing Lab

  Credits: 3. Offered autumn and spring. Prereq., SCN 201N-202N, M 115, WRT 101, SCN 150N, PSYX 100S, CHMY 121N with lab, and acceptance into the practical nursing program. Introduces the student to basic principles and psychomotor skills to provide a framework for developing initial competencies in patient care. Campus lab experience is used initially. Off campus clinical experience in a long term care setting completes the hands on portion. Successful students are qualified to apply for certification as certified nurse assistants.

- NRSG 138 - Gerontology for Nursing

  Credits: 2. Offered autumn and spring. Prereq: acceptance into the Practical Nursing Program. Introduces the student to the skills and knowledge needed to provide nursing care to aging clients. Topics explored include current trends (including legal and ethical issues) in gerontological nursing, developmental stages and transitions associated with aging, expected age-related physiological changes, and assessment findings, recognition and management of acute and chronic illness that commonly occur in the older adult population, promotion of health for the older adult client, end-of-life issues and care. Course Attributes: Practical Nursing Prog Rqrmnt Registered Nursing Prog Rqrmnt

- NRSG 142 - Cre Cncpts of Mtrnl Chld Nrsng

  Credits: 3. Offered autumn and spring. Prereq: successful completion of semester 1 of the PN nursing program. Information about fetal development and prenatal and postnatal care of the mother and newborn emphasizing caring, communication, professionalism, and critical thinking. Role of the nurse in meeting the needs of the family is emphasized. Clinical application of caring for the mother and newborn will allow the student to demonstrate acquired knowledge.

- NRSG 143 - Cre Cncpts Mtrnl Chd Nrsng Cln

  Credits: 3. Offered intermittently. Prereq: all first semester practical nursing courses and consent of instr. Capstone course that allows the student to work collaboratively with an identified LPN preceptor, performing the role expectations for care in that workplace setting.

- NRSG 144 - Cre Cncpts of Mentl Hlth Nrsng

  Credits: 2. Offered autumn and spring. Prereq: successful completion of semester 1 of the PN nursing program. Exploration of physiological, psychological, sociocultural, spiritual, and environmental factors associated with mental health/illness affecting individuals and families. Focus will be placed on basic concepts of psychiatric nursing, therapeutic modalities, as well as psychiatric disorders including psychopharmacological management. Course Attributes: Practical Nursing Prog Rqrmnt Registered Nursing Prog Rqrmnt

- NRSG 147 - Practical Nursing NCLEX Review

  Credits: 2. Offered autumn and spring. Prereq: Successful completion of all courses in the first semester of the practical nursing program. Preparation for the national test for LPN licensure.

- NRSG 148 - Leadership Issues

  Credits: 2. Offered autumn and spring. Prereq: successful completion of semester 1 of the PN nursing program. Capstone course that provides the Practical Nursing student information regarding the current status of vocational nursing. There is a forty-five hour clinical/precepted component to provide the student opportunity to apply theoretical knowledge in the long-term care setting.

- NRSG 191 - Special Topics

  Credits: 1 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course

- NRSG 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course

- NRSG 230 - Nursing Pharmacology

  Credits: 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. This course provides the student with an overview of pharmacology with an emphasis of the study of effects, interactions, and nursing considerations of pharmacologic agents on the client population across the lifespan. The course also explores the ethical, legal, cultural and age implications of pharmacologic therapy across diverse populations and the lifespan.

- NRSG 231 - Nursing Pharmacology Lab

  Credits: 2. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. An integration of lab experiences focusing on the basic principles in providing safe medication administration, including intravenous therapy across diverse populations and the lifespan.

- NRSG 232 - Foundations of Nursing

  Credits: 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students learn concepts and skills necessary for maintaining standard precautions, physical, psychological and nutritional safety, along with skills needed in therapeutic interventions. Students are introduced to the concepts of professional nursing, patient needs, safety, communication, teaching/learning, critical thinking, ethical-legal, rural nursing, cultural and ethnic diversity, and interdisciplinary patient-centered care.

- NRSG 233 - Foundations of Nursing Lab

  Credits: 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. An integration of lab experiences focusing on psychomotor nursing skills needed to assist individuals in meeting basic human needs. Application of the nursing process and hands-on learning experiences for nursing skills, patient assessments, nutritional safety, and basic therapeutic skills are practiced and demonstrated.

- NRSG 234 - Adult Nursing I

  Credits: 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. This course builds upon the knowledge and skills acquired in Foundations of Nursing, and places them in the context of patient-centered care. Social, cultural, ethical, rural and legal issues, end-of-life and palliative care across diverse adult populations are introduced. Health promotion and prevention throughout the adult lifespan, with specific focus on the geriatric patient, is emphasized. Normal aging, health alterations associated with aging, and their implications are addressed.

- NRSG 235 - Adult Nursing I Clinical

  Credits: 2. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. This clinical introduces the student to nursing practice in care of the stable adult patient. This includes care of the adult in a variety of health care settings. Students utilize the nursing process to develop individualized plans of care to prevent illness, promote wellness and maintain or restore health based on patient needs and evidence based practice.

- NRSG 236 - Health and Illness of Maternal Nursing

  Credits: 2. Offered autumn and spring. Prere., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. In this course, the student applies holistic concepts to the professional nursing care of the childbearing family including conception, prenatal, intrapartum, postpartum and newborn care. Content addresses health and complex alterations, reproduction and menopause, nutrition, therapeutic communication, ethical, legal, cultural and evidenced-based practice.

- NRSG 237 - Health and Illness of Maternal Nursing Clinical

  Credits: 1. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. This clinical introduces the student to the role of the registered nurse in the care of the childbearing family. Students will utilize the nursing process to assess and develop individualized plans of care for mother and infant. Emphasis will be placed on patient education to promote healthy mother infant and childbearing family bonding.

- NRSG 244 - Adult Nursing II

  Credits: 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. This course builds upon previous knowledge of the nursing process and care of the patient experiencing acute and chronic disease alterations. Pathophysiologic processes are discussed as related to evidence-based nursing interventions. Students apply the nursing process, nutritional therapy, and pharmacological therapy utilizing interdisciplinary practice to promote, maintain, and restore health across the adult lifespan.

- NRSG 245 - Adult Nursing II Clinical

  Credits: 2. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. In this clinical experience the

student will provide care for individuals and families experiencing acute health alterations, and those associated with chronic disease processes. Students use the nursing process to systematically analyze information to plan and implement nursing interventions which are individualized and founded on evidence-based practice.

- NRSG 246 - Health and Illness of Child and Family Nursing

  Credits: 2. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. In this course, the student applies holistic concepts to the professional nursing care of children and their families in health, illness, end-of-life and palliative care.Emphasis is placed on incorporating growth and developmental principles to facilitate positive health outcomes through health promotion, nutrition and disease prevention.

- NRSG 247 - Health and Illness of Child and Family Nursing Clinical

  Credits: 1. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. In this clinical, students will utilize the nursing process, to provide nursing care of healthy and high-risk pediatric populations and their families experiencing disruptions in bio/psycho/social/cultural and spiritual needs. Emphasis is also placed on health promotion, health maintenance, and therapeutic communication.

- NRSG 250 - LPN to RN Transition

  Credits: 3. Offered autumn and spring. Prereq., admission to the registered nursing program and current unencumbered LPN license. Focus on the role transition from LPN to RN in relation to the concepts and principles of holistic nursing care. Focus is on the continuing development of roles and responsibilities of the RN as defined by the scope of practice standards, nursing theory and conceptual models.

- NRSG 254 - Mental Health Concepts

  Credits: 2 TO 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. In this course, the student focuses on the nursing concepts utilizing basic human needs, developmental theory, nursing process, therapeutic communication, and nursing interventions to promote and maintain health for clients and families experiencing mental-health issues. The student will examine client responses to stressors across the life span. Tasks of biological-behavioral concepts in psychosocial nursing care, rural and cultural impacts will be addressed.

- NRSG 255 - Mental Health Clinical

  Credits: 1. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. This clinical applies the knowledge of psychiatric and mental health nursing. Students will have mental health focused clinical experiences in a variety of settings.

- NRSG 256 - Pathophysiology

  Credits: 3. Offered spring and autumn. Prereq., successful acceptance into the Registered Nursing program. This course introduces the student to the basic principles and processes of pathophysiology including cellular communication, genes and genetic disease, forms of cellular injury, nutrition, fluid and electrolyte/acid base balance, immunity, stress coping and illness, and tumor biology. Pathophysiology of the most common alterations according to body systems will be discussed as well as the latest developments in research and patient-centered nursing interventions.

- NRSG 259 - Adult Nursing III

  Credits: 3. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. This course expands on the nursing role in care of patients with complex health alterations. Students utilize evidence-based, interdisciplinary interventions to meet patient and family needs.

- NRSG 260 - Adult Nursing III Lab

  Credits: 1. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. In this lab students are introduced to basic electrocardiogram interpretation, advanced concepts of perfusion, ventilation and complex pharmacologic regimens.

- NRSG 261 - Adult Nursing III Clinical

  Credits: 2. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. This clinical experience

focuses on application of the nursing process and utilization of information to provide comprehensive nursing care to the acutely ill patient experiencing complex health alterations in a variety of settings. Emphasis is placed on prioritization of care and collaboration with other members of the interdisciplinary team to ensure optimal client care.

- NRSG 266 - Managed Client Care
  Credits: 2 TO 4. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. In this course students examine concepts of leadership and management emphasizing prioritization, delegation, and supervision of nursing care for patients across the lifespan. Topics also include communication techniques, legal and ethical issues, care of the culturally diverse patient, and utilizing change theory. Healthcare policy, finance, and regulatory environment issues are explored and applied to planning, collaborating and coordinating care across the continuum.
- NRSG 267 - Managing Client Care Clinical
  Credits: 2. Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. This precepted clinical experience focuses on principles of nursing leadership and management in a variety of settings. Students apply knowledge to provide culturally competent, holistic interventions within the professional nursing role for individuals, communities, and families across the lifespan.
- NRSG 291 - Special Topics
  Credits: 1 TO 6. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- NRSG 292 - Independent Study
  Credits: 1 TO 6. (R-6) Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course

Pharmacy Technology

Back to Top

- PHA 196 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently.

Pharmacy

Back to Top

- PHAR 100 - Intro Pharm Practice for Techs
  Credits: 3. Offered autumn. Prereq., admission into Pharmacy Technology program. This course offers information regarding careers in pharmacy. It includes the history of pharmacy practice and defines roles of personnel relating to pharmaceutical services. Ethical standards of the occupation and federal and state laws regulating pharmacy practice with emphasis on Montana State Pharmacy Law regulating pharmacy technicians are studied. Day-to-day operations including preparation, maintenance, and storage of pharmaceuticals and records, and basic concepts of computer operations and latest technologies are reviewed. Skills will be developed with are necessary for the pharmacy technician to communicate effectively in the following ways: 1) as a representative of the profession of pharmacy, 2) as an intermediary between the pharmacist and patient, and 3) as an intermediary between the pharmacist and other health care professionals.
- PHAR 101 - Pharmacy Calculations
  Credits: 3. Offered autumn. Calculations used in pharmacy practice; includes various systems of weights and measures, dosage determinations, percentage preparations, reducing and enlarging formulas, dilution, and concentration.
- PHAR 102 - Pharmacology for Technicians
  Credits: 6. Offered autumn. Prereq., admission into Pharmacy Technology program. Study of the properties, reactions, and therapeutic value of the primary agents in the major drug classes.
- PHAR 104 - Pharmacy Dispensing Lab
  Credits: 3. Offered autumn. Prereq., admission into Pharmacy Technology Program. Develop dispensing and distributive skills with hands-on lab, and lecture format.

- PHAR 120 - Medication Safety

  Credits: 3. Offered spring online only. Prereq., PHAR 100, 101, 102, 104 and second semester standing in Pharmacy Technology Program. This course will introduce students to national safety initiatives developed by the Institute of Medicine, The Joint Commission, The Institute of Safe Medicine Practices and others. This awareness will help students become part of the solution in promoting safe medication practices.

- PHAR 121 - Preparation for the PTCB Exam

  Credits: 1. Prereq., PHAR 100, PHAR 101, PHAR 102 and PHAR 104. This course will offer strategies in test taking, and help students refresh their knowledge in all knowledge areas included in the exam as identified by PTCB.

- PHAR 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

- PHAR 198 - Internship: Pharmacy

  Credits: 4. Offered spring. Prereq., PHAR 100, 101, 102, 104 and second semester standing in Pharmacy Technology Program. Training and experience in either hospital, compounding, home infusion, nursing home or other alternative pharmacy settings under supervision of a pharmacist. Emphasizes special skills unique to that pharmacy setting. Course Attributes: Internships/Practicums

Practical Nursing A.A.S.

Dixie McLaughlin, Nursing Program Director

Note: This program will no longer accept applications. Students currently in the program will complete autumn 2016 and should follow the 2015-2016 academic catalog.

The Missoula College will teach out student currently enrolled in Associate of Applied Science degree (A.A.S.) in Practical Nursing (PN).

Students learn practical nursing skills through independent study, lectures, simulations, demonstrations, and practice in a nursing skills lab. Under instructor supervision, students also provide patient care in a variety of health care settings. The program is approved by the Montana State Board of Nursing (301 South Park, Helena, MT 59601).

Students must provide proof of having met the following requirements to the Nursing Program Administrative Associate on or before the first day of class:

1. Two step Tuberculosis testing using the PPD (Purified Protein Derivative) or chest x-ray (positive results will require a physician's letter before a student can continue in clinical settings);
2. Hepatitis B vaccine, (HBV, a three injection series that may be obtained at Curry Health Center and other health care providers). The Hepatitis B vaccine must be started on or before acceptance into the program so the three injections series is completed by the time clinical begins;
3. Measles, mumps and rubella (MMR) immunization (for those born before 1956, it is not required to have an MMR, but a titer must be completed);
4. Influenza Vaccination;
5. Varicellla (Chicken Pox) Vaccination;
6. BLS training for health care providers;
7. Proof of insurance;
8. Criminal Background Check

Many licensing bodies and employing institutions in health care have increasingly stringent requirements and background checks as conditions for licensing or employment. If a student has concerns about this, she/he should contact the licensing board for nursing at dlibsdnur@mt.gov.

Practical Nursing program graduates are eligible to write the National Council Licensing Examination (NCLEX) for Practical Nurses. Completion of the A.A.S. Practical Nursing Program does not guarantee a student licensure. This is a decision of the Montana State Board of Nursing.

After licensure, graduates typically find employment in hospitals, long term care facilities, physician offices and other health care agencies. They work under the supervision of a registered nurse, physician, dentist, osteopath or other health care provider as specified in the State of Montana Nurse Practice Act.

Associate of Applied Science - Practical Nursing

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 48

Required Cumulative GPA: 3.0

Note: A minimum cumulative GPA of 2.75, successful completion of pre-nursing courses within 2 attempts, and acceptance through an application process is needed for entrance into the Practical Nursing Program. Total credits for the AAS Practical Nursing degree are 44. This includes pre-nursing credits (26 credits) and AAS Practical Nursing credits (18 credits).

Pre-Nursing

Rule: All courses required.

Note: Minimum cumulative in Pre-Nursing course of 2.75. BIOH 201N, 202N, 211N, and 212N must be completed with a 'B'.
CHMY 121N, CHMY 122, BIOH 201N, BIOH 202N, BIOH 211N and BIOH 212N must be completed within 5 years of application.
Anatomy and Physiology I & II coursework, whether completed at the Missoula College or transferred from elsewhere, must have been completed within the 5 years immediately preceding application to any specific health professions program.

	Course	Credits
	BIOH 201N - Human Anat Phys I (equiv 301) Offered autumn and spring. Prereq., introductory science course or college-prep high school biology course recommended. Comprehensive knowledge of human form and function necessary for students preparing for health-related professions. Emphasis on structure, function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. Required, integrated laboratory includes some dissection.	4 Credits
	BIOH 202N - Human Anat and Phys I Lab Offered autumn and spring. Coreq., BIOH 201. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. A cadaver lab is included.	4 Credits
	BIOH 211N - Human Anat Phys II (equiv 311) Offered autumn and spring. Prereq., and continuation of BIOH 201N. Comprehensive knowledge of human form and function necessary for students in health-related programs. Emphasis on structure function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. Required integrated laboratory includes frequent dissection.	4 Credits
	BIOH 212N - Human Anat Phys II Lab Offered autumn and spring. Prereq., BIOH 201N. Coreq., BIOH 211. Continuation of 201N. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. A cadaver lab is included.	4 Credits

	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 122 - Intro to Gen Chem Lab Offered autumn and spring. Prereq., Enrolled in the College of Technology ASRN program. Prereq. or coreq., CHMY 121N or equivalent. A laboratory course emphasizing inorganic chemistry, quantitative relations and synthesis of inorganic and organic compounds.	1 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	NRSG 100 - Introduction to Nursing Offered each semester. This online course is a prerequisite to the Practical Nursing program. Student will be presented with an introductory level of the core concepts of nursing practice and other issues such as the legal concerns and ethical/cultural issues that face professional nurses on a consistent basis.	1 Credits
	NUTR 221N - Basic Human Nutrition Offered autumn and spring. The principles of science as applied to current concepts and controversies in the field of human nutrition.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C		26 Total Credits Required

Mathematics Pre-Nursing Requirement

Rule: Must complete 1 of the following courses

Note: M 121 is the recommended math. Courses that substitute for M 121 College Algebra can be Probability and Linear Math, Pre-calculus with Algebra, or Pre-calculus with Trig , or Calculus.
Mathematics and Writing prerequisite coursework should have been completed no more than 10 years prior to application to any specific health professions program. If mathematics and writing prerequisite coursework is greater than 10 years old, the student should take the writing and mathematics placement exams administered

by the college (e-write and ALEX respectively). If the student places into a comparable level to the specific course in question then that course shall be accepted as a valid prerequisite for the intended program. If the student places below the required standard then they shall remediate as needed prior to application to any specific health professions program.

	Course	Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C		3-4 Total Credits Required

Practical Nursing

Rule: All courses are required except as noted in the comments

Note: NRSG 147 Practical Nursing NCLEX Review is an elective course.

	Course	Credits
	NRSG 138 - Gerontology for Nursing Offered autumn and spring. Prereq: acceptance into the Practical Nursing Program. Introduces the student to the skills and knowledge needed to provide nursing care to aging clients. Topics explored include current trends (including legal and ethical issues) in gerontological nursing, developmental stages and transitions associated with aging, expected age-related physiological changes, and assessment findings, recognition and management of acute and chronic illness that commonly occur in the older adult population, promotion of health for the older adult client, end-of-life issues and care.	2 Credits

	NRSG 142 - Cre Cncpts of Mtrnl Chld Nrsng Offered autumn and spring. Prereq: successful completion of semester 1 of the PN nursing program. Information about fetal development and prenatal and postnatal care of the mother and newborn emphasizing caring, communication, professionalism, and critical thinking. Role of the nurse in meeting the needs of the family is emphasized. Clinical application of caring for the mother and newborn will allow the student to demonstrate acquired knowledge.	3 Credits
	NRSG 144 - Cre Cncpts of Mentl Hlth Nrsng Offered autumn and spring. Prereq: successful completion of semester 1 of the PN nursing program. Exploration of physiological, psychological, sociocultural, spiritual, and environmental factors associated with mental health/illness affecting individuals and families. Focus will be placed on basic concepts of psychiatric nursing, therapeutic modalities, as well as psychiatric disorders including psychopharmacological management.	2 Credits
	NRSG 147 - Practical Nursing NCLEX Review Offered autumn and spring. Prereq: Successful completion of all courses in the first semester of the practical nursing program. Preparation for the national test for LPN licensure.	2 Credits
	NRSG 148 - Leadership Issues Offered autumn and spring. Prereq: successful completion of semester 1 of the PN nursing program. Capstone course that provides the Practical Nursing student information regarding the current status of vocational nursing. There is a forty-five hour clinical/precepted component to provide the student opportunity to apply theoretical knowledge in the long-term care setting.	2 Credits
	NRSG 230 - Nursing Pharmacology Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. This course provides the student with an overview of pharmacology with an emphasis of the study of effects, interactions, and nursing considerations of pharmacologic agents on the client population across the lifespan. The course also explores the ethical, legal, cultural and age implications of pharmacologic therapy across diverse populations and the lifespan.	3 Credits
	NRSG 232 - Foundations of Nursing Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students learn concepts and skills necessary for maintaining standard precautions, physical, psychological and nutritional safety, along with skills needed in therapeutic interventions. Students are introduced to the concepts of professional nursing, patient needs, safety, communication, teaching/learning, critical thinking, ethical-legal, rural nursing, cultural and ethnic diversity, and interdisciplinary patient-centered care.	3 Credits

	NRSG 234 - Adult Nursing I Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. This course builds upon the knowledge and skills acquired in Foundations of Nursing, and places them in the context of patient-centered care. Social, cultural, ethical, rural and legal issues, end-of-life and palliative care across diverse adult populations are introduced. Health promotion and prevention throughout the adult lifespan, with specific focus on the geriatric patient, is emphasized. Normal aging, health alterations associated with aging, and their implications are addressed.	3 Credits
Minimum Required Grade: B		18 Total Credits Required

Radiologic Technology A.A.S.

Anne Delaney, Program Director

A Radiologic Technologist (Radiographer) uses critical thinking and independent judgment to obtain diagnostic medical images while providing quality patient care and minimizing radiation exposure.

Technologists are employed in acute care settings, ambulatory care settings, physicians' offices, in education and in management or sales positions.

With additional education and training, radiographers may be employed in radiation therapy, computed tomography, mammography, magnetic resonance imaging, diagnostic medical ultrasound, nuclear medicine, special vascular imaging and cardiac catheterization.

The Radiologic Technology program is approved by the American Registry of Radiologic Technologists (ARRT) and accredited by the Northwest Association of Schools and Colleges. When all requirements for the associate degree are completed, the student will be eligible to take the national certification examination administered by the American Registry of Radiologic Technologists. Upon successful completion of this examination, the student becomes a Registered Radiologic Technologist, R.T. (R) ARRT.

Program Requirements

The Associate of Applied Science degree in Radiologic Technology requires students to successfully complete the Pre-Radiology prerequisite courses prior to applying to the program. Students admitted to the University of Montana may enroll in the Pre-Radiology prerequisite courses.

Students must pass BIOH 201N-202N with a minimum grade of 'B' and have a minimum cumulative GPA of 2.75 in all course work, including prerequisite courses, to apply to the Radiologic Technology program. A course may be attempted a maximum of two times. As some courses are offered Autumn or Spring semester only, it is important to obtain advising with the Program Director or Clinical Coordinator each semester prior to registration.

Application to the program is required Spring semester in the year prior to the Autumn semester program start. Students may apply while enrolled in the Pre-Radiology prerequisite courses with acceptance to the program to be determined after Spring grades are finalized. Students who apply twice to the program and are not accepted are strongly encouraged to contact Career Services for counseling toward another degree.

The program classes begin Autumn semester each year with the majority of classroom courses completed in the first two semesters. Clinical education will begin at the end of the second semester. A ten-week summer clinical rotation is required between the first and second years and consists of 40 hour per week of clinical instruction. The Autumn semester of the second year will also be didicatted to 40 hours per week of clinical instruction.

Students entering the program are required to rotate to clinical sites outside the Missoula area on a periodic basis. These rotations will take place during any term or session beginning the Summer semester of the program. These sites may include, but are not limited to, Ronan, Hamilton, Plains, Ronan, and Polson, Montana. Transportation and housing are the student's responsibility.

Associate of Applied Science - Radiologic Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 83

Required Cumulative GPA: 2.0

Note: It is preferred that students have the prerequisite core completed by the end of the semester in which they intend to apply to the program (i.e. applying to the program in the spring and completing the core by the end of that spring semester.) Students must also prove competence with computer technology prior to application to the Radiology Technology Program in one of the following three ways: a) Acceptable transfer credit for CAPP 120, b) Passing challenge exam for CAPP 120, or c) Take and pass CAPP 120

Radiologic Technology Prerequisite Courses

Rule: All courses required

Note: Students must pass BIOH 201N/202N with a minimum grade of 'B' and have a minimum cumulative GPA of 2.75 in all course work including prerequisite courses to apply to the Radiologic Technology program.

	Course	Credits
	AHMS 144 - Medical Terminology Offered every term. Introduction to a medical word building system using Greek and Latin word roots, combining forms, suffixes, and prefixes.	3 Credits
	BIOH 201N - Human Anat Phys I (equiv 301) Offered autumn and spring. Prereq., introductory science course or college-prep high school biology course recommended. Comprehensive knowledge of human form and function necessary for students preparing for health-related professions. Emphasis on structure, function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. Required, integrated laboratory includes some dissection.	4 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	SCN 175N - Integrated Physical Science I Offered every term. An introduction to the basic principles of physics, chemistry, and nuclear reactions with emphasis on the scientific method and process. A knowledge of basic algebraic functions, decimals, and scientific notation is recommended. Suitable for students with little science background.	3 Credits
Minimum Required Grade: C-		13 Total Credits Required

Math Requirement

Rule: Take either

	Course	Credits

	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Writing Requirement

Rule: Take either

	Course	**Credits**
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Radiologic Technology Courses

Rule: All courses required

Note: These courses cannot be taken unless accepted into the program through the application process.
AHXR 195 represents spring at 8 credits and summer at 12 credits.
AHXR 295 is taken Fall at 8 credits and second year spring at 9 credits.
For AHXR courses the minimum grade is a B.

	Course	Credits
	AHMS 270E - Medical Ethics Offered every term. Ethical decision-making tools for addressing common ethical issues in the health professions.	3 Credits
	AHXR 100 - Intro to Diagnostic Imaging Offered fall. Introduction to the field of radiology and its mix of technical equipment, lab work, hospital environment, patient care and team work.	3 Credits
	AHXR 121 - Radiographic Imaging I Offered autumn. Introduction to fundamental physics principles underlying radiology and diagnostic x-ray production. Topics include electromagnetic waves, electricity and magnetism, electrical energy, and power and circuits as they relate to radiography. Factors of image quality and exposure methods: density, contrast, recorded detail, distortion, technique charts, manual and automatic exposure control, and tube rating charts.	4 Credits
	AHXR 140 - Radiographic Methods Offered autumn. Knowledge and skills necessary for quality patient care during standard and specialty radiographic procedures.	3 Credits
	AHXR 141 - Radiology Lab Co-Requisite AHXR 140 Radiological Methods. Students will practice all patient positioning skills necessary for competency as Radiologic Technologists.	1 Credits
	AHXR 195 - Radiographic Clinical: I (R-20) Offered over two semesters throughout the Radiology Technology program, beginning Spring semester. Students will begin with an introduction to patient management and basic radiographic procedures. The final semester offers opportunities in advanced patient management skills and experience with highly skilled radiographic procedures. Each semester builds on the previous semester, always emphasizing the principles of ALARA.	1 To 14 Credits
	AHXR 221 - Radiographic Imaging II Offered spring. Offers students more technical and detailed information on the use of image receptor systems, processing principles, advanced digital imaging systems and imaging modalities used in radiology.	3 Credits
	AHXR 225 - Radiobiology/Radiation Protctn Offered spring. Principles of radiation protection and radio biology. Topics include the effects of ionizing radiation on body tissues, protective measures for limiting exposure to the patient and personnel, and radiation monitoring devices.	2 Credits
	AHXR 240 - Radiological Methods II Offered spring. Coreq., AHXR 241. Preparation in the procedures associated with radiology in standard radiographic environments.	2 Credits

	AHXR 241 - Radiology Lab II Offered spring. Prereq., BIOH 201N, 202N, and 211N, coreq., AHXR 240. Students will practice all patient positioning skills necessary for competency as Radiologic Technologists.	1 Credits
	AHXR 270 - Radiographic Registry Review Offered spring. An overview of imaging concepts as a review for the national certification test. Topics include a systematic approach for image evaluation, patient care, radiation protection and the physics of radiographic imaging.	2 Credits
	AHXR 295 - Radiographic Clinical: I (R-20) Offered over two semesters throughout the Radiology Technology program, beginning Spring semester. Students will begin with an introduction to patient management and basic radiographic procedures. The final semester offers opportunities in advanced patient management skills and experience with highly skilled radiographic procedures. Each semester builds on the previous semester, always emphasizing the principles of ALARA.	12 To 24 Credits
	BIOH 211N - Human Anat Phys II (equiv 311) Offered autumn and spring. Prereq., and continuation of BIOH 201N. Comprehensive knowledge of human form and function necessary for students in health-related programs. Emphasis on structure function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. Required integrated laboratory includes frequent dissection.	4 Credits
	BIOH 212N - Human Anat Phys II Lab Offered autumn and spring. Prereq., BIOH 201N. Coreq., BIOH 211. Continuation of 201N. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. A cadaver lab is included.	4 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
Minimum Required Grade: C-		83 Total Credits Required

Registered Nursing

Dixie McLaughlin, Nursing Program Director

The Associate of Science in Nursing (A.S.N.) requires four semesters of full-time study. Applicants to the program must have completed all pre-nursing courses, have a cumulative GPA of at least 2.75 (all courses taken post high school), and have received a B or better in BIOH 201/202 and BIOH 211/212.

Admission to the program requires completion of the application which can be obtained on the Missoula College Health Professions webpage. The number of students accepted into the A.S.N. stand-alone program is limited to 18 students in Spring 2017. Of the 18 students accepted for Spring 2017, 10 are in the on-campus face-to-face program and 8 are part of the hybrid program. All candidates who meet the admission requirements will be considered. Students learn Registered Nursing skills through independent study, lectures, simulations, demonstrations, and advanced skills practice in the nursing lab. Under instructor supervision and preceptorship, students also provide patient care in a variety of acute care settings.

The A.S.N. degree program is approved by the State Board of Nursing (301 South Park, Helena, MT 59601). The program is accredited by the Accreditation Commission for the Education in Nursing (ACEN) (3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326).

Students must provide proof of having met the following requirements to the Nursing Program Administrative Associate on or before the first day of class:

1. Two step Tuberculosis testing using the PPD (Purified Protein Derivative) or chest x-ray (positive results will require a physician's letter before a student can continue in clinical settings);
2. Hepatitis B vaccine and titer: The three injection Hepatitis B series must be started on or before acceptance into the program so the series is completed by the time clinical begins;
3. Measles, mumps, and rubella (MMR) immunization (for those born before 1956, it is not required to have an MMR, but a titer must be completed);
4. Influenza Vaccination;
5. Varicella (Chicken Pox) Vaccination;
6. Basic Life Support (BLS) training Healthcare Provider;
7. Criminal Background Check, including Sexual Offender Registery

Many licensing bodies and employing institutions in health care have increasingly stringent requirements and background checks as conditions for licensing or employment. If a student has concerns about this, she/he should contact the licensing board for nursing.

Associate of Science - Registered Nursing

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 72

Required Cumulative GPA: 2.0

Note: Students must pass all NRSG courses with a minimum grade of a B. It is highly recommended that students have completed BIOH 211/212, SOCI 101, BIOM 250, and BIOM 251 prior to admission to the program.

Registered Nursing

Rule: All courses required

Note: Students must pass all nursing (rubric NRSG) courses with a minimum grade of a B.

	Course	Credits
	BIOH 201N - Human Anat Phys I (equiv 301) Offered autumn and spring. Prereq., introductory science course or college-prep high school biology course recommended. Comprehensive knowledge of human form and function necessary for students preparing for health-related professions. Emphasis on structure, function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. Required, integrated laboratory includes some dissection.	4 Credits

	BIOH 211N - Human Anat Phys II (equiv 311) Offered autumn and spring. Prereq., and continuation of BIOH 201N. Comprehensive knowledge of human form and function necessary for students in health-related programs. Emphasis on structure function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. Required integrated laboratory includes frequent dissection.	4 Credits
	BIOM 250N - Microbiology for Hlth Sciences Offered spring. Infectious diseases, including concepts of virulence, resistance, prevention and control of microbial diseases in the individual and in the community. If laboratory experience is desired, the student may enroll concurrently in BIOM 251. Credit not allowed toward a major in microbiology.	3 Credits
	BIOM 251 - Microbiology Hlth Sciences Lab Offered spring. Prereq. or coreq., BIOM 250N. Observation of live microorganisms, their characteristics and activities. Experience with microbiological techniques. Credit not allowed toward a major in microbiology.	1 Credits
	CHMY 121N - Intro to General Chemistry Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.	3 Credits
	CHMY 122 - Intro to Gen Chem Lab Offered autumn and spring. Prereq., Enrolled in the College of Technology ASRN program. Prereq. or coreq., CHMY 121N or equivalent. A laboratory course emphasizing inorganic chemistry, quantitative relations and synthesis of inorganic and organic compounds.	1 Credits
	NRSG 230 - Nursing Pharmacology Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. This course provides the student with an overview of pharmacology with an emphasis of the study of effects, interactions, and nursing considerations of pharmacologic agents on the client population across the lifespan. The course also explores the ethical, legal, cultural and age implications of pharmacologic therapy across diverse populations and the lifespan.	3 Credits
	NRSG 231 - Nursing Pharmacology Lab Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. An integration of lab experiences focusing on the basic principles in providing safe medication administration, including intravenous therapy across diverse populations and the lifespan.	2 Credits

	NRSG 232 - Foundations of Nursing Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students learn concepts and skills necessary for maintaining standard precautions, physical, psychological and nutritional safety, along with skills needed in therapeutic interventions. Students are introduced to the concepts of professional nursing, patient needs, safety, communication, teaching/learning, critical thinking, ethical-legal, rural nursing, cultural and ethnic diversity, and interdisciplinary patient-centered care.	3 Credits
	NRSG 233 - Foundations of Nursing Lab Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program. An integration of lab experiences focusing on psychomotor nursing skills needed to assist individuals in meeting basic human needs. Application of the nursing process and hands-on learning experiences for nursing skills, patient assessments, nutritional safety, and basic therapeutic skills are practiced and demonstrated.	3 Credits
	NRSG 234 - Adult Nursing I Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. This course builds upon the knowledge and skills acquired in Foundations of Nursing, and places them in the context of patient-centered care. Social, cultural, ethical, rural and legal issues, end-of-life and palliative care across diverse adult populations are introduced. Health promotion and prevention throughout the adult lifespan, with specific focus on the geriatric patient, is emphasized. Normal aging, health alterations associated with aging, and their implications are addressed.	3 Credits
	NRSG 235 - Adult Nursing I Clinical Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. This clinical introduces the student to nursing practice in care of the stable adult patient. This includes care of the adult in a variety of health care settings. Students utilize the nursing process to develop individualized plans of care to prevent illness, promote wellness and maintain or restore health based on patient needs and evidence based practice.	2 Credits
	NRSG 236 - Maternal Nursing Offered autumn and spring. Prere., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. In this course, the student applies holistic concepts to the professional nursing care of the childbearing family including conception, prenatal, intrapartum, postpartum and newborn care. Content addresses health and complex alterations, reproduction and menopause, nutrition, therapeutic communication, ethical, legal, cultural and evidenced-based practice.	2 Credits

	NRSG 237 - Maternal Nursing Clinical Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester 1 of the RN program. This clinical introduces the student to the role of the registered nurse in the care of the childbearing family. Students will utilize the nursing process to assess and develop individualized plans of care for mother and infant. Emphasis will be placed on patient education to promote healthy mother infant and childbearing family bonding.	1 Credits
	NRSG 244 - Adult Nursing II Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. This course builds upon previous knowledge of the nursing process and care of the patient experiencing acute and chronic disease alterations. Pathophysiologic processes are discussed as related to evidence-based nursing interventions. Students apply the nursing process, nutritional therapy, and pharmacological therapy utilizing interdisciplinary practice to promote, maintain, and restore health across the adult lifespan.	3 Credits
	NRSG 245 - Adult Nursing II Clinical Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. In this clinical experience the student will provide care for individuals and families experiencing acute health alterations, and those associated with chronic disease processes. Students use the nursing process to systematically analyze information to plan and implement nursing interventions which are individualized and founded on evidence-based practice.	2 Credits
	NRSG 246 - Child and Family Nursing Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. In this course, the student applies holistic concepts to the professional nursing care of children and their families in health, illness, end-of-life and palliative care.Emphasis is placed on incorporating growth and developmental principles to facilitate positive health outcomes through health promotion, nutrition and disease prevention.	2 Credits
	NRSG 247 - Child/Family Nursing Clinical Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. In this clinical, students will utilize the nursing process, to provide nursing care of healthy and high-risk pediatric populations and their families experiencing disruptions in bio/psycho/social/cultural and spiritual needs. Emphasis is also placed on health promotion, health maintenance, and therapeutic communication.	1 Credits

	NRSG 254 - Mental Health Concepts Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. In this course, the student focuses on the nursing concepts utilizing basic human needs, developmental theory, nursing process, therapeutic communication, and nursing interventions to promote and maintain health for clients and families experiencing mental-health issues. The student will examine client responses to stressors across the life span. Tasks of biological-behavioral concepts in psychosocial nursing care, rural and cultural impacts will be addressed.	2 To 3 Credits
	NRSG 255 - Mental Health Clinical Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I and II of the RN program. This clinical applies the knowledge of psychiatric and mental health nursing. Students will have mental health focused clinical experiences in a variety of settings.	1 Credits
	NRSG 256 - Pathophysiology Offered spring and autumn. Prereq., successful acceptance into the Registered Nursing program. This course introduces the student to the basic principles and processes of pathophysiology including cellular communication, genes and genetic disease, forms of cellular injury, nutrition, fluid and electrolyte/acid base balance, immunity, stress coping and illness, and tumor biology. Pathophysiology of the most common alterations according to body systems will be discussed as well as the latest developments in research and patient-centered nursing interventions.	3 Credits
	NRSG 259 - Adult Nursing III Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. This course expands on the nursing role in care of patients with complex health alterations. Students utilize evidence-based, interdisciplinary interventions to meet patient and family needs.	3 Credits
	NRSG 260 - Adult Nursing III Lab Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. In this lab students are introduced to basic electrocardiogram interpretation, advanced concepts of perfusion, ventilation and complex pharmacologic regimens.	1 Credits
	NRSG 261 - Adult Nursing III Clinical Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. This clinical experience focuses on application of the nursing process and utilization of information to provide comprehensive nursing care to the acutely ill patient experiencing complex health alterations in a variety of settings. Emphasis is placed on prioritization of care and collaboration with other members of the interdisciplinary team to ensure optimal client care.	2 Credits

	NRSG 266 - Managed Client Care Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. In this course students examine concepts of leadership and management emphasizing prioritization, delegation, and supervision of nursing care for patients across the lifespan. Topics also include communication techniques, legal and ethical issues, care of the culturally diverse patient, and utilizing change theory. Healthcare policy, finance, and regulatory environment issues are explored and applied to planning, collaborating and coordinating care across the continuum.	2 To 4 Credits
	NRSG 267 - Managing Client Care Clinical Offered autumn and spring. Prereq., acceptance into the Registered Nursing Program and successful completion of semester I, II and III of the RN program. This precepted clinical experience focuses on principles of nursing leadership and management in a variety of settings. Students apply knowledge to provide culturally competent, holistic interventions within the professional nursing role for individuals, communities, and families across the lifespan.	2 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	SOCI 101S - Introduction to Sociology Offered every term. Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.	3 Credits
Minimum Required Grade: C-		66 Total Credits Required

Writing Requirement

Rule: All courses required

Note: Students who have completed WRIT 101, College Writing greater than ten years prior to applying to the Missoula College must take the Writing Placement test. If the score on the test places the student in WRIT 101, the transfer credits will be accepted for the nursing program requirements. If the student places below the required standard, then they shall remediate as needed prior to application to the nursing program.
All students need to take WRIT 101 for the nursing program

	Course	**Credits**

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Mathematics Requirement

Rule: Must complete one of the following courses

Note: M 121 is the recommended math. Courses that substitute for M 121 College Algebra can be Probability and Linear Math, Pre-calculus with Algebra, or Pre-calculus with Trig , or Calculus. Mathematics and Writing prerequisite coursework should have been completed no more than 10 years prior to application to any specific health professions program. If mathematics and writing prerequisite coursework is greater than 10 years old, the student should take the writing and mathematics placement exams administered by the college (e-write and ALEX respectively). If the student places into a comparable level to the specific course in question then that course shall be accepted as a valid prerequisite for the intended program. If the student places below the required standard then they shall remediate as needed prior to application to the nursing program.

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits

	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Respiratory Care A.A.S.

Nicholas Arthur, Program Director

Respiratory Care is an allied health specialty. It is an important part of modern medicine and health care. Respiratory Care encompasses the care of patients with respiratory problems in the hospital, clinic, and home.

Respiratory therapists, as members of a team of health care professionals, work to evaluate, treat, and manage patients of all ages with respiratory illnesses and other cardiopulmonary disorders in a wide variety of clinical settings. Respiratory therapists must behave in a manner consistent with the standards and ethics of all health care professionals. In addition to performing respiratory care procedures, respiratory therapists are involved in clinical decision-making (such as patient evaluation, treatment selection, and assessment of treatment efficacy) and patient education. The scope of practice for respiratory therapist includes, but is not limited to:

- acquiring and evaluating clinical data;
- assessing the cardiopulmonary status of patients;
- performing and assisting in the performance of prescribed diagnostic studies, such as drawing blood samples, performing blood gas analysis, pulmonary function testing, and applying adequate recording electrodes using polysomnographic techniques;
- utilizing data to assess the appropriateness of prescribed respiratory care;
- establishing therapeutic goals for patients with cardiopulmonary disease;
- participating in the development and modification of respiratory care plans;
- case management of patients with cardiopulmonary and related diseases;
- initiating ordered respiratory care, evaluating and monitoring patients' responses to such care, modifying the prescribed respiratory therapy and cardiopulmonary procedures, and life support endeavors to achieve desired therapeutic objectives;
- initiating and conducting prescribed pulmonary rehabilitation;
- providing patient, family, and community education;
- promoting cardiopulmonary wellness, disease prevention, and disease management;
- participating in life support activities as required; and
- promoting evidence-based medicine, research, and clinical practice guidelines.

Starting salaries are excellent with premiums paid for evening, night, and weekend shifts. Jobs are plentiful throughout the United States. Graduates are eligible to take the credentialing examinations administered by the National Board for Respiratory Care (NBRC) which lead to the Registered Respiratory Therapist (RRT) credential. Licensure requirements in the state of Montana also are met by successful completion of the NBRC Entry Level (CRT) examination.

The goal of the program is, "To prepare graduates with demonstrated competence in the cognitive (knowledge), psychomotor (skills), and affective (behavior) domains of respiratory care practice as performed by registered respiratory therapists (RRTs)" CoARC standard 3.01.

The program is 4 ½ semesters in length which includes the AA prerequisite courses and a summer session. The Respiratory Care Program at The University of Montana Missoula College, is accredited by the Commission on Accreditation for Respiratory Care (www.coarc.com), 1248 Harwood Road, Bedford, Texas 76021-4244. Graduates receive the degree of Associate of Applied Science in Respiratory Care.

Students accepted to the program are required to rotate to clinical sites outside the Missoula area on a periodic basis. These rotations take place during the spring semester, summer session and autumn semester of the second year. These sites may include, but are not limited to: Kalispell, Ronan, Polson, Butte, Billings, Bozeman, Hamilton, Helena, Coeur d'Alene and Lewiston, Idaho and Spokane, Washington. Transportation and housing are the student's responsibility.

Associate of Applied Science - Respiratory Care

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 72

Required Cumulative GPA: 2.0

Note: It is preferred that students have the prerequisite core completed by the end of the semester in which they intend to apply to the program (i.e. applying to the program in the spring and completing the core by the end of that spring semester.) However, those students who anticipate completing the core by the end of the summer semester are still encouraged to apply in the spring and may be granted provisional acceptance. Computer competency must be demonstrated by taking CAPP 120 or may be challenged by testing out.

Pre- Respiratory Care Prerequisite Courses

Rule: All courses required

Note: Must have completed or be in the process of completing when applying to the program. A minimum GPA of 2.75 for prerequisite courses is required in order to apply to the program.

	Course	Credits
	BIOH 201N - Human Anat Phys I (equiv 301) Offered autumn and spring. Prereq., introductory science course or college-prep high school biology course recommended. Comprehensive knowledge of human form and function necessary for students preparing for health-related professions. Emphasis on structure, function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. Required, integrated laboratory includes some dissection.	4 Credits
	BIOH 202N - Human Anat and Phys I Lab Offered autumn and spring. Coreq., BIOH 201. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. A cadaver lab is included.	4 Credits
	BIOH 211N - Human Anat Phys II (equiv 311) Offered autumn and spring. Prereq., and continuation of BIOH 201N. Comprehensive knowledge of human form and function necessary for students in health-related programs. Emphasis on structure function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. Required integrated laboratory includes frequent dissection.	4 Credits
	BIOH 212N - Human Anat Phys II Lab Offered autumn and spring. Prereq., BIOH 201N. Coreq., BIOH 211. Continuation of 201N. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. A cadaver lab is included.	4 Credits

	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	SCN 175N - Integrated Physical Science I Offered every term. An introduction to the basic principles of physics, chemistry, and nuclear reactions with emphasis on the scientific method and process. A knowledge of basic algebraic functions, decimals, and scientific notation is recommended. Suitable for students with little science background.	3 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		20 Total Credits Required

Respiratory Care Courses

Rule: All courses required

	Course	**Credits**
	AHRC 101 - Communication Management Offered autumn. Prereq., Acceptance into Respiratory Care Program. Study of respiratory care departmental organization and administration procedures, effective communication strategies, and legal and ethical issues for the Respiratory care professional.	1 Credits
	AHRC 115 - Blood Gas Analysis Offered autumn. Prereq., acceptance into the Respiratory Care program. Study of the indications, rational, methods, instrumentation, and analysis of Blood Gases. Emphasis will be placed on the physiology and clinical implications of acid-base abnormalities.	2 Credits

	AHRC 129 - Patient Care & Assessment Offered autumn. Prereq., BIOH 201N-202N. Introduction to nursing- related knowledge and skills with emphasis on application of microbiology to aseptic technique. Assessment of the respiratory system with cardiopulmonary diagnostic and laboratory tests interpretation. Observation and interpretation of overall patient condition is integrated throughout the course.	4 Credits
	AHRC 130 - Respiratory Care Lab IB Offered autumn. Prereq., acceptance into the Respiratory Care program. Basic clinical competencies taught in RES 129 are studied in a laboratory setting. Peer and instructor review of competencies included. Students focus on patient assessment skills and techniques/equipment.	1 Credits
	AHRC 131 - Resp Care Fundamentals Offered autumn. Prereq., acceptance into the Respiratory Care program. Orientation to basic respiratory care science including the application of principles of physics and chemistry. Emphasis on theory, operation and troubleshooting of equipment used at the entry level of practice. Microbiology in relation to equipment processing, pulmonary rehabilitation and home care included.	5 Credits
	AHRC 133 - Resp Care Pharmacology Offered spring. Prereq., acceptance into the Respiratory Care Program or consent of instr. Principles of basic chemistry introduced with an application to pharmacology as related to the pulmonary system. Cardiovascular and related pharmacology studied in preparation for ACLS and ventilator management.	3 Credits
	AHRC 150 - Respiratory Care Lab I Offered autumn. Prereq., acceptance into the Respiratory Care program. Basic clinical competencies taught in RES 131 are studied in a laboratory setting. Peer and instructor review of competencies included. Students earn their BLS certification.	1 Credits
	AHRC 231 - Resp Crit Care Offered spring. Prereq., RES 120, 129, 131, 133, 150. Continuation of RES 131. Physiology, indication, contraindications, and application of mechanical ventilation. Emphasis on patient assessment, monitoring, stabilization and weaning during assisted pressure breathing. Analysis of the various modes of ventilation, including optimizing the patient-ventilator interface in the adult through various advanced airway techniques.	4 Credits
	AHRC 232 - Resp Path & Disease Offered spring. Prereq., RES 120, 129, 131, 133, 150. Special lectures in medicine and disease as related to the cardiopulmonary system. Emphasis on recognition of signs and symptoms of disease and implications for treatment through the study of selected case studies.	3 Credits
	AHRC 235 - Cardiopulm Anat & Phys Offered spring. Prereq., RES 120, 129, 131, 133, 150 or consent of instr. Principles of physiologic chemistry are introduced and applied to the macro and micro anatomy of the cardiopulmonary system with a focus on structure and function. Application made to pathology and assessment of patients receiving mechanical ventilation.	3 Credits
	AHRC 243 - Perinat & Pediat Res Care Offered autumn. Prereq., RES 260, 265. Study of perinatal and pediatric respiratory care with emphasis on assessment, resuscitation and mechanical ventilation of the neonate and pediatric patient. The theory of Neonatal Resuscitations (NRP) will be presented. Neonatal and pediatric diseases will be studied.	3 Credits

	AHRC 250 - Respiratory Care Lab II Offered spring. Prereq., RES 120, 129, 131, 133, 150. A continuation of RES 150 with emphasis on adult critical care. Clinical competencies taught in RES 231 and RES 235 are studied in a laboratory setting. Peer and instructor review of competencies included.	2 Credits
	AHRC 252 - Respiratory Care Review Offered autumn. Prereq., RES 260, 265. A review of respiratory care in preparation for credentialing exams. Students must take an Entry Level Self-Assessment Exam, a Written Registry Self- Assessment Exam, and a Clinical Simulation Self-Assessment Exam.	2 Credits
	AHRC 255 - Clinical Experience I Offered spring. Prereq., RES 120, 129, 131, 133, 150. Emphasis on the student directly performing basic clinical skills in a patient care setting to include hospitals, home care, and pulmonary function laboratories. Students also participate in physician rounds.	5 Credits
	AHRC 260 - Resp Care Lab III Offered summer. Prereq., RES 231, 232, 235, 250, 255. Students study principles and theory of advanced life support. Peer and instructor review are included. Students will be Advanced Cardiac Life Support (ACLS) and Pediatric Advance Life Support (PALS) certified at the end of this class.	1 Credits
	AHRC 265 - Clinical Experience II Offered summer. Prereq., RES 231, 232, 235, 250, 255. Continuation of clinical skills learned in RES 255. Introduction to adult critical care along with sleep and cardiac diagnostics. Students also participate in physician rounds.	5 Credits
	AHRC 270 - Resp Care Lab IV Offered autumn. Prereq., RES 260, 265. Emphasis on neonatal and pediatric critical care. Clinical competencies introduced in RES 241 are studied. Peer and instructor review of competencies are included.	1 Credits
	AHRC 275 - Clinical Exp III Offered autumn. Prereq., RES 260, 265, 270. Continuation of RES 265 with critical care of the adult. Neonatal and pediatric critical care experiences are emphasized. Students also participate in physician rounds.	6 Credits
Minimum Required Grade: B-		52 Total Credits Required

Surgical Technology A.A.S.

Debbie Fillmore, Program Director

Students in the program are educated to be Surgical Technologists who work as part of the surgical team to ensure the operative procedure is conducted under optimal conditions. The ST is responsible for three phases (preoperative, intraoperative, and postoperative) of patient care with minimal direction. All surgical team members must adhere to the principles of asepsis and the practice of sterile technique. The ST normally functions in a sterile capacity by passing instruments, equipment and supplies to the surgeon during the surgical procedure but may also perform many non-sterile duties throughout the workday.

Students admitted to the University of Montana enter as Associate of Arts (AA) General Studies majors with an emphasis in the program of their choice. Students must select the specific prerequisite courses required for their chosen area of study after meeting with the program advisor. Students must apply to the program by October 1. Students may apply while enrolled in the A.A. prerequisite courses with acceptance to the

program to be determined after the Autumn semester grades are finalized. BIOH 201N/202N, Anatomy and Physiology I, and lab, must be passed with a grade of B (3.0) and be a face-to-face course. The program-specific courses begin spring semester.

Once accepted to the program, a student must complete each Surgical Technology-specific course (those courses with an AHST with a minimum grade of 'C' (80%) in order to continue in the ST program. Course grading scales may vary. If a student does not pass the required courses, he/she will not be able to continue in the program and will need to apply for readmission. If a student is re-admitted, he/she will be required to complete skills labs, AHST 115 and AHST 215, to ensure sterile technique skills are acceptable for patient care. A student may take any required course a maximum of two (2) times. A student may apply to the program a maximum of two (2) times.

A student will become a member of the Association of Surgical Technologists (www.ast.org) during the first year in the program. A student anticipating program completion will write the National Certification Exam prior to graduation. A student who successfully completes the ST program is awarded an A.A.S. degree in Surgical Technology. The credential of Certified Surgical Technologist (CST) will be awarded to a student upon passing the National Certification Exam and graduation from the ST program. The credential of Certified is awarded by the National Board of Surgical Technology and Surgical Assisting (NBSTSA).

Students are required to rotate sites during the clinical portion of their education. During the last semester of the program, internships may be outside the Missoula area. Transportation and housing are the student's responsibility. Prior to entering a healthcare facility for clinical experiences, a student will be required to submit a background check. Many healthcare facilities have increasingly stringent requirements. A student could be refused entry into a clinical facility based on information disclosed in a background check. If this is a concern for you, please consult the Program Director. If a student is denied agency access based on the Background Check, there will be no placement at an alternate site, and the subsequent inability of the student to complete the clinical education will result in inability to continue in the Surgical Technology program.

The University of Montana Missoula College Surgical Technology Program also has Outreach campuses in Butte and Billings. The Butte site is the Montana Tech of The University of Montana Highlands College campus in collaboration with St James Healthcare. The Billings site is the Montana State University-Billings City College campus in collaboration with St Vincent Healthcare and Billings Clinic. Students at those sites take the equivalent prerequisite courses on their respective campuses. The Surgical Technology-specific courses begin spring semester. Students must apply to the ST program by October 1. Students may apply while enrolled in the prerequisite courses with acceptance to the program to be determined after fall grades are finalized. The classroom portion of the ST program curriculum is delivered in web-based format using the Moodle course delivery system from the Missoula campus. Lab and clinical courses are conducted on each Outreach campus. Outreach students are required to travel to Missoula to write the National Certification Exam and to participate in Commencement exercises. Prospective students may contact the Health Professions' Office at 406-243-7868 for more information regarding the ST Program on the Butte and Billings campuses. Please refer to the specific course catalogs on the Butte and Billings campuses for prerequisite requirements.

The ST program is accredited by the Committee on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park St., Clearwater, FL 33756; phone 727-210-2350, www.caahep.org.

Associate of Applied Science - Surgical Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 68

Required Cumulative GPA: 2.0

Note: It is preferred that students have the prerequisite core completed by the end of the semester in which they intend to apply to the program (i.e. applying to the program in the fall semester and completing the core by the end of that fall semester.) CAPP 120 may be challenged by testing out. WRIT 101 or WRIT 121 only one is required. BIOM 250 and AHMS 270E may be taken prior to applying.

Surgical Technology Prerequisite Courses

Rule: All courses required

Note: WRIT 101 College Writing can be taken instead of WRIT 121 Intro to Technical Writing; BIOH 201N/202N must be passed with a minimum of a B

	Course	Credits

	AHMS 144 - Medical Terminology Offered every term. Introduction to a medical word building system using Greek and Latin word roots, combining forms, suffixes, and prefixes.	3 Credits
	BIOH 201N - Human Anat Phys I (equiv 301) Offered autumn and spring. Prereq., introductory science course or college-prep high school biology course recommended. Comprehensive knowledge of human form and function necessary for students preparing for health-related professions. Emphasis on structure, function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. Required, integrated laboratory includes some dissection.	4 Credits
	BIOH 202N - Human Anat and Phys I Lab Offered autumn and spring. Coreq., BIOH 201. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. A cadaver lab is included.	4 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	M 105 - Contemporary Mathematics Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C-		20 Total Credits Required

Surgical Technology Courses

Rule: All courses required

	Course	**Credits**

	AHMS 270E - Medical Ethics Offered every term. Ethical decision-making tools for addressing common ethical issues in the health professions.	3 Credits
	AHST 101 - Introduction to Surgical Techn Offered spring. Prereq., admission to the program. Provides an orientation to the scrub and circulatory roles of the surgical technologist in the preoperative, intraoperative and postoperative periods. Entry level skills and theories are emphasized.	3 Credits
	AHST 115 - Surgical Lab I Offered spring. Prereq., admission to the program. Demonstration of sterile technique in the campus lab, various skills and their application in the operating room.	2 Credits
	AHST 154 - Surgical Pharmacology Offered spring. Prereq., admission to the program, M 090. Basic overview of the medications that are commonly used before, during and after a surgical procedure.	3 Credits
	AHST 200 - Operating Room Techniques Offered autumn. Prereq., completion of all second semester courses. Focus on the scrub and circulator roles of the surgical technologist in the preoperative, intraoperative, and postoperative periods. More complex skills and theories; impact of new technologies in the 21 century st operating room.	5 Credits
	AHST 201 - Surgical Procedures I Offered autumn. Prereq., completion of all second semester courses. A study of surgical procedures following the patient through the preoperative, intraoperative, and post-operative stages of specific surgical specialties.	4 Credits
	AHST 215 - Surgical Lab II Offered spring. Demonstration of more complex skills in the campus lab, including assistant circulating, and their application in the operating room.	2 Credits
	AHST 250 - Surgical Clinical I Offered autumn. Prereq., completion of all second semester courses and successful completion of AHST 215. Perioperative experience in the minor surgical procedure role through a supervised clinical hospital rotation.	4 Credits
	AHST 251 - Surgical Clinical II Offered spring. Prereq., completion of all third semester courses. Perioperative experience in the major surgical procedure role through a supervised clinical hospital rotation.	5 Credits
	AHST 298 - Surgical Internship Offered spring. Prereq., successful completion of AHST 202, 251T. Capstone experience in the perioperative role in preparation for initial employment, increasing occupational awareness and professionalism. Students take call for emergency surgeries alongside experienced hospital staff.	5 Credits

	BIOH 211N - Human Anat Phys II (equiv 311) Offered autumn and spring. Prereq., and continuation of BIOH 201N. Comprehensive knowledge of human form and function necessary for students in health-related programs. Emphasis on structure function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. Required integrated laboratory includes frequent dissection.	4 Credits
	BIOH 212N - Human Anat Phys II Lab Offered autumn and spring. Prereq., BIOH 201N. Coreq., BIOH 211. Continuation of 201N. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. A cadaver lab is included.	4 Credits
	BIOM 250N - Microbiology for Hlth Sciences Offered spring. Infectious diseases, including concepts of virulence, resistance, prevention and control of microbial diseases in the individual and in the community. If laboratory experience is desired, the student may enroll concurrently in BIOM 251. Credit not allowed toward a major in microbiology.	3 Credits
Minimum Required Grade: C		48 Total Credits Required

Pharmacy Technology Certificate

Mary McHugh, Program Director

The American Society of Health System Pharmacists/Accreditation Council of Pharmacy Education (ASHP/ACPE) - accredited Pharmacy Technology Program at the University of Montana-Missoula College prepares students to function in hospital-based pharmacies, community pharmacies, and a number of other types of pharmacies. The two-semester program includes classroom, lab, and experiential learning opportunities. Lab and experiential hours allow students to integrate their classroom knowledge into the practical setting. Students are required to rotate to experiential sites and some may be outside the Missoula area. Transportation and housing are the student's responsibility.

The Pharmacy Technology Program is an autumn entry program. Applicants to the Pharmacy Technology program must complete the program specific application packet which can be obtained on the UM Missoula College Pharmacy Technology webpage. Please note that application deadlines are also found on the program webpage. Generally, applications to the program are due April 1 during the spring semester prior to the autumn semester program start. Documentation of required math and writing assessments must be included in the application packet. Transcripts are not accepted in place of the assessments. Students should place in Level 3 or higher in the ALEKS Math Assessment, and should attain a 7 or better on the E-Write Assessment, or provide alternate assessment scores as instructed in the application packet. Students who do not score high enough on assessments should consult with an advisor to arrange enrollment in the necessary courses to build their skills. Students must either complete Intro to Computers (CAPP 120) or pass the challenge for CAPP 120 prior to enrollment in the Pharmacy Technology Program. The challenge is offered several times each year. Instructions for scheduling the challenge and assessments are found in the application on the program website.

Once accepted into the program, all students are expected to register with the State of Montana as Pharmacy Technicians in Training. Please note the requirements of registration as a Pharmacy Technician in Training found on the application form on the Montana State Board of Pharmacy website:http://bsd.dli.mt.gov/license/bsd_boards/pha_board/pdf/pha_tech.pdf

Students must complete the required autumn PHAR classes with a C or higher to proceed to the spring semester. If a student does not pass the required courses with a C or better, he/she will not be able to continue in the program and will need to apply for readmission. A student may take any required course a maximum of two (2) times.

After successfully completing the program, students are awarded a Certificate of Applied Science and are well prepared for and encouraged to sit for the national technician certification examination such as offered through the Pharmacy Technician Certification Board (PTCB). Some students may be prepared to take the PTCE as early

as December of the first semester of the program, so that they may complete their experiential training as certified Pharmacy Technicians rather than Certified Technicians in Training.

Conviction of a crime (misdemeanor or felony) could leave an individual ineligible for participation in the certifying test and/or becoming registered in Montana as a certified pharmacy technician. Background checks are required prior to internships. Additionally, the Montana State Board of Pharmacy Application for Pharmacy Technician Registration includes a number of questions regarding personal history, including but not limited to criminal charges. Please contact the PTCB (Pharmacy Technician Certification Board),www.ptcb.org, and the Montana State Board of Pharmacy (http://bsd.dli.mt.gov/license/bsd_boards/pha_board/board_page.asp) if this is a potential problem.

Current salary range in Montana is from $7 per hour to $20 per hour, depending on employer, job duties, and experience.

Certificate of Applied Science - Pharmacy Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 30

Required Cumulative GPA: 2.0

Note: Math: Placement into Level 3 using a proctored ALEKS assessment
Writing: Score of 7 on the E-Write assessment

Degree Core Courses

Rule: Complete all courses

Note: AHMS 144 May be taken before application to the program.
There are two different sections of PHAR 198 and both are required to receive the certificate.

	Course	Credits
	AHMS 144 - Medical Terminology Offered every term. Introduction to a medical word building system using Greek and Latin word roots, combining forms, suffixes, and prefixes.	3 Credits
	CAPP 120 - Introduction to Computers Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, spread sheet, database, and presentation applications to create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.	3 Credits
	PHAR 100 - Intro Pharm Practice for Techs Offered autumn. Prereq., admission into Pharmacy Technology program. This course offers information regarding careers in pharmacy. It includes the history of pharmacy practice and defines roles of personnel relating to pharmaceutical services. Ethical standards of the occupation and federal and state laws regulating pharmacy practice with emphasis on Montana State Pharmacy Law regulating pharmacy technicians are studied. Day-to-day operations including preparation, maintenance, and storage of pharmaceuticals and records, and basic concepts of computer operations and latest technologies are reviewed. Skills will be developed with are necessary for the pharmacy technician to communicate effectively in the following ways: 1) as a representative of the profession of pharmacy, 2) as an intermediary between the pharmacist and patient, and 3) as an intermediary between the pharmacist and other health care professionals.	3 Credits

	PHAR 101 - Pharmacy Calculations Offered autumn. Calculations used in pharmacy practice; includes various systems of weights and measures, dosage determinations, percentage preparations, reducing and enlarging formulas, dilution, and concentration.	3 Credits
	PHAR 102 - Pharmacology for Technicians Offered autumn. Prereq., admission into Pharmacy Technology program. Study of the properties, reactions, and therapeutic value of the primary agents in the major drug classes.	6 Credits
	PHAR 104 - Pharmacy Dispensing Lab Offered autumn. Prereq., admission into Pharmacy Technology Program. Develop dispensing and distributive skills with hands-on lab, and lecture format.	3 Credits
	PHAR 120 - Medication Safety Offered spring online only. Prereq., PHAR 100, 101, 102, 104 and second semester standing in Pharmacy Technology Program. This course will introduce students to national safety initiatives developed by the Institute of Medicine, The Joint Commission, The Institute of Safe Medicine Practices and others. This awareness will help students become part of the solution in promoting safe medication practices.	3 Credits
	PHAR 121 - Preparation for the PTCB Exam Prereq., PHAR 100, PHAR 101, PHAR 102 and PHAR 104. This course will offer strategies in test taking, and help students refresh their knowledge in all knowledge areas included in the exam as identified by PTCB.	1 Credits
	PHAR 198 - Internship: Pharmacy Offered spring. Prereq., PHAR 100, 101, 102, 104 and second semester standing in Pharmacy Technology Program. Training and experience in either hospital, compounding, home infusion, nursing home or other alternative pharmacy settings under supervision of a pharmacist. Emphasizes special skills unique to that pharmacy setting.	4 Credits
Minimum Required Grade: C-		33 Total Credits Required

Medical Assisting A.A.S.

Jacki Elam, MA, RMA Program Director

Students in Medical Assisting are cross-trained with skills and knowledge in front office administrative, clinical, and limited laboratory procedures that are designed to assist healthcare practitioners in administering to the needs of patients. Selected administrative skills include scheduling, medical office accounting systems, medical coding and billing, and electronic medical records. Some of the clinical skills the student will learn include assisting with medical examinations, vital signs, administering medications and injections (under supervision), sterilizing instruments and electrocardiography. Laboratory skills will include venipuncture (under supervision), and performing selected CLIA-waived laboratory tests. Additionally, Medical Assisting students will become acquainted with the laws and regulations governing medicine in the ambulatory setting, as well as ethical issues being confronted in the health care arena. The program is designed to prepare the student for an entry-level position in Medical Assisting.

Students may apply for admission by meeting with the program director. Prior to entry, the student must be able to show competency in computers. Each Spring students will have to provide documentation of vaccines, background check, etc. as posted on the program's web page. Because some classes are only offered in a specific semester, and some courses have pre-requisites or co-requisites, meeting with the Program Director before each semester is necessary to ensure students adequately progress through the program.

Students must earn a "C" or better in all courses in order to progress and complete the program. This includes passing 100% of psychomotor and affective competencies required in AHMA 260 & 262 Laboratory courses. A course may be attempted a maximum of two times. At the end of the program the student will perform a 200-

hour, unpaid externship/practicum in an ambulatory facility, such as a clinic or licensed healthcare provider's office. The site must be approved by the Program Director. This provides the student with the opportunity to apply the knowledge and skills learned in a real world setting. Students who successfully complete the program will be awarded an Associate of Applied Science degree.

Associate of Applied Science - Medical Assisting

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 60

Required Cumulative GPA: 2.0

Note: A minimum of a C in each Medical Assisting core course is required for graduation. Medical Assisting core courses must be completed with no more than 2 attempts. Total credits for the AAS Medical Assisting degree are 60. The student must show competence in computers to enter the Medical Assisting program.

Core Courses

Rule: Must complete all of the following courses

	Course	Credits
	ACTG 101 - Accounting Procedures I Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.	4 Credits
	AHMA 201 - Med Asst Clinical Prcdrs I Offered autumn. Prereq., M 105, BIOH 112, BIOH 113. Skill development necessary to assist health care practitioners in all aspects of patient care in the medical office clinical setting. Includes achieving competency in prepping patients for a physical examination, charting, medication administration, basic medical laboratory skills.	4 Credits
	AHMA 203 - Med Asst Clinical Prcdrs II Offered spring semester. Prereq., AHMA 201. This course builds on skills learned in AHMA 201 and includes body systems and pathophysiology review, and development of skills in the following areas: immunization administration, specimen collection, CLIA waived lab testing, care of lab equipment, spirometry, electrocardiogram, and phlebotomy.	4 Credits
	AHMA 260 - Med Assist Lab 1 Co-req., AHMA 201. This course introduces the student to basic skills of medical assisting. Included in this course are standard procedures, aseptic and sterilization procedures, vital signs, assisting with general exams, urinalysis, and drug administration.	2 Credits
	AHMA 262 - MA Lab 2 Prereq., AHMA 201 and 260. Corereq., AHMA 203. This course builds on skills learned in AHMA 260 and moves into areas of greater specialization. Included in this course are CLIA-waived and hematological testing, ECG, venipuncture, assisting with surgical procedures, wound care, and specialty exams.	2 Credits

	AHMA 298 - Medical Assisting Externship Offered spring. Prereq., consent of instructor. Placement in a medical office for a guided experience providing the student with a practical application of learned medical office administrative skills. Direct supervision will be the responsibility of a designated person at the site. The students will spend six hours per week to total 90 hours in assigned clinical rotations.	5 Credits
	AHMS 144 - Medical Terminology Offered every term. Introduction to a medical word building system using Greek and Latin word roots, combining forms, suffixes, and prefixes.	3 Credits
	AHMS 156 - Medical Billing Fundamentals Offered every term. Prereq. or coreq., AHMS 220 or consent of instr. An introduction to insurance claim processing for the major medical insurance programs. Students will be provided with a basic knowledge of CPT and ICD-9 procedural and diagnostic coding. Emphasis on completing universal insurance forms to maximize reimbursement as well as trouble shoot denied or underpaid claims.	3 Credits
	AHMS 175 - Medical Law & Ethics This course will introduce students to the common laws, regulations, and agencies affecting ambulatory medical facilities. Current issues of ethics and bioethics will also be discussed. This is a blended class.	2 Credits
	AHMS 216 - Pharmaceutical Products Offered autumn. Fundamental principles of pharmacology and the implications of medication use. Includes the law as it pertains to drug use, dosage forms, routes of administration as well as the pharmacologic actions and uses of drugs.	3 Credits
	AHMS 220 - Medical Office Procedures Offered autumn. An introduction to the necessary skills and qualities required to function successfully in the medical arena. Emphasis on medico-legal and ethical responsibilities, records management and financial management of the medical practice, and interpersonal communications to include patient reception, telephone techniques and appointment scheduling.	4 Credits
	AHMS 252 - Computerized Medical Billing Offered spring, Prereq., AHMS 156; prereq. or coreq. AHMS 220; or consent of instr. A medical package is used to enter and update patient data, enter charges, payments and adjustments, and generate management reports, insurance forms, and patient statements.	3 Credits
	BIOH 112 - Human Form and Function I Offered autumn. Explores the fundamentals of structure and function at basic cellular and tissue levels, in addition to the anatomy and physiology of the integumentary, musculoskeletal, and nervous systems.	3 Credits
	BIOH 113 - Human Form and Function II Offered spring. Explores the fundamental structures and functions of the endocrine, cardiovascular, respiratory, digestive, urinary and reproductive systems.	3 Credits
	CAPP 154 - MS Word Offered autumn and spring. Prereq., CAPP 120 or basic computer experience and consent of instr. Preparation of business forms, correspondence, mail merges, columnar projects, and reports using up-to-date software. Business related application projects, graphics, and printer operation are included.	3 Credits

	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	M 105 - Contemporary Mathematics Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits
Minimum Required Grade: C		

Computed Tomography Certificate

The five-credit Computed Tomography certificate fulfills the new American Registry of Radiologic Technologists certification requirements and is available to registered and licensed radiologic technologists and current Missoula College radiology students.

The Montana Department of Labor and Industry has agreed to work with employers to set up an apprenticeship model for qualified candidates to complete their clinical competences. Employers may sponsor the certification of current radiologic technologists to ensure compliance with the new ARRT Certification requirements. For technologists who are not employed by the institution, the apprenticeship agreement would codify a probationary period, incremental wage increases, a requirement to pass the certification exam, and a requirement to work for an agreed-upon amount of time once the training is complete.

For more information, please call:

Maryann Dunbar - Administrative Assistant, Health Professions - 406-243-7868

Anne Delaney - Program Director, Radiologic Technology - 406-243-7809

Technical Certificate - Computed Tomography

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 6

Required Cumulative GPA: 2.0

Certificate in Computed Tomography

Rule: All courses required

	Course	Credits
	AHXR 274 - Cross Sectional Anatomy Course offered on line each semester. Students must be ARRT certified with a current state license to register for the CT courses. This course will cover information specific to ARRT guidelines in preparation for the Computed Tomography Exam. The regions of the body to be included are: Head, Neck, Chest, Abdomen, Pelvis and Musculoskeletal. Within each of these categories, focus will be placed on these relevant factors. Sectional Anatomy (axial, sagittal and coronal planes), Contrast Media (types, contraindications, administration), Imaging Processes (scout acquisition and methods, parameter selection, protocol modification) and Special Procedures (Reformatting, 3-D rendering, biopsies/drains, screening).	3 Credits
	AHXR 275 - Physics and Instrumentation Course offered on line each semester. Students must be ARRT certified with a current state license to register for the CT courses. This course will cover information specific to ARRT guidelines in preparation for the Computed Tomography Exam. The course will be broken down in to the following sections: Patient Assessment and Preparation (to include patient history, screening, and consent. Immobilization, patient monitoring, accessory medical devices, lab values and medications/dosage). Contrast Administration (to include contrast media types, considerations, administration and dosage, venipuncture, injection techniques, post-procedure care and adverse reactions). Radiation Safety and Dosimetry (to include technical factors, protection and shielding, dose measurement and dose reduction/optimization).	2 Credits
Minimum Required Grade: C-		6 Total Credits Required

Applied Computing and Engineering Technology

Xueying Shen, Chairperson

The Department of Applied Computing and Engineering Technology collaborates with business and industry to prepare graduates to compete in and contribute to a diverse and dynamic global society. Students acquire the practical skills necessary to pursue entry-level careers in STEM-related (Science, Technology, Engineering, and Mathematics) occupations. Students engage in experiential learning, embracing technical education, effective communication, problem solving, professionalism, and specific workplace skills. The department promotes lifelong learning to empower students in an ever-changing world. More details on programs available through the department can be found at the Applied Computing and Engineering Technology website.

Preparation to Enter Programs

Students entering programs in Applied Computing & Engineering Technology are expected to have basic computing skills and adequate preparation in mathematics.

Department Faculty

Professors

Thomas Gallagher, IT Program Director/Professor
Dennis Labonty, Ph.D.

Associate Professors

Bradley Layton, Energy Technology Program Director/Associate Professor

Assistant Professors

Xueying Shen, Electronics Technology Program Director
Steven Stiff, Assistant Professor

Adjunct Faculty

Dianne Burke, Cybersecurity Program Director/Adjunct Instructor
Corryn Greenawalt
Wally Higgins, Adjunct Instructor
Eric Iverson
Kari McLean, Adjunct professor
Krista Milligan
Zachary Rossmiller

Computer Technology (COT)

Back to Top

- ### CRT 188T - Computers and Law
  Credits: 3. Offered autumn. Prereq., CAPP 120 and LEG 185T. Intermediate concepts of computer systems, operating systems, graphical environments, electronic mail, Internet, and file management. A variety of applications including word processing, spreadsheet, database, presentation, and law-related software are included. Course Attributes: Technical Course

- ### CRT 205T - Food Serv Mgmt Comp App
  Credits: 2. Offered spring. Prereq., CAPP 120. Introduction to computerized applications relevant to the food service industry. Includes spreadsheet, recipe management and word processing software; appropriate industry reports, create menus and fliers; import, export and scale recipes; analyze nutrition; and calculate food cost. Course Attributes: Technical Course

Computer Science/Programming

Back to Top

- ### CSCI 110 - Programming - VB I
  Credits: 3. Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to object-oriented programming using an even-driven paradigm. Basic concepts of control structures, data handling, documentation, and error control. Fundamentals of algorithm design and structured software development.

- ### CSCI 113 - Programming with C++ I
  Credits: 3. Offered intermittently. M 090 or ALEKS score >2 recommended prior to taking course. Object oriented programming using C++. Implementation of structured programming concepts along with construction of classes to create data types for defining objects.

- ### CSCI 120 - Programming - VB II
  Credits: 3. Offered autumn. Prereq., CSCI 110. Design and implementation of software using object-oriented programming practices. The class framework is used to apply the object-oriented techniques of encapsulation, polymorphism, and inheritance.

- ### CSCI 215E - Social & Ethical Issues in CS
  Credits: 3. Offered autumn and spring. Prereq., WRIT 101. Exploration of ethical issues in the field of computing. Skills needed to identify and analyze various ethical concerns. Standard ethical concepts and theories, methods of ethical analysis. Strong emphasis on practical application of the ethical process. Course Attributes: Ethical & Human Values Course
  Writing Course-Intermediate

- ### CSCI 221 - System Analysis and Design
  Credits: 3. Offered spring. Prereq., CSCI 240. Analysis of the system development life cycle. Emphasis on planning, analyzing, designing, implementing and supporting information systems to meet business requirements. Covers feasibility studies, time and cost estimates, modeling tools, design tools, implementation and support strategies. A simulated business design project will be developed.

- CSCI 240 - Databases and SQL

  Credits: 3. Offered autumn. Prereq., CSCI 172 or consent of instr. Relational database design including: requirements analysis, data structure, entity relationships, normalization, relational algebra and integrity. Physical implementation focusing on data storage; retrieval and modification; concurrency; optimization; security; SQL; and XML.

- CSCI 290 - Undergraduate Research

  Credits: 1 TO 6. (R-10) Offered every term. Consent of instr. Independent research under the direction of a faculty member.

Drafting Design

Back to Top

- DDSN 113 - Technical Drafting

  Credits: 3. Offered autumn. An introduction to the techniques and standard practices of communicating technical graphics. The class studies and practices drawing skills and learns the drawing standards that support the needs of the design team in advancing ideas. It also provides the foundation for successful drawing communication in the CAD environment. Topics covered include; drawing media and tools, hand drawing skills, perspectives, views, sketching, standard scales, geometric construction, sections, dimensioning, and tolerances.

- DDSN 114 - Introduction to CAD

  Credits: 3. Offered autumn. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to computer aided design and drafting software for production of drawings and plans for architecture and engineering systems. Fundamentals of two dimensional drafting and drawing management for professional design.

- DDSN 116 - 3D CAD

  Credits: 3. Offered autumn. Prereq. or Co-req., DDSN 114. CAD II provides a project-based, in-depth study of the skills and concepts involved in Computer Aided Design and Drafting. Topics covered include object grouping and sharing; three dimensional modeling; animation; and interoperability with other software. This course is the second in a two-part series covering the core AutoCAD application.

- DDSN 135 - Solidworks

  Credits: 2. his course aggregates fundamental concepts of Blueprint Reading and Interpretation (MCH 120) and Machine Quality Control and Precision Measurements (MCH 129) in the form of gaining practical application of concepts to 3D solid modeling. 3D models will include drawings with symbols, various schematics and diagrams, dimensioning techniques, section views, auxiliary views, threads and fasteners typical to shop drawings. Application of specifications and acceptable tolerance requirements to ensure quality control measures for design parts and assemblies will also be stressed.

- DDSN 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course

- DDSN 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Independent research in geography or planning.

- DDSN 244 - GIS Mapping

  Credits: 3. Offered Spring. Basics of geospatial technologies; remotely sensed imagery, GIS, and GPS and how each of the individual areas can be used together to analyze spatial datasets. Students will explore a wide range of spatial data and will learn to apply these data sets to real-world solutions.

- DDSN 245 - Civil Drafting

  Credits: 4. Offered spring. Prereq. DDSN 114. Introduces students to computer aided design software for common survey and engineering design and drafting applications. Topics include collection of survey data; the coordinate geometry system; surfaces; subdivision and land planning; road design and corridor modeling; utilities; site grading and drainage; mapping; and 3D visualization.

Electronics Technology

Back to Top

- ## ETEC 105 - DC Circuit Analysis

  Credits: 4. Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to direct current (DC) and analysis of series, parallel, and series-parallel circuits. Topics include electrical quantities, units of measurement, measurement instruments, resistors, current, voltage, power, energy, network theorems, equivalent circuits, magnetism, and electromagnetism. Laboratory experiments include circuit analysis; the proper use of measurement equipment and techniques; and troubleshooting.

- ## ETEC 106 - AC Circuit Analysis

  Credits: 3. Offered autumn and spring. Analysis of alternating current (AC) circuits and the behavior of capacitors, inductors, reactance, impedance, transformers, and signal filters. Laboratory experiments include circuit analysis, the use of proper measurement equipment, and troubleshooting.

- ## ETEC 113 - Circuits Lab

  Credits: 1. Offered autumn. Prereq/Co-req., ETEC 105. Covers proper techniques of soldering and tool usage. Electronic technical language, hands on troubleshooting skills and basic electronic measurements are involved.

- ## ETEC 120 - Electrician Fundamentals NCCER Level I with NCCER Core Curriculum

  Credits: 4. Students will learn the fundamentals of installing electrical systems in structures. These systems will include wiring, circuit breaker panels, switches, and light fixtures. Students will also learn to read and follow blueprints in accordance with the National Electrical Code® as well as state and local codes. The course largely follows the first level of NCCER's 4-level Electrical curriculum that complies with DOL time-based standards for apprenticeship.

- ## ETEC 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered Intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ## ETEC 213 - Power Systems Technology

  Credits: 3. Offered spring. Prereq., ETEC 106, M 121, Prereq/Co-req., M 122. A review of the principles of electricity, magnetism, and transformer action; the application of these principles in the operation of single-phase and three-phase ac/de motors, alternators, and generators; and the control methods for these electrical devices.

- ## ETEC 214 - Energy Storage and Dist.

  Credits: 3. Offered spring. Prereq. ETEC 106, NRGY 101, and M 121 or consent of instructor. Studies storage and transport methods of different types of energy. Explores emergent technologies and mechanisms designed to enhance efficiency and safety, including 'smart grid' technologies; assesses relative social, ec\onomic and environmental merits of each type of energy system in terms of its storage and distribution.

- ## ETEC 240 - Robotics

  Credits: 3. Offered spring. Prereq. or Co-req., ETEC 250. Explores physical and operating characteristics of a robot. Topics include robot configurations, power supplies, control systems, end effectors, sensors, stepper motors and stepper controls. Robot programming also is covered and a typical robot is programmed to perform repetitive actions. Includes hands-on labs.

- ## ETEC 245 - Digital Electronics

  Credits: 4. Offered autumn. Prereq., ETEC 250. Explores digital electronic circuits and devices that make up a computer system. Topics include binary and hexadecimal number systems, Boolean algebra and digital logic theory, simple logic circuits, combinational logic, and sequential logic. Also covered is the analog-to-digital and digital-to-analog interfaces between a digital system and the real (analog) world. Includes hands-on labs.

- ## ETEC 250 - Solid State Electronics I

  Credits: 4. Offered spring. Prereq. ETEC 105. An introduction to semiconductor technologies used in solid state electronics with an emphasis on diodes and transistors. Classroom concepts are reinforced through lab-based experiments.

- ## ETEC 251 - Solid State Electronics II

Credits: 3. Offered autumn. Prereq. ETEC 250. An introduction to semiconductor technologies used in solid state electronics with an emphasis on amplifier circuits, field effect transistors, thyristors, and operational amplifiers. Classroom concepts are reinforced through lab-based experiments.

- ETEC 260 - Data and Network Communication

  Credits: 3. Offered autumn. Prereq., ETEC 250. Explores the principles, applications, and theory of data communication systems. Topics include communication concepts and terminology, analog and digital channel characteristics, signaling techniques for analog and digital data, communication codes, transmission media, and standards and protocols for various data communication systems including computer networks, and the public switched telephone network. Includes hands-on labs.

- ETEC 265 - Control Systems

  Credits: 4. Offered autumn. Prereq., ETEC 250. The course provides a comprehensive coverage of components, circuits, instruments, and control techniques used in continuous and discrete automatic control systems, and focuses on basic principles, operation and applications. Programming, interfacing, and applications of programmable logic controllers are emphasized, including PLC hardware components, ladder logic diagram, fundamentals of PLC programming, and PLC interfacing and troubleshooting. Laboratory experiments and course projects are included in the course.

- ETEC 270 - Wireless Communications

  Credits: 4. Offered autumn. Prereq., ETEC 250. Explores audio and radio frequency (RF) circuits. Topics include AM and FM signal modulation and demodulation, RF transmitters, RF receivers, RF amplifiers, audio amplifiers, oscillators, mixers, and antennas. Includes hands-on labs.

- ETEC 275 - Microprocessors and Microcontrollers

  Credits: 4. Offered spring. Prereq., ETEC 250 and prereq., or Co-req., CSCI 113. The course introduces the fundamental concepts, basic principles of the architecture, organization, operation and applications of microprocessors and microcontrollers. Programming in assembly language and in C, and interfacing of microprocessor systems are emphasized. Laboratory experiments and course projects are included in the course to increase the hands-on skills of the students.

- ETEC 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered Intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ETEC 295 - Special Topics

  Credits: 1 TO 6. (R-6) Offered Intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ETEC 298 - Internship

  Credits: 2. Offered intermittently. Consent of instructor required. Extended classroom experience providing practical application of classroom learning through on the job training in a student's field of study. This experience increases student skills, prepares them for initial employment, and increases occupational awareness and professionalism.

- ETEC 299 - Electronics Capstone

  Credits: 3. Offered spring. Prereq., ETEC 275. Completion of project prototypes. Includes comprehensive final project from conception to market.

Health Information Technology

Back to Top

- HIT 101 - Intro to Healthcare Informatic

  Credits: 3. Introduces the discipline of healthcare information technology. An overview of the subject including history, basic knowledge of healthcare informatics and tools as applied in support of healthcare delivery. Students will gain an introductory level about the complexities of health care and how informatics fits within the US Healthcare System.

- HIT 265 - Electronic Health Records

  Credits: 3. Prereq., HIT 101. An introduction to the electronic health record (EHR). Students will study the use of the EHR in improving healthcare quality, accessibility, and cost-effectiveness. EHR implementation and its use within the internal clinical office will be examined. The EHR will be

studied in the context of a comprehensive Health Information System (HIS) supporting our society's interdisciplinary clinical healthcare system.

Information Technology Systems

Back to Top

- ITS 150 - CCNA 1: Exploration

  Credits: 3. Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. Introduction to networking field including terminology; protocols; local-area and wide-area networks; the OSI model; topologies; IP addressing; cabling and cabling tools; routers and router programming. Ethernet and network standards; and wireless technologies.

- ITS 152 - CCNA 2: Exploration

  Credits: 3. Offered fall. Prereq., ITS 150. Covers router theory and technologies including configurations, IOS software management, routine protocol configuration, TCP/IP, access-lists and introduction to LAN switching. Course Attributes: Technical Course

- ITS 165 - OS Commands and Scripts

  Credits: 3. Offered spring. Introduction to operating system concepts through the use of contemporary software. Emphasizes file system management, networking, installation, maintenance, management, and disaster recovery practices using both the command interpreter and graphical user interface.

- ITS 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ITS 210 - Network OS - Desktop

  Credits: 3. Offered autumn. Prereq., ITS 150. In-depth study of a secure, multi-user, client-based network operating system. Topics include installation, administration of resources, performance, network services, and security. Course Attributes: Technical Course

- ITS 212 - Network OS - Server Admin

  Credits: 3. Offered autumn. Prereq./Co-req, ITS 210. Server technologies commonly used in local area networking. Topics include installation, administration, storage, application services, network services, security, reliability, and availability. Course Attributes: Technical Course

- ITS 214 - Network OS - Infrastructure

  Credits: 3. Offered fall. Prereq., ITS 212. Principles and implementation of enterprise networking services. Topics include Protocol Binding, DNS, DHCP, WINS, Remote Access, IP Routing, IP Security, Network Address Translation, and Certificate Services. Course Attributes: Technical Course

- ITS 221 - Project Management

  Credits: 3. Offered autumn. Prereq., CSCI 172. Investigation of topics in project management including scope, definition, risk, procurement and the RFP. Management of time, cost, quality, and human resources. Concepts are reinforced with PM software.

- ITS 222 - Enterprise Security

  Credits: 3. Offered spring. Prereq./Co-req, ITS 214. Examination of general information technology security concepts. Topics include access control, authentication, attack methods, remote access, web security, wireless networks, cryptography, internal infrastructure security, and external attacks. Security procedures, organizational policies, risk management and disaster recovery addressed. Course Attributes: Technical Course

- ITS 250 - CCNA 3: Exploration

  Credits: 3. Offered spring (first half). Prereq., ITS 152. Covers router configurations including advanced IP addressing techniques, variable length subnet masking, intermediate routing protocols, Ethernet switching, virtual LANs, spanning-tree protocol, and VLAN trucking protocol. Course Attributes: Technical Course

- ITS 252 - CCNA 4: Exploration

  Credits: 3. Offered (second half). Prereq., ITS 152. Project-based course in wide-area networking including advanced IP addressing techniques, network address translation, port address

translation, DHCP, WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, network management, and introduction to optical networking.

- ITS 255 - IP Telephony

  Credits: 3. Offered autumn. Prereq./Co-req. ITS 150. Provides an introduction to converged voice and data networks as well as challenges faced by the various technologies. Presents solutions and implementation considerations for signaling, quality of service, security, call control, dial plans, gateway protocols, messaging, congestion, and connecting to a PSTN network. Course Attributes: Technical Course

- ITS 271 - Securing Desktop/Mobile Dev.

  Credits: 4. Course provides advanced technical information and relevant skills to successfully secure end-user devices, including desktop and laptop systems, tablets, cellular phones, and other portable computing equipment. Building on existing knowledge and skills in the areas of server management, network management, and security, students will gain mastery-level knowledge of security issues and best practices. Course content covers client/server exposures and protections (authentication options, packet signing and encryption of network traffic, appropriate implementation of permissions and rights); malware threats and treatments; transmission choices and precautions (wired, wireless, remote desktop access, virtual private networking (VPN)); cloud computing considerations; and corporate mobile device best practices. Hardening of the operating system and application software is also covered. Course content will focus on business-focused security practices to prepare students for Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server 2008/2012 & Mware.

- ITS 273 - Securing Networks

  Credits: 4. Course provides advanced technical information and relevant skills to secure servers and business information. Building on existing knowledge and skills in the areas of server management, network management, and security, students will gain mastery-level knowledge of security issues and best practices. Students will examine and apply hardening techniques to operating systems and infrastructure-based applications. Strategies to ensure business continuity and data security are emphasized, including policy, data preservation, disaster preparedness, and disaster recovery. Legal guidelines and requirements, both domestic and international, are examined in the context of responsible and ethical computer use. Course content will focus on business-focused security practices to prepare students for the Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server 2008/2012 & Mware.

- ITS 275 - Border/Perimeter Network Sec

  Credits: 4. Course provides advanced technical information and relevant skills to successfully secure computer networks at the public/private interface. Material focuses on hardware- and software-based techniques to prevent and monitor unauthorized or malicious access to corporate networks and servers. Building on existing knowledge of border and perimeter security, students will develop and implement best practices guidelines for boundary-related devices and software. Students will establish baseline assessments of network security from public access points and identify known and/or potential security vulnerabilities. Course content will focus on business-focused security practices to prepare students for the Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server 2008/2012 & Mware.

- ITS 277 - Software Assurance and File Sy

  Credits: 4. Course provides advanced technical information and relevant skills to methodically secure software, including operating systems, custom application software, and commercially-available packages. Students will classify application software (including, but not limited to customer-facing, employee/partner, mobile/endpoint, database, and cloud-based), and perform risk analyses and common weakness assessments against these programs. Students will research various commercial, professional, and governmental security organizations and create a personalized repository of security-related checklists, toolkits, reference material, and resources. Students will investigate low-level file system structures such as master file tables, allocation tables, free space tables, file table entries, and metadata fields. Using common file signatures and checksums, students will verify internal content against external and metadata indicators. Students will examine 'hidden' disk space areas, including file, volume, and/or partition slack. Course content will focus on business-focused security practices to prepare students for Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a

network manager or have completed appropriate skills-based coursework using MS Server 2008/2012 & Mware.

- ITS 280 - Computer Repair & Maint.

  Credits: 3. Offered autumn. Prereq./Co-req, ITS 150. In-depth study of personal computer hardware. Focus on field replaceable components. Topics include: storage devices, processors, system boards, memory, ports, cabling, power supplies, multimedia devices, printers, and troubleshooting. Course Attributes: Technical Course

- ITS 289 - Professional Certification

  Credits: 1. (R-4) Offered autumn and spring. Prereq., consent of instr. Review objectives of an information technology industry-based professional certification. Certification objectives, preparation strategies, and exam strategies included. Course can be repeated for different industry-based professional certifications. Course Attributes: Technical Course

- ITS 290 - Undergraduate Research

  Credits: 1 TO 6. (R-6) Consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit.

- ITS 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics. Course Attributes: Technical Course

- ITS 292 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr.

- ITS 297 - Undergraduate Research

  Credits: 1 TO 10. Offered every term. Preq. consent of instr. Independent research under the direction of a faculty member. Graded credit/no credit.

- ITS 298 - Internship/Cooperative Educati

  Credits: 2. Offered autumn and spring. Not open to non-majors. On-the-job training in positions requiring information technology competencies. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend a weekly one-hour seminar. Course Attributes: Internships/Practicums

Sustainable Energy

Back to Top

- NRGY 101N - Intro to Sustainable Energy

  Credits: 3. Offered autumn. A survey of traditional energy systems and technologies. Introduces conventional primary energy sources--coal, oil, gas, nuclear--and examines the technologies used to capture, convert, distribute, store, and utilize these energy sources. Consideration is given to physical and engineering aspects, as well as economic, social environmental, and political factors that determine the sustainability of these sources.

- NRGY 102 - Intro to Sustainable Energy II

  Credits: 3. Offered autumn and spring. Prereq., NRGY 101 or consent of instructor. Same as CCS 102. A survey of renewable energy systems and technologies. Addresses physical and technical aspects of wind, solar, geothermal, hydro, tidal, biological, and wave energy systems. Consideration is given to engineering, economic, social, environmental, and political factors that determine implementation and sustainability. Credit not allowed for both NRG 102 and CCS 102.

- NRGY 120 - Industrial Safety and Rigging

  Credits: 3. This course provides an overview of safe industrial practices and provides students with hands-on experiences in rigging for a variety of industries. Students will complete the requirements for an OSHA 30 certification, construct a scaffold system, identify equipment for shifting heavy loads such as may be used in the wind and solar industries. Load security, fall gear, arrest equipment, confined spaces, safety data sheets will be covered. Students will also learn elements of first aid, cardio-pulmonary resuscitation (CPR), and proper use of Automated External Defibrillators (AED's).

- NRGY 191 - Special Topics

Credits: 1 TO 3. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- NRGY 192 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

- NRGY 195 - Practicum

  Credits: 2. Offered summer only. Prereq., NRGY 101, M 121 or consent of instructor. Same as CCS 191. The practicum provides students with a supervised field experience. Students will gain hands-on experience with energy specific technologies in a fast-paced creative environment. This course increases students' occupational awareness and professionalism. Course Attributes: Internships/Practicums

- NRGY 196 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Service Learning/Volunteer

- NRGY 235 - Building Energy Efficiency

  Credits: 4. Offered Spring. Prereq., NRGY 101. Provides an overview of energy efficiency opportunities in residential buildings with an emphasis on the Passivhaus standard. Prepares the student to take the National RESNET Home Energy Rater Exam, which is a required final exam. Local home and industry tours, and hands-on exposure to HVAC controls and maintenance are also offered. Study of the analysis techniques used for reduction of energy consumption and energy management, including energy accounting and energy auditing. Residential and commercial building energy efficiency opportunities will be covered. Other topics addressed include motors, pumps, green building, and purchasing energy supplies. Career opportunities in energy efficiency will be discussed. Several local tours of energy-efficient homes will occur throughout the semester.

- NRGY 241 - Alternative Fuels

  Credits: 3. Offered autumn. Prereq., NRGY 101, M 121. Identifies alternative fuel sources; explores fuel characteristics; identifies and evaluates the infrastructure required to produce, store, distribute, and use them; discusses emission and conversion efficiencies; assesses social, environmental, and economic impacts.

- NRGY 242 - Solar Thermal & Wind Systems

  Credits: 3. Offered autumn. Prereq., NRGY 101, M 121, Prereq., or Co-req., M 122. Same as CCS 242. Introduction to the fundamentals of solar and wind energy for the design and installation of solar thermal and wind systems. Includes an overview of the physics and chemistry of the resource and the technology, and will prepare students for a career in renewable energy or for installing a renewable energy system on their own home. Credit given for NRG 242 or CCS 242, not both.

- NRGY 243 - Fundmtl PV Design & Install

  Credits: 3. Offered spring. Prereq., M 121, Prereq./Co-req., ETEC 105. An introduction to the fundamental principles and technologies of solar photovoltaic energy systems. Emphasis on system design and installation, including site and resource assessment, load analysis, troubleshooting, and cost analysis. The material covered prepares students for a career in renewable energy or for installing a renewable energy system on their own home.

- NRGY 244 - Bioenergy

  Credits: 3. Offered spring. Prereqs., SCN 175N, M 121 and NRGY 102, or consent of instructor. Investigates the physical nature of various biorenewable resources and the technologies currently employed to produce, harvest, refine and convert these into useable energy, feedstocks and products.

- NRGY 245 - Fuel Cells

  Credits: 3. Offered spring. Prereq., NRGY 101, M 121. An introduction to the different types of fuel cells (hydrogen, biological, metal/air, proton exchange membrane, etc.) accompanied by a critical examination of their applications, operation, efficiencies, advantages and disadvantages. Students must purchase a fuel cell kit for a laboratory component.

- NRGY 246 - Geothermal Energy Technology

  Credits: 3. Offered Autumn. Prereqs., NRGY 101 and 102 and M 121. An introduction to the physical and technical aspects of geothermal energy systems. Topics covered include the fundamental principles of geology and hydrology, heat flow mechanisms, and a consideration of

heat exchange systems including: dry steam, flash, binary systems, heat pumps, passive systems. The course also surveys political, economic, ecological, and social aspects of geothermal energy development.

- NRGY 250 - Energy Finance

  Credits: 3. Offered summer. An introduction to the terminology, policies, and mathematical models for financing energy technology projects. Concepts covered include time value of money, tax code, triple bottom line, and cost-benefit analysis. Microsoft Excel will be used.

- NRGY 260 - Smart Grid Technology

  Credits: 3. Prereq., ETEC 105 or equivalent. Provides an overview of smart grid technician opportunities at both the residential and industrial scale. Prepares the student to work in a variety of settings including programming a thermostat, monitoring a grid simulation system, building a simple timer to schedule when major appliances run, familiarity with Energy STAR appliances, and integration with both renewable and non-renewable primary energy sources. Local home and industry tours, and hands-on exposure to programmable logic circuits will be part of the course. Study of efficiency techniques used for reduction of energy consumption at the residential and industrial scale will be included. Career opportunities in a variety of industries related to grid-scale power management will be discussed. Possible projects include the building of a small circuit to coordinate the operation of a suite of appliances.

- NRGY 270 - Recycling Technology

  Credits: 4. Prereq., Familiarity with general materials and their properties is assumed. Students must possess basic word processing skills, be able to download and open relatively large PDF files, and perform functions such as loading software and navigating between folders and files. Familiarity with basic computing skills is a must for online courses and will significantly influence your course experience. Provides an overview of recycling opportunities at both the residential and industrial scale. Prepares the student to work with a variety of materials including cellulosic, plastic, metal, glass and electronics waste. Students will be exposed to ANSI-IREC standards as well as LEED standards for repurposing and “upcycling” materials. Local home and industry tours, and hands-on exposure to materials processors such as glass pulverizer, cardboard grinders and plastics extruders will be part of the course. Study of efficiency techniques used for reduction of virgin material consumption and waste management, including materials auditing and accessing international materials reclamation will be included. Career opportunities in a variety of industries related to materials reclamation will be discussed. Possible projects include the building of a solar thermal forge.

- NRGY 290 - Undergraduate Research

  Credits: 1 TO 10. Offered every term. Preq., consent of instr. Independent research under the direction of a faculty member. Course Attributes: Research & Creative Schlrshp

- NRGY 291 - Special Topics

  Credits: 1 TO 4. (R-6) Offered intermittently. Experimental offerings of Energy Technology faculty and visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- NRGY 292 - Independent Study

  Credits: 1 TO 9. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

- NRGY 295 - Practicum

  Credits: 2. The practicum provides students with a supervised field experience. Students will gain hands-on experience with energy specific technologies in a fast-paced creative environment. This course increases students' occupational awareness and professionalism.

- NRGY 298 - Internship

  Credits: 2. Offered every term. Prereq., M 121 and consent of instructor. Same as CCS 298. Extended classroom experience providing practical application of classroom learning through on the job training in a student's field of study. This experience increases student skills, prepares them for initial employment, and increases occupational awareness and professionalism. Course Attributes: Internships/Practicums

- NRGY 299 - Energy Technology Capstone

  Credits: 3. (R-9) Offered spring and autumn. Students participate in an energy technology design, building, testing, and competition. Previous examples include participation in the Shell EcoMarathon and the American Society of Mechanical Engineering Human Powered Vehicle

Challenge. This course is very time intensive and will require meetings outside of regularly scheduled class times. Travel to competition is strongly encouraged, but not required.

Surveying

Back to Top

- SRVY 230 - Intro to Srvyg for Engineers
  Credits: 3. Offered spring. M 090 or ALEKS score >2 recommended prior to taking course. Basic principles of civil surveying and the use of surveying equipment. Surveying introduces students to the link between field (construction) and office (design) practices. Students will become familiar with Global Positioning Systems (GPS), levels, level rods, total stations, basic survey computations, and their relationship to Computer Design Systems.

Electronics Technology A.A.S.

Steve Shen, Program Director

Students in the Electronics Technology program learn to troubleshoot, calibrate, test, and repair electronic components and circuit boards used in a wide range of electronic equipment including computers and communication equipment. Training includes working knowledge of direct and alternating current theory, semiconductor circuits, instrumentation, automatic controls, data communications, computerized communication links, and operational amplifiers. Students become familiar with robotics, electronic communications theory, and modes of RF communications.

Students are awarded the Associate of Applied Science degree upon successful completion of the program.

Associate of Applied Science - Electronics Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 63

Required Cumulative GPA: 2.0

Electronics Technology core courses

Rule: All courses are required

Note: CSCI 113 C++ Programming may be substituted for CSCI 110.
WRIT 121 Technical Writing may be substituted for WRIT 101.

	Course	Credits
	CSCI 105 - Computer Fluency Offered autumn and spring. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CSCI 105 and CRT 111 and CS 111.	3 Credits
	CSCI 113 - Programming with C++ I Offered intermittently. M 090 or ALEKS score >2 recommended prior to taking course. Object oriented programming using C++. Implementation of structured programming concepts along with construction of classes to create data types for defining objects.	3 Credits

	ETEC 105 - DC Circuit Analysis Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to direct current (DC) and analysis of series, parallel, and series-parallel circuits. Topics include electrical quantities, units of measurement, measurement instruments, resistors, current, voltage, power, energy, network theorems, equivalent circuits, magnetism, and electromagnetism. Laboratory experiments include circuit analysis; the proper use of measurement equipment and techniques; and troubleshooting.	4 Credits
	ETEC 106 - AC Circuit Analysis Offered autumn and spring. Analysis of alternating current (AC) circuits and the behavior of capacitors, inductors, reactance, impedance, transformers, and signal filters. Laboratory experiments include circuit analysis, the use of proper measurement equipment, and troubleshooting.	3 Credits
	ETEC 113 - Circuits Lab Offered autumn. Prereq/Co-req., ETEC 105. Covers proper techniques of soldering and tool usage. Electronic technical language, hands on troubleshooting skills and basic electronic measurements are involved.	1 Credits
	ETEC 245 - Digital Electronics Offered autumn. Prereq., ETEC 250. Explores digital electronic circuits and devices that make up a computer system. Topics include binary and hexadecimal number systems, Boolean algebra and digital logic theory, simple logic circuits, combinational logic, and sequential logic. Also covered is the analog-to-digital and digital-to-analog interfaces between a digital system and the real (analog) world. Includes hands-on labs.	4 Credits
	ETEC 250 - Solid State Electronics I Offered spring. Prereq. ETEC 105. An introduction to semiconductor technologies used in solid state electronics with an emphasis on diodes and transistors. Classroom concepts are reinforced through lab-based experiments.	4 Credits
	ETEC 251 - Solid State Electronics II Offered autumn. Prereq. ETEC 250. An introduction to semiconductor technologies used in solid state electronics with an emphasis on amplifier circuits, field effect transistors, thyristors, and operational amplifiers. Classroom concepts are reinforced through lab-based experiments.	3 Credits
	ETEC 260 - Data and Network Communication Offered autumn. Prereq., ETEC 250. Explores the principles, applications, and theory of data communication systems. Topics include communication concepts and terminology, analog and digital channel characteristics, signaling techniques for analog and digital data, communication codes, transmission media, and standards and protocols for various data communication systems including computer networks, and the public switched telephone network. Includes hands-on labs.	3 Credits

	ETEC 265 - Control Systems Offered autumn. Prereq., ETEC 250. The course provides a comprehensive coverage of components, circuits, instruments, and control techniques used in continuous and discrete automatic control systems, and focuses on basic principles, operation and applications. Programming, interfacing, and applications of programmable logic controllers are emphasized, including PLC hardware components, ladder logic diagram, fundamentals of PLC programming, and PLC interfacing and troubleshooting. Laboratory experiments and course projects are included in the course.	4 Credits
	ETEC 270 - Wireless Communications Offered autumn. Prereq., ETEC 250. Explores audio and radio frequency (RF) circuits. Topics include AM and FM signal modulation and demodulation, RF transmitters, RF receivers, RF amplifiers, audio amplifiers, oscillators, mixers, and antennas. Includes hands-on labs.	4 Credits
	ETEC 275 - Microprocessors Offered spring. Prereq., ETEC 250 and prereq., or Co-req., CSCI 113. The course introduces the fundamental concepts, basic principles of the architecture, organization, operation and applications of microprocessors and microcontrollers. Programming in assembly language and in C, and interfacing of microprocessor systems are emphasized. Laboratory experiments and course projects are included in the course to increase the hands-on skills of the students.	4 Credits
	ETEC 299 - Electronics Capstone Offered spring. Prereq., ETEC 275. Completion of project prototypes. Includes comprehensive final project from conception to market.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits

	SCN 175N - Integrated Physical Science I Offered every term. An introduction to the basic principles of physics, chemistry, and nuclear reactions with emphasis on the scientific method and process. A knowledge of basic algebraic functions, decimals, and scientific notation is recommended. Suitable for students with little science background.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		63 Total Credits Required

Energy Technology A.A.S.

Bradley Layton, Program Director

Students in the Energy Technology program are introduced to the full suite of energy sources and technologies. Graduates will be general practitioners that are equipped with skills in design, installation, and maintenance of diverse energy technologies and systems; sales, operations, and management; regulatory compliance; basic electricity and power systems; energy storage and distribution; site assessment; basic energy economics; efficiency and conservation strategies; and project management. Students may enter the program in either autumn or spring term. Further information can be found at http://ace.mc.umt.edu/nrg/.

Associate of Applied Science - Energy Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 69

Required Cumulative GPA: 2.0

Energy Technology Core Requirements

Rule: All courses are required

Note: WRIT 121 Technical Writing may be substituted for WRIT 101 at the discretion of the program director based on future career and educational goals.
BGEN 160S Issue in Sustainability may be substituted for BGEN 105S at the discretion of the program director.
ETEC 214 Energy Storage and Distribution may be substituted for ETEC 213 at the discretion of the program director.

	Course	**Credits**

	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	ETEC 105 - DC Circuit Analysis Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to direct current (DC) and analysis of series, parallel, and series-parallel circuits. Topics include electrical quantities, units of measurement, measurement instruments, resistors, current, voltage, power, energy, network theorems, equivalent circuits, magnetism, and electromagnetism. Laboratory experiments include circuit analysis; the proper use of measurement equipment and techniques; and troubleshooting.	4 Credits
	ETEC 106 - AC Circuit Analysis Offered autumn and spring. Analysis of alternating current (AC) circuits and the behavior of capacitors, inductors, reactance, impedance, transformers, and signal filters. Laboratory experiments include circuit analysis, the use of proper measurement equipment, and troubleshooting.	3 Credits
	ETEC 113 - Circuits Lab Offered autumn. Prereq/Co-req., ETEC 105. Covers proper techniques of soldering and tool usage. Electronic technical language, hands on troubleshooting skills and basic electronic measurements are involved.	1 Credits
	ETEC 213 - Power Systems Technology Offered spring. Prereq., ETEC 106, M 121, Prereq/Co-req., M 122. A review of the principles of electricity, magnetism, and transformer action; the application of these principles in the operation of single-phase and three-phase ac/de motors, alternators, and generators; and the control methods for these electrical devices.	3 Credits
	ITS 221 - Project Management Offered autumn. Prereq., CSCI 172. Investigation of topics in project management including scope, definition, risk, procurement and the RFP. Management of time, cost, quality, and human resources. Concepts are reinforced with PM software.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits

	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	NRGY 101N - Intro to Sustainable Energy Offered autumn. A survey of traditional energy systems and technologies. Introduces conventional primary energy sources--coal, oil, gas, nuclear--and examines the technologies used to capture, convert, distribute, store, and utilize these energy sources. Consideration is given to physical and engineering aspects, as well as economic, social environmental, and political factors that determine the sustainability of these sources.	3 Credits
	NRGY 102 - Intro to Sustainable Energy II Offered autumn and spring. Prereq., NRGY 101 or consent of instructor. Same as CCS 102. A survey of renewable energy systems and technologies. Addresses physical and technical aspects of wind, solar, geothermal, hydro, tidal, biological, and wave energy systems. Consideration is given to engineering, economic, social, environmental, and political factors that determine implementation and sustainability. Credit not allowed for both NRG 102 and CCS 102.	3 Credits
	NRGY 195 - Practicum Offered summer only. Prereq., NRGY 101, M 121 or consent of instructor. Same as CCS 191. The practicum provides students with a supervised field experience. Students will gain hands-on experience with energy specific technologies in a fast-paced creative environment. This course increases students' occupational awareness and professionalism.	2 Credits
	NRGY 235 - Building Energy Efficiency Offered Spring. Prereq., NRGY 101. Provides an overview of energy efficiency opportunities in residential buildings with an emphasis on the Passivhaus standard. Prepares the student to take the National RESNET Home Energy Rater Exam, which is a required final exam. Local home and industry tours, and hands-on exposure to HVAC controls and maintenance are also offered. Study of the analysis techniques used for reduction of energy consumption and energy management, including energy accounting and energy auditing. Residential and commercial building energy efficiency opportunities will be covered. Other topics addressed include motors, pumps, green building, and purchasing energy supplies. Career opportunities in energy efficiency will be discussed. Several local tours of energy-efficient homes will occur throughout the semester.	3 Credits
	NRGY 298 - Internship Offered every term. Prereq., M 121 and consent of instructor. Same as CCS 298. Extended classroom experience providing practical application of classroom learning through on the job training in a student's field of study. This experience increases student skills, prepares them for initial employment, and increases occupational awareness and professionalism.	2 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		51 Total Credits Required

Energy Technology Science Requirements

Rule: Take 3 credits

Note: ENSC 105N Environmental Science may be substituted for SCN 176N at the discretion of the program director based on future career and educational goals.

	Course	**Credits**
	SCN 175N - Integrated Physical Science I Offered every term. An introduction to the basic principles of physics, chemistry, and nuclear reactions with emphasis on the scientific method and process. A knowledge of basic algebraic functions, decimals, and scientific notation is recommended. Suitable for students with little science background.	3 Credits
	SCN 176N - Integrated Phys. Science II Offered spring term intermittently. An introduction to the fundamental principles of environmental and earth sciences. Course emphasizes the scientific method and process of science.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Energy Electives

Rule: Take 15 credits

Note: 3 credits of a general elective may be substituted in place of 3 credits of energy electives. This substitution must be approved by the program director.

	Course	**Credits**

	NRGY 241 - Alternative Fuels Offered autumn. Prereq., NRGY 101, M 121. Identifies alternative fuel sources; explores fuel characteristics; identifies and evaluates the infrastructure required to produce, store, distribute, and use them; discusses emission and conversion efficiencies; assesses social, environmental, and economic impacts.	3 Credits
	NRGY 242 - Solar Thermal & Wind Systems Offered autumn. Prereq., NRGY 101, M 121, Prereq., or Co-req., M 122. Same as CCS 242. Introduction to the fundamentals of solar and wind energy for the design and installation of solar thermal and wind systems. Includes an overview of the physics and chemistry of the resource and the technology, and will prepare students for a career in renewable energy or for installing a renewable energy system on their own home. Credit given for NRG 242 or CCS 242, not both.	3 Credits
	NRGY 243 - Fundmtl PV Design & Install Offered spring. Prereq., M 121, Prereq./Co-req., ETEC 105. An introduction to the fundamental principles and technologies of solar photovoltaic energy systems. Emphasis on system design and installation, including site and resource assessment, load analysis, troubleshooting, and cost analysis. The material covered prepares students for a career in renewable energy or for installing a renewable energy system on their own home.	3 Credits
	NRGY 244 - Bioenergy Offered spring. Prereqs., SCN 175N, M 121 and NRGY 102, or consent of instructor. Investigates the physical nature of various biorenewable resources and the technologies currently employed to produce, harvest, refine and convert these into useable energy, feedstocks and products.	3 Credits
	NRGY 245 - Fuel Cells Offered spring. Prereq., NRGY 101, M 121. An introduction to the different types of fuel cells (hydrogen, biological, metal/air, proton exchange membrane, etc.) accompanied by a critical examination of their applications, operation, efficiencies, advantages and disadvantages. Students must purchase a fuel cell kit for a laboratory component.	3 Credits
	NRGY 246 - Geothermal Energy Technology Offered Autumn. Prereqs., NRGY 101 and 102 and M 121. An introduction to the physical and technical aspects of geothermal energy systems. Topics covered include the fundamental principles of geology and hydrology, heat flow mechanisms, and a consideration of heat exchange systems including: dry steam, flash, binary systems, heat pumps, passive systems. The course also surveys political, economic, ecological, and social aspects of geothermal energy development.	3 Credits
	NRGY 250 - Energy Finance Offered summer. An introduction to the terminology, policies, and mathematical models for financing energy technology projects. Concepts covered include time value of money, tax code, triple bottom line, and cost-benefit analysis. Microsoft Excel will be used.	3 Credits

	NRGY 270 - Recycling Technology Prereq., Familiarity with general materials and their properties is assumed. Students must possess basic word processing skills, be able to download and open relatively large PDF files, and perform functions such as loading software and navigating between folders and files. Familiarity with basic computing skills is a must for online courses and will significantly influence your course experience. Provides an overview of recycling opportunities at both the residential and industrial scale. Prepares the student to work with a variety of materials including cellulosic, plastic, metal, glass and electronics waste. Students will be exposed to ANSI-IREC standards as well as LEED standards for repurposing and “upcycling” materials. Local home and industry tours, and hands-on exposure to materials processors such as glass pulverizer, cardboard grinders and plastics extruders will be part of the course. Study of efficiency techniques used for reduction of virgin material consumption and waste management, including materials auditing and accessing international materials reclamation will be included. Career opportunities in a variety of industries related to materials reclamation will be discussed. Possible projects include the building of a solar thermal forge.	4 Credits
	NRGY 290 - Undergraduate Research Offered every term. Preq., consent of instr. Independent research under the direction of a faculty member.	1 To 10 Credits
	NRGY 291 - Special Topics (R-6) Offered intermittently. Experimental offerings of Energy Technology faculty and visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 4 Credits
	NRGY 292 - Independent Study (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	NRGY 299 - Energy Technology Capstone (R-9) Offered spring and autumn. Students participate in an energy technology design, building, testing, and competition. Previous examples include participation in the Shell EcoMarathon and the American Society of Mechanical Engineering Human Powered Vehicle Challenge. This course is very time intensive and will require meetings outside of regularly scheduled class times. Travel to competition is strongly encouraged, but not required.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Programming and App Development

Thomas Gallagher, Program Director

Programming and App Development concentration emphasizes application development and business processes. Students learn to write software using an object-oriented programming paradigm for deployment to the web and the desktop. Relational database design, structured query language (SQL), and the ability to create applications which push and pull information from databases are highlighted. Graduates seek careers as computer support specialists, help desk technicians, web developers, software developers, and database administrators.

Associate of Applied Science - Information Technology; Programming andApp Development Option

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 60
Required Cumulative GPA: 2.0

Information Technology Core Courses

Rule: All courses are required
Note: Completion of IT core courses fulfills requirements for CAS in computer support.

	Course	Credits
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	CSCI 105 - Computer Fluency Offered autumn and spring. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CSCI 105 and CRT 111 and CS 111.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	ITS 150 - CCNA 1: Exploration Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. Introduction to networking field including terminology; protocols; local-area and wide-area networks; the OSI model; topologies; IP addressing; cabling and cabling tools; routers and router programming. Ethernet and network standards; and wireless technologies.	3 Credits
	ITS 165 - OS Commands and Scripts Offered spring. Introduction to operating system concepts through the use of contemporary software. Emphasizes file system management, networking, installation, maintenance, management, and disaster recovery practices using both the command interpreter and graphical user interface.	3 Credits

	ITS 210 - Network OS - Desktop Offered autumn. Prereq., ITS 150. In-depth study of a secure, multi-user, client-based network operating system. Topics include installation, administration of resources, performance, network services, and security.	3 Credits
	ITS 280 - Computer Repair & Maint. Offered autumn. Prereq./Co-req, ITS 150. In-depth study of personal computer hardware. Focus on field replaceable components. Topics include: storage devices, processors, system boards, memory, ports, cabling, power supplies, multimedia devices, printers, and troubleshooting.	3 Credits
	ITS 289 - Professional Certification (R-4) Offered autumn and spring. Prereq., consent of instr. Review objectives of an information technology industry-based professional certification. Certification objectives, preparation strategies, and exam strategies included. Course can be repeated for different industry-based professional certifications.	1 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		28 Total Credits Required

> *Mathematics*
> **Rule:** Any Mathematics course level 115 or higher

Programming and App Development Option Requirements

Rule: All courses are required

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	CSCI 113 - Programming with C++ I Offered intermittently. M 090 or ALEKS score >2 recommended prior to taking course. Object oriented programming using C++. Implementation of structured programming concepts along with construction of classes to create data types for defining objects.	3 Credits

	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 215E - Social & Ethical Issues in CS Offered autumn and spring. Prereq., WRIT 101. Exploration of ethical issues in the field of computing. Skills needed to identify and analyze various ethical concerns. Standard ethical concepts and theories, methods of ethical analysis. Strong emphasis on practical application of the ethical process.	3 Credits
	CSCI 221 - System Analysis and Design Offered spring. Prereq., CSCI 240. Analysis of the system development life cycle. Emphasis on planning, analyzing, designing, implementing and supporting information systems to meet business requirements. Covers feasibility studies, time and cost estimates, modeling tools, design tools, implementation and support strategies. A simulated business design project will be developed.	3 Credits
	CSCI 240 - Databases and SQL Offered autumn. Prereq., CSCI 172 or consent of instr. Relational database design including: requirements analysis, data structure, entity relationships, normalization, relational algebra and integrity. Physical implementation focusing on data storage; retrieval and modification; concurrency; optimization; security; SQL; and XML.	3 Credits
	ITS 298 - Internship/Cooperative Educati Offered autumn and spring. Not open to non-majors. On-the-job training in positions requiring information technology competencies. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend a weekly one-hour seminar.	2 Credits
	MART 232 - Interactive Web II Offered autumn and spring. Prereq., CAPP 120, CSCI 105, or consent of instr. Provides a background and foundation skills required for designing and implementing Web sites for public and private organizations. Marketing and design techniques are applied using state-of-the-art software.	3 Credits
Minimum Required Grade: C-		23 Total Credits Required

Programming and App Development Directed Electives

Rule: Required; take a minimum of 6 credits

Note: Student must select at least two directed elective courses (minimum of 6 credits). Directed electives must be approved by student's advisor. Examples of directed electives may include courses from the ACTG, BGEN, COMX, CSCI, DDSN, ITS, or WRIT rubrics. A student may request substitution of other courses to fulfill the directed elective requirement provided a clear connection can be made between a course, a student's career objective, and the degree program. All substitution requests require departmental approval.

Minimum Required Grade: C-

6 Total Credits Required

Network Administration and Security

Thomas Gallagher, Program Director

Network Administrator has become a common job title across all career fields. The Network Administration and Security concentration provides students with a background in network administration for supporting users and computing in a networked environment. Coursework in network operating systems, server administration, routers, switches, security, and IP telephony are all embedded in the Network Administration and Security concentration.

The University of Montana is a Cisco Networking Academy, IBM Academic Alliance, & a CompTIA Authorized Academy, and a member of the Microsoft Developers Network Academic Alliance. Opportunities exist for professional certification from Cisco (CCNA, CCENT, CCVA), Microsoft and Comp TIA (A+, Network+ and Security+).

Students entering the program should be prepared with basic computing skills (keyboarding, word processing, file management, and Internet applications) and adequate preparation in mathematics (completion of M 090 or equivalent placement scores). Underprepared students should allocate an additional semester to the suggested four semester sequence.

Associate of Applied Science - Information Technology; Network Admin and Security Option

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 60

Required Cumulative GPA: 2.0

Information Technology Core Courses

Rule: All courses are required

Note: Completion of IT core courses fulfills requirements for CAS in computer support.

	Course	Credits
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	CSCI 105 - Computer Fluency Offered autumn and spring. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CSCI 105 and CRT 111 and CS 111.	3 Credits
	CSCI 110 - Programming - VB I Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to object-oriented programming using an even-driven paradigm. Basic concepts of control structures, data handling, documentation, and error control. Fundamentals of algorithm design and structured software development.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits

	ITS 150 - CCNA 1: Exploration Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. Introduction to networking field including terminology; protocols; local-area and wide-area networks; the OSI model; topologies; IP addressing; cabling and cabling tools; routers and router programming. Ethernet and network standards; and wireless technologies.	3 Credits
	ITS 165 - OS Commands and Scripts Offered spring. Introduction to operating system concepts through the use of contemporary software. Emphasizes file system management, networking, installation, maintenance, management, and disaster recovery practices using both the command interpreter and graphical user interface.	3 Credits
	ITS 210 - Network OS - Desktop Offered autumn. Prereq., ITS 150. In-depth study of a secure, multi-user, client-based network operating system. Topics include installation, administration of resources, performance, network services, and security.	3 Credits
	ITS 280 - Computer Repair & Maint. Offered autumn. Prereq./Co-req, ITS 150. In-depth study of personal computer hardware. Focus on field replaceable components. Topics include: storage devices, processors, system boards, memory, ports, cabling, power supplies, multimedia devices, printers, and troubleshooting.	3 Credits
	ITS 289 - Professional Certification (R-4) Offered autumn and spring. Prereq., consent of instr. Review objectives of an information technology industry-based professional certification. Certification objectives, preparation strategies, and exam strategies included. Course can be repeated for different industry-based professional certifications.	1 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		28 Total Credits Required

> *Mathematics*
>
> **Rule:** Any Mathematics course level 115 or higher

Network Administration and Security Option Requirements

Rule: All courses are required

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	CSCI 215E - Social & Ethical Issues in CS Offered autumn and spring. Prereq., WRIT 101. Exploration of ethical issues in the field of computing. Skills needed to identify and analyze various ethical concerns. Standard ethical concepts and theories, methods of ethical analysis. Strong emphasis on practical application of the ethical process.	3 Credits
	ITS 152 - CCNA 2: Exploration Offered fall. Prereq., ITS 150. Covers router theory and technologies including configurations, IOS software management, routine protocol configuration, TCP/IP, access-lists and introduction to LAN switching.	3 Credits
	ITS 212 - Network OS - Server Admin Offered autumn. Prereq./Co-req, ITS 210. Server technologies commonly used in local area networking. Topics include installation, administration, storage, application services, network services, security, reliability, and availability.	3 Credits
	ITS 214 - Network OS - Infrastructure Offered fall. Prereq., ITS 212. Principles and implementation of enterprise networking services. Topics include Protocol Binding, DNS, DHCP, WINS, Remote Access, IP Routing, IP Security, Network Address Translation, and Certificate Services.	3 Credits
	ITS 222 - Enterprise Security Offered spring. Prereq./Co-req, ITS 214. Examination of general information technology security concepts. Topics include access control, authentication, attack methods, remote access, web security, wireless networks, cryptography, internal infrastructure security, and external attacks. Security procedures, organizational policies, risk management and disaster recovery addressed.	3 Credits
	ITS 250 - CCNA 3: Exploration Offered spring (first half). Prereq., ITS 152. Covers router configurations including advanced IP addressing techniques, variable length subnet masking, intermediate routing protocols, Ethernet switching, virtual LANs, spanning-tree protocol, and VLAN trucking protocol.	3 Credits
	ITS 252 - CCNA 4: Exploration Offered (second half). Prereq., ITS 152. Project-based course in wide-area networking including advanced IP addressing techniques, network address translation, port address translation, DHCP, WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, network management, and introduction to optical networking.	3 Credits
	ITS 298 - Internship/Cooperative Educati Offered autumn and spring. Not open to non-majors. On-the-job training in positions requiring information technology competencies. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend a weekly one-hour seminar.	2 Credits

Minimum Required Grade: C-	29 Total Credits Required

Security Course Requirement

Rule: One course required

	Course	Credits
	ITS 271 - Securing Desktop/Mobile Dev. Course provides advanced technical information and relevant skills to successfully secure end-user devices, including desktop and laptop systems, tablets, cellular phones, and other portable computing equipment. Building on existing knowledge and skills in the areas of server management, network management, and security, students will gain mastery-level knowledge of security issues and best practices. Course content covers client/server exposures and protections (authentication options, packet signing and encryption of network traffic, appropriate implementation of permissions and rights); malware threats and treatments; transmission choices and precautions (wired, wireless, remote desktop access, virtual private networking (VPN)); cloud computing considerations; and corporate mobile device best practices. Hardening of the operating system and application software is also covered. Course content will focus on business-focused security practices to prepare students for Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server 2008/2012 & Mware.	4 Credits
	ITS 273 - Securing Networks Course provides advanced technical information and relevant skills to secure servers and business information. Building on existing knowledge and skills in the areas of server management, network management, and security, students will gain mastery-level knowledge of security issues and best practices. Students will examine and apply hardening techniques to operating systems and infrastructure-based applications. Strategies to ensure business continuity and data security are emphasized, including policy, data preservation, disaster preparedness, and disaster recovery. Legal guidelines and requirements, both domestic and international, are examined in the context of responsible and ethical computer use. Course content will focus on business-focused security practices to prepare students for the Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server 2008/2012 & Mware.	4 Credits

	ITS 275 - Border/Perimeter Network Sec Course provides advanced technical information and relevant skills to successfully secure computer networks at the public/private interface. Material focuses on hardware- and software-based techniques to prevent and monitor unauthorized or malicious access to corporate networks and servers. Building on existing knowledge of border and perimeter security, students will develop and implement best practices guidelines for boundary-related devices and software. Students will establish baseline assessments of network security from public access points and identify known and/or potential security vulnerabilities. Course content will focus on business-focused security practices to prepare students for the Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server 2008/2012 & Mware.	4 Credits
	ITS 277 - Software Assurance and File Sy Course provides advanced technical information and relevant skills to methodically secure software, including operating systems, custom application software, and commercially-available packages. Students will classify application software (including, but not limited to customer-facing, employee/partner, mobile/endpoint, database, and cloud-based), and perform risk analyses and common weakness assessments against these programs. Students will research various commercial, professional, and governmental security organizations and create a personalized repository of security-related checklists, toolkits, reference material, and resources. Students will investigate low-level file system structures such as master file tables, allocation tables, free space tables, file table entries, and metadata fields. Using common file signatures and checksums, students will verify internal content against external and metadata indicators. Students will examine 'hidden' disk space areas, including file, volume, and/or partition slack. Course content will focus on business-focused security practices to prepare students for Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server 2008/2012 & Mware.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Computer Aided Design Certificate

Thomas Gallagher, Interim Program Director

The Computer Aided Design (CAD) program offers graduates a pathway into professional careers as technicians in civil, mechanical, and architectural drafting. Other career opportunities exist in geographic information systems, mapping, surveying, and technical design. This one-year program prepares students in mathematics, business, and writing, as well as the following skills: graphic communications; computer-aided design and modeling systems; geographic information systems; and surveying. Graduates emerge with an understanding of how to use computer aided design software to solve real-world graphic communications problems in a team-oriented environment.

Certificate of Applied Science - Computer Aided Design

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 34

Required Cumulative GPA: 2.0

Computer Aided Design Core Certificate Courses

Rule: All courses are required

Note: WRIT 121 Technical Writing may be substituted for WRIT 101 at the discretion of the program advisor based on future career and educational goals.

	Course	Credits
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	CSCI 105 - Computer Fluency Offered autumn and spring. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CSCI 105 and CRT 111 and CS 111.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	DDSN 113 - Technical Drafting Offered autumn. An introduction to the techniques and standard practices of communicating technical graphics. The class studies and practices drawing skills and learns the drawing standards that support the needs of the design team in advancing ideas. It also provides the foundation for successful drawing communication in the CAD environment. Topics covered include; drawing media and tools, hand drawing skills, perspectives, views, sketching, standard scales, geometric construction, sections, dimensioning, and tolerances.	3 Credits
	DDSN 114 - Introduction to CAD Offered autumn. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to computer aided design and drafting software for production of drawings and plans for architecture and engineering systems. Fundamentals of two dimensional drafting and drawing management for professional design.	3 Credits

	DDSN 116 - 3D CAD Offered autumn. Prereq. or Co-req., DDSN 114. CAD II provides a project-based, in-depth study of the skills and concepts involved in Computer Aided Design and Drafting. Topics covered include object grouping and sharing; three dimensional modeling; animation; and interoperability with other software. This course is the second in a two-part series covering the core AutoCAD application.	3 Credits
	DDSN 244 - GIS Mapping Offered Spring. Basics of geospatial technologies; remotely sensed imagery, GIS, and GPS and how each of the individual areas can be used together to analyze spatial datasets. Students will explore a wide range of spatial data and will learn to apply these data sets to real-world solutions.	3 Credits
	DDSN 245 - Civil Drafting Offered spring. Prereq. DDSN 114. Introduces students to computer aided design software for common survey and engineering design and drafting applications. Topics include collection of survey data; the coordinate geometry system; surfaces; subdivision and land planning; road design and corridor modeling; utilities; site grading and drainage; mapping; and 3D visualization.	4 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	SRVY 230 - Intro to Srvyg for Engineers Offered spring. M 090 or ALEKS score >2 recommended prior to taking course. Basic principles of civil surveying and the use of surveying equipment. Surveying introduces students to the link between field (construction) and office (design) practices. Students will become familiar with Global Positioning Systems (GPS), levels, level rods, total stations, basic survey computations, and their relationship to Computer Design Systems.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		34 Total Credits Required

Computer Support Certificate

Thomas Gallagher, Program Director

Computer Support is a 31-credit certificate program that prepares students for entry-level positions in the computing field. Required coursework includes programming, operating systems, networking, PC hardware, data modeling, and web technologies. Graduates pursue careers as help desk technicians, computer repair professionals, and computer support specialists. All students have the opportunity to complete the CompTIA A+ Computer Support Specialist industry certification. Coursework for the certificate program also leads to the A.A.S. degree in Information Technology.

Certificate of Applied Science - Computer Support

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 31

Required Cumulative GPA: 2.0

Computer Support Core Courses

Rule: All courses are required

Note: null

	Course	Credits
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	CSCI 105 - Computer Fluency Offered autumn and spring. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CSCI 105 and CRT 111 and CS 111.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	ITS 150 - CCNA 1: Exploration Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. Introduction to networking field including terminology; protocols; local-area and wide-area networks; the OSI model; topologies; IP addressing; cabling and cabling tools; routers and router programming. Ethernet and network standards; and wireless technologies.	3 Credits

	ITS 165 - OS Commands and Scripts Offered spring. Introduction to operating system concepts through the use of contemporary software. Emphasizes file system management, networking, installation, maintenance, management, and disaster recovery practices using both the command interpreter and graphical user interface.	3 Credits
	ITS 210 - Network OS - Desktop Offered autumn. Prereq., ITS 150. In-depth study of a secure, multi-user, client-based network operating system. Topics include installation, administration of resources, performance, network services, and security.	3 Credits
	ITS 280 - Computer Repair & Maint. Offered autumn. Prereq./Co-req, ITS 150. In-depth study of personal computer hardware. Focus on field replaceable components. Topics include: storage devices, processors, system boards, memory, ports, cabling, power supplies, multimedia devices, printers, and troubleshooting.	3 Credits
	ITS 289 - Professional Certification (R-4) Offered autumn and spring. Prereq., consent of instr. Review objectives of an information technology industry-based professional certification. Certification objectives, preparation strategies, and exam strategies included. Course can be repeated for different industry-based professional certifications.	1 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		28 Total Credits Required

Mathematics

Rule: Chose one course from the following or any Mathematics course having one of these as a prerequisite

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits

	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Energy Technology Certificate

Bradley Layton, Program Director

The Energy Technology program offers a 30-credit certificate preparing students for entry-level positions in the energy technology field. Required coursework includes mathematics; writing; energy technologies and systems; and energy storage and distribution. Coursework for the certificate program also leads to the A.A.S. degree in Energy Technology.

Certificate of Applied Science - Energy Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 30

Required Cumulative GPA: 2.0

Energy Technology Core Requirements

Rule: All courses are required

Note: WRIT 121 Technical Writing may be substituted for WRIT 101 at the discretion of the program director based on future career and educational goals.
BGEN 160S Issue in Sustainability may be substituted for BGEN 105S at the discretion of the program director.
ETEC 214 Energy Storage and Distribution may be substituted for ETEC 213 at the discretion of the program director.

	Course	**Credits**
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits

	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	ETEC 105 - DC Circuit Analysis Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to direct current (DC) and analysis of series, parallel, and series-parallel circuits. Topics include electrical quantities, units of measurement, measurement instruments, resistors, current, voltage, power, energy, network theorems, equivalent circuits, magnetism, and electromagnetism. Laboratory experiments include circuit analysis; the proper use of measurement equipment and techniques; and troubleshooting.	4 Credits
	ETEC 106 - AC Circuit Analysis Offered autumn and spring. Analysis of alternating current (AC) circuits and the behavior of capacitors, inductors, reactance, impedance, transformers, and signal filters. Laboratory experiments include circuit analysis, the use of proper measurement equipment, and troubleshooting.	3 Credits
	ETEC 113 - Circuits Lab Offered autumn. Prereq/Co-req., ETEC 105. Covers proper techniques of soldering and tool usage. Electronic technical language, hands on troubleshooting skills and basic electronic measurements are involved.	1 Credits
	ETEC 213 - Power Systems Technology Offered spring. Prereq., ETEC 106, M 121, Prereq/Co-req., M 122. A review of the principles of electricity, magnetism, and transformer action; the application of these principles in the operation of single-phase and three-phase ac/de motors, alternators, and generators; and the control methods for these electrical devices.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	NRGY 101N - Intro to Sustainable Energy Offered autumn. A survey of traditional energy systems and technologies. Introduces conventional primary energy sources--coal, oil, gas, nuclear--and examines the technologies used to capture, convert, distribute, store, and utilize these energy sources. Consideration is given to physical and engineering aspects, as well as economic, social environmental, and political factors that determine the sustainability of these sources.	3 Credits
	NRGY 195 - Practicum Offered summer only. Prereq., NRGY 101, M 121 or consent of instructor. Same as CCS 191. The practicum provides students with a supervised field experience. Students will gain hands-on experience with energy specific technologies in a fast-paced creative environment. This course increases students' occupational awareness and professionalism.	2 Credits

	NRGY 235 - Building Energy Efficiency Offered Spring. Prereq., NRGY 101. Provides an overview of energy efficiency opportunities in residential buildings with an emphasis on the Passivhaus standard. Prepares the student to take the National RESNET Home Energy Rater Exam, which is a required final exam. Local home and industry tours, and hands-on exposure to HVAC controls and maintenance are also offered. Study of the analysis techniques used for reduction of energy consumption and energy management, including energy accounting and energy auditing. Residential and commercial building energy efficiency opportunities will be covered. Other topics addressed include motors, pumps, green building, and purchasing energy supplies. Career opportunities in energy efficiency will be discussed. Several local tours of energy-efficient homes will occur throughout the semester.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		27 Total Credits Required

Energy Electives

Rule: Take 3 credits

	Course	Credits
	NRGY 241 - Alternative Fuels Offered autumn. Prereq., NRGY 101, M 121. Identifies alternative fuel sources; explores fuel characteristics; identifies and evaluates the infrastructure required to produce, store, distribute, and use them; discusses emission and conversion efficiencies; assesses social, environmental, and economic impacts.	3 Credits
	NRGY 242 - Solar Thermal & Wind Systems Offered autumn. Prereq., NRGY 101, M 121, Prereq., or Co-req., M 122. Same as CCS 242. Introduction to the fundamentals of solar and wind energy for the design and installation of solar thermal and wind systems. Includes an overview of the physics and chemistry of the resource and the technology, and will prepare students for a career in renewable energy or for installing a renewable energy system on their own home. Credit given for NRG 242 or CCS 242, not both.	3 Credits

	NRGY 243 - Fundmtl PV Design & Install Offered spring. Prereq., M 121, Prereq./Co-req., ETEC 105. An introduction to the fundamental principles and technologies of solar photovoltaic energy systems. Emphasis on system design and installation, including site and resource assessment, load analysis, troubleshooting, and cost analysis. The material covered prepares students for a career in renewable energy or for installing a renewable energy system on their own home.	3 Credits
	NRGY 244 - Bioenergy Offered spring. Prereqs., SCN 175N, M 121 and NRGY 102, or consent of instructor. Investigates the physical nature of various biorenewable resources and the technologies currently employed to produce, harvest, refine and convert these into useable energy, feedstocks and products.	3 Credits
	NRGY 245 - Fuel Cells Offered spring. Prereq., NRGY 101, M 121. An introduction to the different types of fuel cells (hydrogen, biological, metal/air, proton exchange membrane, etc.) accompanied by a critical examination of their applications, operation, efficiencies, advantages and disadvantages. Students must purchase a fuel cell kit for a laboratory component.	3 Credits
	NRGY 246 - Geothermal Energy Technology Offered Autumn. Prereqs., NRGY 101 and 102 and M 121. An introduction to the physical and technical aspects of geothermal energy systems. Topics covered include the fundamental principles of geology and hydrology, heat flow mechanisms, and a consideration of heat exchange systems including: dry steam, flash, binary systems, heat pumps, passive systems. The course also surveys political, economic, ecological, and social aspects of geothermal energy development.	3 Credits
	NRGY 250 - Energy Finance Offered summer. An introduction to the terminology, policies, and mathematical models for financing energy technology projects. Concepts covered include time value of money, tax code, triple bottom line, and cost-benefit analysis. Microsoft Excel will be used.	3 Credits
	NRGY 270 - Recycling Technology Prereq., Familiarity with general materials and their properties is assumed. Students must possess basic word processing skills, be able to download and open relatively large PDF files, and perform functions such as loading software and navigating between folders and files. Familiarity with basic computing skills is a must for online courses and will significantly influence your course experience. Provides an overview of recycling opportunities at both the residential and industrial scale. Prepares the student to work with a variety of materials including cellulosic, plastic, metal, glass and electronics waste. Students will be exposed to ANSI-IREC standards as well as LEED standards for repurposing and “upcycling” materials. Local home and industry tours, and hands-on exposure to materials processors such as glass pulverizer, cardboard grinders and plastics extruders will be part of the course. Study of efficiency techniques used for reduction of virgin material consumption and waste management, including materials auditing and accessing international materials reclamation will be included. Career opportunities in a variety of industries related to materials reclamation will be discussed. Possible projects include the building of a solar thermal forge.	4 Credits

	NRGY 290 - Undergraduate Research Offered every term. Preq., consent of instr. Independent research under the direction of a faculty member.	1 To 10 Credits
	NRGY 291 - Special Topics (R-6) Offered intermittently. Experimental offerings of Energy Technology faculty and visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 4 Credits
	NRGY 292 - Independent Study (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.	1 To 9 Credits
	NRGY 299 - Energy Technology Capstone (R-9) Offered spring and autumn. Students participate in an energy technology design, building, testing, and competition. Previous examples include participation in the Shell EcoMarathon and the American Society of Mechanical Engineering Human Powered Vehicle Challenge. This course is very time intensive and will require meetings outside of regularly scheduled class times. Travel to competition is strongly encouraged, but not required.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Cybersecurity

Professional Certificate - Cybersecurity

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 16

Required Cumulative GPA: 2.0

Note: Prerequisite skills needed to succeed in this proposed NIS certificate program are met with a degree in Network Management or related field or equivalent work experience. It would be helpful for incoming students to have industry certifications such as A+, CCNA, Security+, Microsoft Servers, or Net+ to establish an appropriate baseline skill set.

Core Certificate Courses

Rule: All courses are required

	Course	**Credits**

	ITS 271 - Securing Desktop/Mobile Dev. Course provides advanced technical information and relevant skills to successfully secure end-user devices, including desktop and laptop systems, tablets, cellular phones, and other portable computing equipment. Building on existing knowledge and skills in the areas of server management, network management, and security, students will gain mastery-level knowledge of security issues and best practices. Course content covers client/server exposures and protections (authentication options, packet signing and encryption of network traffic, appropriate implementation of permissions and rights); malware threats and treatments; transmission choices and precautions (wired, wireless, remote desktop access, virtual private networking (VPN)); cloud computing considerations; and corporate mobile device best practices. Hardening of the operating system and application software is also covered. Course content will focus on business-focused security practices to prepare students for Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server 2008/2012 & Mware.	4 Credits
	ITS 273 - Securing Networks Course provides advanced technical information and relevant skills to secure servers and business information. Building on existing knowledge and skills in the areas of server management, network management, and security, students will gain mastery-level knowledge of security issues and best practices. Students will examine and apply hardening techniques to operating systems and infrastructure-based applications. Strategies to ensure business continuity and data security are emphasized, including policy, data preservation, disaster preparedness, and disaster recovery. Legal guidelines and requirements, both domestic and international, are examined in the context of responsible and ethical computer use. Course content will focus on business-focused security practices to prepare students for the Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server 2008/2012 & Mware.	4 Credits
	ITS 275 - Border/Perimeter Network Sec Course provides advanced technical information and relevant skills to successfully secure computer networks at the public/private interface. Material focuses on hardware- and software-based techniques to prevent and monitor unauthorized or malicious access to corporate networks and servers. Building on existing knowledge of border and perimeter security, students will develop and implement best practices guidelines for boundary-related devices and software. Students will establish baseline assessments of network security from public access points and identify known and/or potential security vulnerabilities. Course content will focus on business-focused security practices to prepare students for the Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server 2008/2012 & Mware.	4 Credits

	ITS 277 - Software Assurance and File Sy Course provides advanced technical information and relevant skills to methodically secure software, including operating systems, custom application software, and commercially-available packages. Students will classify application software (including, but not limited to customer-facing, employee/partner, mobile/endpoint, database, and cloud-based), and perform risk analyses and common weakness assessments against these programs. Students will research various commercial, professional, and governmental security organizations and create a personalized repository of security-related checklists, toolkits, reference material, and resources. Students will investigate low-level file system structures such as master file tables, allocation tables, free space tables, file table entries, and metadata fields. Using common file signatures and checksums, students will verify internal content against external and metadata indicators. Students will examine 'hidden' disk space areas, including file, volume, and/or partition slack. Course content will focus on business-focused security practices to prepare students for Security+, CISSP, and Security Pro industry certifications. Prerequisite Skills: Course builds upon established skills in security, server management, and network management. Students should be working as a network manager or have completed appropriate skills-based coursework using MS Server 2008/2012 & Mware.	4 Credits
Minimum Required Grade: C-		16 Total Credits Required

Health Information Technology Health Professions

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Professional Certificate - Health Information Technology; Track: Health Professions

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 18

Required Cumulative GPA: 2.0

Note: This certificate requires the courses below in addition to the successful completion of a degree in a clinical health profession-related field, i.e. nursing.

Computing courses

Rule: All courses are required

	Course	**Credits**
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits

	CSCI 240 - Databases and SQL Offered autumn. Prereq., CSCI 172 or consent of instr. Relational database design including: requirements analysis, data structure, entity relationships, normalization, relational algebra and integrity. Physical implementation focusing on data storage; retrieval and modification; concurrency; optimization; security; SQL; and XML.	3 Credits
	HIT 101 - Intro to Healthcare Informatic Introduces the discipline of healthcare information technology. An overview of the subject including history, basic knowledge of healthcare informatics and tools as applied in support of healthcare delivery. Students will gain an introductory level about the complexities of health care and how informatics fits within the US Healthcare System.	3 Credits
	HIT 265 - Electronic Health Records Prereq., HIT 101. An introduction to the electronic health record (EHR). Students will study the use of the EHR in improving healthcare quality, accessibility, and cost-effectiveness. EHR implementation and its use within the internal clinical office will be examined. The EHR will be studied in the context of a comprehensive Health Information System (HIS) supporting our society's interdisciplinary clinical healthcare system.	3 Credits
	ITS 150 - CCNA 1: Exploration Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. Introduction to networking field including terminology; protocols; local-area and wide-area networks; the OSI model; topologies; IP addressing; cabling and cabling tools; routers and router programming. Ethernet and network standards; and wireless technologies.	3 Credits
	ITS 210 - Network OS - Desktop Offered autumn. Prereq., ITS 150. In-depth study of a secure, multi-user, client-based network operating system. Topics include installation, administration of resources, performance, network services, and security.	3 Credits
Minimum Required Grade: C-		18 Total Credits Required

Health Information Technology Computing

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Professional Certificate - Health Information Technology; Track: Computing

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 13

Required Cumulative GPA: 2.0

Note: This certificate requires both the courses listed below and the successful completion of a degree in a computing-related field, i.e. Information Technology.

Health Information Courses

Rule: All courses are required

	Course	Credits
	AHMS 144 - Medical Terminology Offered every term. Introduction to a medical word building system using Greek and Latin word roots, combining forms, suffixes, and prefixes.	3 Credits
	AHMS 156 - Medical Billing Fundamentals Offered every term. Prereq. or coreq., AHMS 220 or consent of instr. An introduction to insurance claim processing for the major medical insurance programs. Students will be provided with a basic knowledge of CPT and ICD-9 procedural and diagnostic coding. Emphasis on completing universal insurance forms to maximize reimbursement as well as trouble shoot denied or underpaid claims.	3 Credits
	HIT 101 - Intro to Healthcare Informatic Introduces the discipline of healthcare information technology. An overview of the subject including history, basic knowledge of healthcare informatics and tools as applied in support of healthcare delivery. Students will gain an introductory level about the complexities of health care and how informatics fits within the US Healthcare System.	3 Credits
	HIT 265 - Electronic Health Records Prereq., HIT 101. An introduction to the electronic health record (EHR). Students will study the use of the EHR in improving healthcare quality, accessibility, and cost-effectiveness. EHR implementation and its use within the internal clinical office will be examined. The EHR will be studied in the context of a comprehensive Health Information System (HIS) supporting our society's interdisciplinary clinical healthcare system.	3 Credits
	NRSG 100 - Introduction to Nursing Offered each semester. This online course is a prerequisite to the Practical Nursing program. Student will be presented with an introductory level of the core concepts of nursing practice and other issues such as the legal concerns and ethical/cultural issues that face professional nurses on a consistent basis.	1 Credits
Minimum Required Grade: C-		13 Total Credits Required

Electronics Technology (CAS)

Certificate of Applied Science - Electronics Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 31
Required Cumulative GPA: 2.0

Core Courses

Rule: Must complete all of the following courses:

	Course	Credits
	CSCI 105 - Computer Fluency Offered autumn and spring. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CSCI 105 and CRT 111 and CS 111.	3 Credits
	CSCI 113 - Programming with C++ I Offered intermittently. M 090 or ALEKS score >2 recommended prior to taking course. Object oriented programming using C++. Implementation of structured programming concepts along with construction of classes to create data types for defining objects.	3 Credits
	ETEC 105 - DC Circuit Analysis Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to direct current (DC) and analysis of series, parallel, and series-parallel circuits. Topics include electrical quantities, units of measurement, measurement instruments, resistors, current, voltage, power, energy, network theorems, equivalent circuits, magnetism, and electromagnetism. Laboratory experiments include circuit analysis; the proper use of measurement equipment and techniques; and troubleshooting.	4 Credits
	ETEC 106 - AC Circuit Analysis Offered autumn and spring. Analysis of alternating current (AC) circuits and the behavior of capacitors, inductors, reactance, impedance, transformers, and signal filters. Laboratory experiments include circuit analysis, the use of proper measurement equipment, and troubleshooting.	3 Credits
	ETEC 113 - Circuits Lab Offered autumn. Prereq/Co-req., ETEC 105. Covers proper techniques of soldering and tool usage. Electronic technical language, hands on troubleshooting skills and basic electronic measurements are involved.	1 Credits
	ETEC 250 - Solid State Electronics I Offered spring. Prereq. ETEC 105. An introduction to semiconductor technologies used in solid state electronics with an emphasis on diodes and transistors. Classroom concepts are reinforced through lab-based experiments.	4 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits

	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		31 Total Credits Required

Energy Auditor

Technical Certificate - Energy Auditor

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 18
Required Cumulative GPA: 2.0

Core Courses

Rule: Must complete all of the following courses:

	Course	**Credits**
	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	ETEC 213 - Power Systems Technology Offered spring. Prereq., ETEC 106, M 121, Prereq/Co-req., M 122. A review of the principles of electricity, magnetism, and transformer action; the application of these principles in the operation of single-phase and three-phase ac/de motors, alternators, and generators; and the control methods for these electrical devices.	3 Credits

	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	NRGY 101N - Intro to Sustainable Energy Offered autumn. A survey of traditional energy systems and technologies. Introduces conventional primary energy sources--coal, oil, gas, nuclear--and examines the technologies used to capture, convert, distribute, store, and utilize these energy sources. Consideration is given to physical and engineering aspects, as well as economic, social environmental, and political factors that determine the sustainability of these sources.	3 Credits
	NRGY 195 - Practicum Offered summer only. Prereq., NRGY 101, M 121 or consent of instructor. Same as CCS 191. The practicum provides students with a supervised field experience. Students will gain hands-on experience with energy specific technologies in a fast-paced creative environment. This course increases students' occupational awareness and professionalism.	2 Credits
	NRGY 235 - Building Energy Efficiency Offered Spring. Prereq., NRGY 101. Provides an overview of energy efficiency opportunities in residential buildings with an emphasis on the Passivhaus standard. Prepares the student to take the National RESNET Home Energy Rater Exam, which is a required final exam. Local home and industry tours, and hands-on exposure to HVAC controls and maintenance are also offered. Study of the analysis techniques used for reduction of energy consumption and energy management, including energy accounting and energy auditing. Residential and commercial building energy efficiency opportunities will be covered. Other topics addressed include motors, pumps, green building, and purchasing energy supplies. Career opportunities in energy efficiency will be discussed. Several local tours of energy-efficient homes will occur throughout the semester.	4 Credits
Minimum Required Grade: C-		18 Total Credits Required

Network & Information Security Professional

Technical Certificate - Recycling Technology

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 16
Required Cumulative GPA: 2.0

Core Courses

Rule: Must complete all of the following courses:

	Course	Credits
	BGEN 160S - Issues in Sustainability Offered every term. Same as CCN 160S. This literature-intensive course is intended to expose the student to a variety of essays addressing the balance of economic development with the principles of sustainability and social equity. The student is offered an introduction to sustainability concepts, natural systems/cycles and environmental economics. Natural capitalism and triple bottom line maximization is explored, along with the role of corporations and small businesses in sustainable development. A survey of issues surrounding corporate social responsibility and sustainability-driven innovation will be conducted.	3 Credits
	ITS 221 - Project Management Offered autumn. Prereq., CSCI 172. Investigation of topics in project management including scope, definition, risk, procurement and the RFP. Management of time, cost, quality, and human resources. Concepts are reinforced with PM software.	3 Credits
	NRGY 102 - Intro to Sustainable Energy II Offered autumn and spring. Prereq., NRGY 101 or consent of instructor. Same as CCS 102. A survey of renewable energy systems and technologies. Addresses physical and technical aspects of wind, solar, geothermal, hydro, tidal, biological, and wave energy systems. Consideration is given to engineering, economic, social, environmental, and political factors that determine implementation and sustainability. Credit not allowed for both NRG 102 and CCS 102.	3 Credits
	NRGY 241 - Alternative Fuels Offered autumn. Prereq., NRGY 101, M 121. Identifies alternative fuel sources; explores fuel characteristics; identifies and evaluates the infrastructure required to produce, store, distribute, and use them; discusses emission and conversion efficiencies; assesses social, environmental, and economic impacts.	3 Credits
	NRGY 270 - Recycling Technology Prereq., Familiarity with general materials and their properties is assumed. Students must possess basic word processing skills, be able to download and open relatively large PDF files, and perform functions such as loading software and navigating between folders and files. Familiarity with basic computing skills is a must for online courses and will significantly influence your course experience. Provides an overview of recycling opportunities at both the residential and industrial scale. Prepares the student to work with a variety of materials including cellulosic, plastic, metal, glass and electronics waste. Students will be exposed to ANSI-IREC standards as well as LEED standards for repurposing and “upcycling” materials. Local home and industry tours, and hands-on exposure to materials processors such as glass pulverizer, cardboard grinders and plastics extruders will be part of the course. Study of efficiency techniques used for reduction of virgin material consumption and waste management, including materials auditing and accessing international materials reclamation will be included. Career opportunities in a variety of industries related to materials reclamation will be discussed. Possible projects include the building of a solar thermal forge.	4 Credits
Minimum Required Grade: C-		16 Total Credits Required

Josef Crepeau, Chair

The Department of Applied Arts and Sciences provides instruction in five disciplines: communication, mathematics, behavioral science and psychology, science, and writing. Many courses from these disciplines count towards the general education requirements for the Associate of Arts (AA) degree and frequently are programmatic requirements for Associate of Applied Science (AAS) degrees.

Applied Arts and Sciences

Back to Top

- AASC 100 - Intro to University Experience
  Credits: 3. This course is designed to help new students make a successful transition to college and acquire the skills needed to become competent and successful in higher education. Topics include an introduction to campus resources and academic policies; motivation and time management; study skills and learning strategies; critical thinking and problem solving; ethics, diversity and collaboration; information literacy and research. The course culminates with a semester capstone project. Elective credit only. Credit not allowed for both AASC 100 and AASC 101.
- AASC 101 - Study & Learning Strategy
  Credits: 2. This course facilitates the development of skills needed to become competent and successful in higher education. Topics include management of classroom performance, time, and money; memory, listening and note-taking; reading and test-taking strategies; critical thinking and problem-solving; information literacy and research; ethics and diversity; stress management and healthy choices. Elective credit only. Credit not allowed for both AASC 100 and AASC 101. Course Attributes: Study Skills Course
- AASC 196T - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course
- AASC 291 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Art

Back to Top

- ARTZ 195 - Student Teaching
  Credits: 1 TO 6. (R-6) Offered intermittently. Organized student teaching.

Biology-General

Back to Top

- BIOB 295 - Student Teaching
  Credits: 1 TO 6. (R-6) Offered intermittently. Organized student teaching.

Biology-Human

Back to Top

- BIOH 108 - Basic Anatomy
  Credits: 3. Offered Intermittently. Structures of the human body and their basic functions.
- BIOH 201N - Human Anat Phys I (equiv 301)
  Credits: 4. Offered autumn and spring. Prereq., introductory science course or college-prep high school biology course recommended. Comprehensive knowledge of human form and function necessary for students preparing for health-related professions. Emphasis on structure, function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous

system. Required, integrated laboratory includes some dissection. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- BIOH 202N - Human Anat and Phys I Lab

  Credits: 4. Offered autumn and spring. Coreq., BIOH 201. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. A cadaver lab is included. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- BIOH 211N - Human Anat Phys II (equiv 311)

  Credits: 4. Offered autumn and spring. Prereq., and continuation of BIOH 201N. Comprehensive knowledge of human form and function necessary for students in health-related programs. Emphasis on structure function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. Required integrated laboratory includes frequent dissection. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- BIOH 212N - Human Anat Phys II Lab

  Credits: 4. Offered autumn and spring. Prereq., BIOH 201N. Coreq., BIOH 211. Continuation of 201N. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. A cadaver lab is included. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- BIOH 213N - The Biology of Behavior

  Credits: 3. Offered spring. Prereq., BIOB 101N. An introduction to the biological basis of human behavior, including neuron function and the roles of hormones, heredity, and environmental influences. Behavioral topics include sensation, learning, emotion, and issues such as obesity, addiction, and stress. Intended for students to satisfy the science with a lab general education requirement. Course Attributes: Natural Science Lab Course (N)

- BIOH 261 - Human Physiology lab

  Credits: 4. Offered autumn. Prereq., BIOH 201N, 202N, 211N, and 212N. In-depth exploration of principles and clinical consequences of the physiology of selected human organ systems. Building upon basic concepts covered in BIOH 201N, 202N, 211N, and 212N, students study membrane functions, neural physiology, nervous system integration, endocrine and peripheral nervous system function and coordination, circulatory, respiratory, renal, digestive, and reproductive physiology.

- BIOH 295 - Student Teaching

  Credits: 1 TO 6. (R-6) Offered intermittently. Organized student teaching.

Chemical Addiction Studies

Back to Top

- CAS 140X - Addictions and Diversity

  Credits: 3. Offered intermittently. This course required for students seeking to obtain their AA degree in Chemical and Addiction Studies and who wish to become Licensed Addiction Counselors in the State of Montana. Introduction to multicultural competencies where students will be exposed to the fundamentals of working with substance abusing and dependent individuals from the cultural impact of race, nationality, gender, age, sexual orientation, religion, and socio-economic status on the development and progression of alcohol/drug problems. Appropriate for students of Social Work, Psychology, community health, Business and Counseling students, Education, and those with an interest in diversity and addictions. Course Attributes: Cultural Intl Diversity (X)

- CAS 185 - Prevention Practices

  Credits: 3. Offered intermittently. This course required for students seeking to obtain their AA degree in Chemical and Addiction Studies and who wish to become Licensed Addiction Counselors in the State of Montana. The course introduces strategies for environmental prevention that focus on altering and improving the environment by changing social norms or attitudes, controlling the availability of illicit drugs or alcohol, or strengthening enforcement of laws and regulations. Risk and Protective Theory will be outlined, as well as the five categories of environmental strategies.

This course is appropriate for everyone who has or will have a role in prevention, education, community health, and/or community change. Required for Chemical Addiction Studies students. May also be appropriate for students of social work, psychology, sociology, community health or those with an interest in learning about alcohol and drug prevention in society.

- CAS 191 - Special Topics

  Credits: 3. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- CAS 195 - Field Work/Clinical/Practicum

  Credits: 1 TO 3. (R-3) Offered every autumn and spring. Prereq., CAS 185 and CAS 242 and consent of instructor. This field work placement focuses on PREVENTION and is created to provide Chemical Addiction Studies students with direct experience working in community organizations where they will create and implement alcohol and drug prevention activities. May also be appropriate for students of Social Work, Psychology, Sociology, Community Health or those with an interest in learning about prevention practices with direct experience in community organizations. Course Attributes: Internships/Practicums

- CAS 201 - Theories of Counseling

  Credits: 3. Offered intermittently. This is an entry level survey course of various approaches to counseling and psychotherapy and is a required course by the state of Montana for Addiction Counselor Licensure. The course is a mixture of lecture, discussion, experiential learning, demonstrations, role playing, viewing counseling sessions, and practice of the major contemporary models of counseling. Ethical and professional issues are also addressed.

- CAS 210 - Individual Counseling

  Credits: 3. Offered intermittently. Prereq., CAS 201 and CAS 242. This course is intended for students seeking to obtain their AA degree in Chemical and Addiction Studies and who wish to become Licensed Addiction Counselors in the State of Montana. Major theories and practice of individual counseling for the client with substance abusing or chemically dependent behavior is presented.

- CAS 225 - Group Counseling

  Credits: 3. Offered Intermittently. Prereq., CAS 201. This course is intended for students seeking to obtain their AA degree in Chemical and Addiction Studies and who wish to become Licensed Addiction Counselors in the State of Montana. Major theories and practice of counseling for the client with substance abusing or chemically dependent behavior in group settings. Includes comprehensive group approaches, family therapy and other appropriate group strategies. Includes group dynamics and strategies to managing group sessions.

- CAS 242 - Fund Subst Abuse and Addiction

  Credits: 3. This course is offered intermittently for students seeking to obtain their AA degree in Chemical and Addiction Studies and who wish to become Licensed Addiction Counselors in the State of Montana. May also be appropriate for Students of Social Work, Psychology, Sociology, or Community Health.

- CAS 243 - Substance Abuse Counseling I

  Credits: 3. Offered autumn and spring and summers intermittently. Prereq., CAS 242 and consent of instr. This course is required for students seeking to obtain their AA degree in Chemical and Addiction Studies and who wish to become Licensed Addiction Counselors in the State of Montana. This course is created to provide students specific knowledge regarding the theories, research, and evidenced-based literature in the provision of addiction counseling services. Students will be introduced to the overall scope of the problems of addictions, professional characteristics and principles of addiction counselors, ethical and legal responsibilities of professional behavior, addiction counseling skills and competencies required to be addiction counselors.

- CAS 248 - Substance Abuse Counseling II

  Credits: 3. Offered intermittently. Prereq., CAS 242 and consent of instr. This course is required for students seeking to obtain their AA degree in Chemical and Addiction Studies and who wish to become Licensed Addiction Counselors in the State of Montana. Meets specific State of Montana educational requirements associated with individual and group counseling for addiction, as well as ethics for addiction counselors. The course requires the student to draw upon the resources provided by experts. The course work significant amount of experiential application and counseling practice techniques.

- CAS 260 - Addiction Assess/Documentation

Credits: 3. Offered intermittently. Prereq., CAS 242 and consent of instr. This course is required for students seeking to obtain their AA degree in Chemical and Addiction Studies and who wish to become Licensed Addiction Counselors in the State of Montana. Intended to provide a comprehensive education to meet State of Montana education requirements for Licensure in Addiction Counseling. Students will be trained in clinical assessment diagnosis, treatment planning and patient record documentation with the client who has substance use disorders. Students will complete experiential application of the materials.

- CAS 291 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- CAS 292 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- CAS 295 - Field Work/Clinical/Practicum
  Credits: 1 TO 4. (R-4) Offered intermittently. Prereq., CAS 185, CAS 195, and CAS 242. This course is offered for students seeking to obtain their AA degree in Chemical and Addiction Studies and who wish to become Licensed Addiction Counselors in the State of Montana. This Field Work Placement focuses on addiction treatment and counseling activities. The student will work in the community under the supervision of an addiction treatment professional and be given the opportunity to witness and participate in alcohol and drug treatment counseling activities. Course Attributes: Internships/Practicums

Chemistry

Back to Top

- CHMY 195 - Student Teaching
  Credits: 1 TO 6. (R-6) Offered intermittently. Organized student teaching.

Communication

Back to Top

- COMX 102 - Interprsnl Skills in Workplace
  Credits: 1. This course will introduce students to interpersonal communication theory which can be applied to a workplace environment. Students will learn effective communication strategies that promote success in professional and personal relationships.
- COMX 140L - Intro to Visual Rhetoric
  Credits: 3. Offered autumn and spring. An introduction to the persuasive nature of visual symbols as texts. Readings will include historical to contemporary rhetorical criticisms on advertising, billboards, bodies, cartoons, memorials, and photography. Course Attributes: Lit & Artistic Studies (L)
- COMX 191 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- COMX 192 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.
- COMX 198 - Internship
  Credits: 1 TO 6. (R-6) Offered autumn and spring. Prerequisite, consent of instructor. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (398, 498) may count toward graduation.
- COMX 212X - Intro to Intercultural Com
  Credits: 3. Offered autumn and spring. This course provides students with an introduction to communicating across cultures. Local and global case studies and theories will be explored.

Students will explore the influence of immediate communication and social media on large scale social issues. Course Attributes: Cultural Intl Diversity (X)

- COMX 217A - Oral Interpretation of Lit

  Credits: 3. Offered intermittently. Introduction to orally presenting literature to an audience. Focus is on analyzing and performing prose, drama, poetry, and children's literature to express points of view. Course Attributes: Expressive Arts Course (A)

- COMX 219S - Survey of Children's Comm

  Credits: 3. Offered autumn. Focus on communication processes and contemporary communication environments of children and adolescents. Topics include language development and the brain, nonverbal communication development, media, contracting, bullying, and gender. Course Attributes: Social Sciences Course (S)

- COMX 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- COMX 292 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student.

Creative Writing

Back to Top

- CRWR 210A - Intro Fiction Workshop

  Credits: 3. Offered intermittently. This beginning writing workshop emphasizes the reading, discussion, and revision of students' short fiction. Students will be introduced to the technical elements of writing fiction. No prior experience in writing short fiction required. Course Attributes: Expressive Arts Course (A)

- CRWR 211A - Intro Poetry Workshop

  Credits: 3. Offered intermittently. This beginning writing workshop focuses on the reading, discussion, and revision of students' poems. Students will study and use models of poetic techniques. No prior experience in writing poetry required. Course Attributes: Expressive Arts Course (A)

- CRWR 240A - Intro Creative Writing Wrkshp

  Credits: 3. Offered every term. Beginning writing workshop designed for students to explore genres of creative writing with opportunities for students to write, and revise using genre-specific writing techniques. Course Attributes: Expressive Arts Course (A)

Environmental Studies

Back to Top

- ENST 231H - Nature and Society

  Credits: 3. Offered intermittently, autumn and spring. Prereq., WRIT 101. Explores the relationship between ideas about nature and the development of political and social ideas, institutions, and practices in primarily western (Euro-American) society. Course is an elective for students in the 2-uear AA and AAS degree programs. Course Attributes: Hist & Cultural Studies (H)
  Writing Course-Intermediate

Mathematics

Back to Top

- M 065 - Prealgebra

  Credits: 3. Offered every term. Prereq., ALEKS placement >= 1. Arithmetic and basic algebra skills needed for Introductory Algebra. Topics include integers and rational numbers, decimals and percentages with applications, ratios and proportions with applications, single variable linear equations with applications, introduction to graphing, exponents, factoring, and an introduction to

polynomials. Credit does not count toward a certificate or degree. Credit does not count toward Associate of Arts, Associate of Applied Science, or Baccalaureate degrees. MC Course Attributes: Technical Course

- M 090 - Introductory Algebra

  Credits: 3. Offered every term. Prereq., M 065 or ALEKS placement >= 2. Review of arithmetic principles of integers and rational numbers, linear equations in one or two unknowns, systems of linear equations and operations with polynomials and rational expressions. Credit does not count toward an Associate of Arts, Associate of Applied Science, or Baccalaureate degree. MC

- M 095 - Intermediate Algebra

  Credits: 3. Offered autumn and spring. Prereq., M 090 or ALEKS placement >= 3. Topics include linear equations, inequalities, applications and graphing; polynomials; radicals, rational exponents and complex numbers; quadratic equations. Graphing calculator required. Credit does not count toward Associate of Arts or Baccalaureate degrees. MC

- M 111 - Technical Mathematics

  Credits: 3. Offered autumn and spring. Prereq., ALEKS placement >= 2 or M 065. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing. Markdowns, inventory turnover, and other basic formulas. Credit does not count toward Associate of Arts or Baccalaureate degrees. MC Course Attributes: Technical Course

Psychology

Back to Top

- PSYX 161S - Fund of Organizational Psych

  Credits: 3. Offered intermittently. Foundation in the psychological processes that influence behavior of people in organizational settings. Course Attributes: Social Sciences Course (S)

- PSYX 230 - Developmental Psychology

  Credits: 3. Offered autumn, spring, summer. Prereq., PSYX 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect. Appropriate for Social Work, Nursing, Addiction Studies, Education, and Psychology.

- PSYX 238 - Adolescent Psychology

  Credits: 3. Offered every term. PreReq., PSYX 100S or PSYX 230S. This course is designed to provide an introduction to the physical, social, emotional, and cognitive developmental changes that occur during adolescence, as well as their relationships and cultural influences. Appropriate for students in Addiction Studies, Psychology, Social Work, Education, and other disciplines where a study of the adolescent is desired.

- PSYX 240 - Fund of Abnormal Psychology

  Credits: 3. Offered every term. Prereq., PSYX 100. This course provides a broad introduction to abnormal psychology, which includes defining abnormality, examining the history of abnormal psychology, identifying how abnormal psychology relates to other disciplines in psychology, exploring major research methods used in abnormal psychology, discussing various mental illnesses and their potential causes and possible treatments, and applying major abnormal psychological findings to practical problems.

Science (COT)

Back to Top

- SCN 095T - Special Topics

  Credits: 1 TO 6. Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- SCN 100N - Issues in Biology

  Credits: 3. Offered autumn and spring. An introductory course for students with little science background. This course explores several issues relating to human biology such as cancer, drug abuse, population growth, and genetic engineering. Also includes discussions of fundamental

biological concepts such as evolution, biodiversity, and basic cell and molecular biology. Course Attributes: Natural Science Course (N)

- SCN 105N - Montana Ecosystems

  Credits: 3. Offered autumn and spring. An introduction to the landscapes and ecosystem diversity of Montana, with an emphasis on exploring the dominant habitats of western Montana. Required, integrated laboratory includes field trip investigations, classroom lab exercises, and presentations. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- SCN 120T - Technical Physics I

  Credits: 4. Offered intermittently. Prereq., M 095. Introduction to models, measurements, vectors, motion in a straight line, motion in a plane, Newton's laws of motion, application of Newton's laws, and circular motion and gravitation. Course Attributes: Technical Course

- SCN 175N - Integrated Physical Science I

  Credits: 3. Offered every term. An introduction to the basic principles of physics, chemistry, and nuclear reactions with emphasis on the scientific method and process. A knowledge of basic algebraic functions, decimals, and scientific notation is recommended. Suitable for students with little science background. Course Attributes: Natural Science Course (N)

- SCN 176N - Integrated Phys. Science II

  Credits: 3. Offered spring term intermittently. An introduction to the fundamental principles of environmental and earth sciences. Course emphasizes the scientific method and process of science. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- SCN 195T - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course

- SCN 196T - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course

- SCN 260N - The Biology of Behavior

  Credits: 3. Offered autumn and spring. Prereq., SCN 100N. An introduction to the biological basis of human behavior, including neuron function and the roles of hormones, heredity, and environmental influences. Behavioral topics include sensation, learning, emotion, and issues such as obesity, addiction, and stress. Intended for students to satisfy the science with a lab general education requirement. Course Attributes: Natural Science Lab Course (N) Natural Science Course (N)

- SCN 291 - Student Teaching

  Credits: 1 TO 6. (R-6) Offered intermittently. Organized student teaching.

- SCN 295T - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course

Writing

Back to Top

- WRIT 090T - Critical Writing Skills

  Credits: 3. Offered intermittently. Prereq., placement or referral by WRIT 101 instructor. Designed for students who need instruction and practice integrating critical thinking, reading, and writing before entering the required first-year writing course. Emphasis on drafting and revising. Grading by traditional letter system or NCR (no credit). Traditional letter grade only. Credit does not count toward a certificate or degree. Course Attributes: Technical Course

- WRIT 095 - Developmental Writing

  Credits: 3. Offered every term. Prereq., placement or referral by WRIT 101 instructor. Designed for students who need instruction and practice integrating critical thinking, reading and writing before entering the required first-year writing course. Emphasis on invention, drafting, and revision.

Grading A-F or NC (no credit). Credit does not count toward Associate of Arts or Baccalaureate degrees.

- WRIT 121 - Intro to Technical Writing
  Credits: 3. Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy. Course Attributes: Writing Course-Intermediate
- WRIT 191T - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course
- WRIT 192 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently.
- WRIT 221 - Intermediate Tech Writing
  Credits: 3. Offered intermittently. Prereq., WRIT 121, WRIT 101, or consent of instr. Continuation of technical writing with emphasis on technical text including editing for technical content, graphic placement, and document design as seen through the eye of the audience. Current critical issues in technical writing are discussed. Course Attributes: Writing Course-Intermediate
- WRIT 291T - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Course Attributes: Technical Course
- WRIT 292T - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently. Course material appropriate to the needs and objectives of the individual student. Course Attributes: Technical Course

Applied Arts and Sciences A.A.

The Department of Applied Arts and Sciences offers the Associate of Arts degree. The Associate of Arts degree is considered a general education transfer degree and does not include a major or minor course of study. To receive an Associate of Arts degree, students must:
• successfully complete all lower-division general education requirements with a letter grade of C- or better;
• earn a minimum of 60 credits, at least 30 of which must be from UM;
• and maintain an institutional cumulative GPA of 2.00 for all UM courses taken for a traditional letter grade (A-F).

Matriculating students may begin coursework in the autumn, spring or summer. Courses numbered below 100 do not count toward the 60 credit requirement or general education course requirements, but do fulfill financial aid credit load requirements. Up to 15 technical credits (courses with a "T" suffix) may be counted toward the total 60 required for the AA degree. For students who have earned an AAS degree, however, up to 20 credits of courses with a "T" suffix may apply toward the requirements for an AA degree.

Students planning on completing a baccalaureate degree are encouraged to select specific general education courses and electives that meet the requirements for that future major. Students work with their advisor to develop an AA degree plan to best prepare them to transition to a four-year degree.

Pathways within the Associate of Arts Degree

Although the AA does not include a major or minor course of study, students may elect to choose classes in a specific area of interest. Recognized pathways within the Associate of Arts degree include:
• Chemical and Addiction Studies
• Business
• Communication Studies
• Health IT
• Professional Communication
• Sociology
• For individuals attending the Montana Law Enforcement Academy, a specialized Associate of Arts degree is offered through a collaboration among Missoula College UM, the University of Montana Department Of Sociology, and the Montana Law Enforcement Academy in Helena, MT.

Concentrations within the Associate of Arts Degree

Similar to pathways or areas of emphasis within the AA degree concentrations are meant to help students focus on communication studies, an area of increasing demand to employers. Unlike areas of emphasis, these concentrations are recorded on the student's transcript a concentration of the AA degree itself.

Courses

An "R" after the course title indicates students may earn credit for each successful completion to the maximum number indicated after the "R." Credits earned beyond this maximum will not count towards the total required for the AA degree.

Associate of Arts - General AA

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 60

Required Cumulative GPA: 2.0

Note: The AA degree has three requirements: completion of UM's lower-division General Education Requirements (GERs), a minimum of 60 total earned credits, and a minimum cumulative GPA of 2.0. At least 30 of the total 60 degree credits must be earned from Missoula College or UM-Missoula. Missoula College students are limited to enrolling in lower-division coursework (course level 100 or 200).

Up to 15 technical credits may be counted towards the total 60 required for the AA. If the student has previously earned an AAS degree, the student may use up to 20 technical credits.

Mathematics

Rule: Any Mathematics course level 104 or higher (excluding M 111 Technical Mathematics).

Note: Appropriate placement into mathematics courses required. Prerequisites may apply. If a student successfully places into and completes a mathematics (either "M" or "STAT") course that is also considered a Symbolic System, that course may be used to count towards both the Mathematics and Symbolic Systems General Education Requirements.

Minimum Required Grade: C-

3-4 Total Credits Required

Writing Skills

Rule: Both WRIT 101 AND an Approved Writing Course are required.

Note: NOTE: Students who place into and successfully complete WRIT 201 are considered to have satisfied both the WRIT 101 and the Lower-Division Approved Writing Course General Education Requirements.

Minimum Required Grade: C-

6 Total Credits Required

WRIT 101

Rule: Take 1 of the courses below.

Note: Appropriate placement into WRIT 101/201 required. Prerequisites may apply.

	Course	Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
	WRIT 201 - College Writing II Offered autumn and spring. Prereq., placement or C or better in WRIT 101. MUSWA at or above 5.5, SAT/ACT essay at or above 11, a SAT writing section score at or above 700 or a Combined English/Writing portion of the ACT at or above 32. Designed for first year students with advanced writing ability and students who seek a lower-division writing course. Offers instruction in rhetorical reading and writing, particularly the study and practice of written argumentation in different academic and civic contexts.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Lower-Division Approved Writing Course

Rule: Any course designated as an Approved Writing Course during semester it's taken.

Symbolic System/Foreign Language

Rule: Students must complete either a Symbolic System OR a Foreign Language.
Minimum Required Grade: C-
3-10 Total Credits Required

Symbolic Systems

Rule: Successful completion of 1 course from the list below.

Note: Prerequisites apply for all courses listed above; some courses from this list are major-restricted. Other baccalaureate major-specific Symbolic Systems may be used in lieu of course list above; speak with your advisor for more information.

	Course	**Credits**
	M 136 - Math for K-8 Teachers II Offered autumn and spring. Prereq., M 135. Topics include introductory geometry, geometric constructions, congruence, similarity, measurement, coordinate geometry and an introduction to computer geometry.	4 Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Foreign Language

Rule: Successful completion of first-year sequence of a Modern and Classical Language (MCLL).

Note: A first-year sequence consists of 101 & 102 courses (5 credits each) for all MCLL majors except Irish; 101, 102, & 103 courses of Irish (3 credits each) must be completed. Students may take placement test to demonstrate proficiency to receive non-credit exemption from this requirement. Speak with your advisor for more information.

Perspectives

Rule: A minimum of 3 credits towards each Perspective Category is required.

Note: Some courses satisfy multiple Perspectives or GER Categories; visit with your advisor for more information. Students who take the maximum number of Perspective "double-dippers" possible will be able to complete the Perspectives with a total of 21 credits.

Minimum Required Grade: C-

21-27 Total Credits Required

Expressive Arts (A)

Rule: A minimum of three credits is required.

Literary & Artistic Studies (L)

Rule: A minimum of three credits is required.

Historical & Cultural Studies (H)

Rule: A minimum of three credits is required.

Social Sciences (S)

Rule: A minimum of three credits is required.

Ethical & Human Values (E)

Rule: A minimum of three credits is required.

American & European Perspectives (Y)

Rule: A minimum of three credits is required.

Indigenous & Global Perspectives (X)

Rule: A minimum of three credits is required.

Natural Sciences (N)

Rule: A minimum of six credits is required. At least one course must have a laboratory component.

AA Degree Electives

Rule: Number of elective credits required varies; student needs to ensure s/he earns at least 60 total credits for the AA degree.

Note: Transfer students may count up to 30 transfer credits towards the total 60 necessary for degree. A maximum of 15 technical credits may be counted towards the total 60. (A student may use 20 technical credits towards the 60 if s/he has earned an AAS degree.)

13-27 Total Credits Required

Healthcare Informatics A.A.

Associate of Arts - General AA; Track: Healthcare Informatics

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 66

Required Cumulative GPA: 2.0

Note: Upon completion of the required course work, students will have earned a General AA degree that meets the requirements for a Certificate of Applied Science (CAS) in Computer Support, the MUS core for maximum transferability of General Education requirements, and courses specifically required by the 2+2 articulation agreement with Montana Tech for a BS in Health Care Informatics.

Montana University System (MUS) Core General Education Requirements

Rule: All courses are required

Note: In addition to the categories above, students must ensure that at least one course they take during their college career has "significant content related to the cultural heritage of Native Americans." This requirement may be fulfilled through the Social Science/History elective, the Humanities/Fine Arts elective, or by taking an additional course. Please consult with an advisor about which courses fulfill both sets of requirements.

Minimum Required Grade: C-

32 Total Credits Required

Natural Science Perspective

Rule: All courses are required

	Course	Credits
	BIOH 201N - Human Anat Phys I (equiv 301) Offered autumn and spring. Prereq., introductory science course or college-prep high school biology course recommended. Comprehensive knowledge of human form and function necessary for students preparing for health-related professions. Emphasis on structure, function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. Required, integrated laboratory includes some dissection.	4 Credits
	BIOH 202N - Human Anat and Phys I Lab Offered autumn and spring. Coreq., BIOH 201. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. A cadaver lab is included.	4 Credits
	BIOH 211N - Human Anat Phys II (equiv 311) Offered autumn and spring. Prereq., and continuation of BIOH 201N. Comprehensive knowledge of human form and function necessary for students in health-related programs. Emphasis on structure function and homeostatic regulation of body systems with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. Required integrated laboratory includes frequent dissection.	4 Credits
	BIOH 212N - Human Anat Phys II Lab Offered autumn and spring. Prereq., BIOH 201N. Coreq., BIOH 211. Continuation of 201N. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. A cadaver lab is included.	4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Social Sciences/History Perspective

Rule: Take a minimum of 6 credits

Note: Must take one additional elective that fulfills the MUS Social Sciences/History perspective. Please note that the MUS Core general education requirements differ from the University of Montana general education requirements. Consult with your advisor to ensure that all requirements are met.

	Course	Credits

	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Mathematics Perspective

Rule: All courses are required

	Course	Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Communications Perspective

Rule: All courses are required

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Humanities/Fine Arts Perspective

Rule: Take a minimum of 6 credits

Note: Must take one additional elective that fulfills the MUS Humanities/Fine Art perspective. Please note that the MUS Core general education requirements differ from the University of Montana general education requirements. Consult with your advisor to ensure that all requirements are met.

	Course	**Credits**
	CSCI 215E - Social & Ethical Issues in CS Offered autumn and spring. Prereq., WRIT 101. Exploration of ethical issues in the field of computing. Skills needed to identify and analyze various ethical concerns. Standard ethical concepts and theories, methods of ethical analysis. Strong emphasis on practical application of the ethical process.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Cultural Diversity Perspective

Rule: Take a minimum of 3 credits

Note: Must take one elective that fulfills the MUS Cultural Diversity perspective. Please note that the MUS Core general education requirements differ from the University of Montana general education requirements. Consult with your advisor to ensure that all requirements are met.

Health Care Informatics Track Requirements

Rule: All courses are required

	Course	**Credits**
	AHMS 144 - Medical Terminology Offered every term. Introduction to a medical word building system using Greek and Latin word roots, combining forms, suffixes, and prefixes.	3 Credits

	CSCI 105 - Computer Fluency Offered autumn and spring. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CSCI 105 and CRT 111 and CS 111.	3 Credits
	CSCI 110 - Programming - VB I Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. An introduction to object-oriented programming using an even-driven paradigm. Basic concepts of control structures, data handling, documentation, and error control. Fundamentals of algorithm design and structured software development.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	CSCI 240 - Databases and SQL Offered autumn. Prereq., CSCI 172 or consent of instr. Relational database design including: requirements analysis, data structure, entity relationships, normalization, relational algebra and integrity. Physical implementation focusing on data storage; retrieval and modification; concurrency; optimization; security; SQL; and XML.	3 Credits
	HIT 101 - Intro to Healthcare Informatic Introduces the discipline of healthcare information technology. An overview of the subject including history, basic knowledge of healthcare informatics and tools as applied in support of healthcare delivery. Students will gain an introductory level about the complexities of health care and how informatics fits within the US Healthcare System.	3 Credits
	HIT 265 - Electronic Health Records Prereq., HIT 101. An introduction to the electronic health record (EHR). Students will study the use of the EHR in improving healthcare quality, accessibility, and cost-effectiveness. EHR implementation and its use within the internal clinical office will be examined. The EHR will be studied in the context of a comprehensive Health Information System (HIS) supporting our society's interdisciplinary clinical healthcare system.	3 Credits
	ITS 150 - CCNA 1: Exploration Offered autumn and spring. M 090 or ALEKS score >2 recommended prior to taking course. Introduction to networking field including terminology; protocols; local-area and wide-area networks; the OSI model; topologies; IP addressing; cabling and cabling tools; routers and router programming. Ethernet and network standards; and wireless technologies.	3 Credits
	ITS 165 - OS Commands and Scripts Offered spring. Introduction to operating system concepts through the use of contemporary software. Emphasizes file system management, networking, installation, maintenance, management, and disaster recovery practices using both the command interpreter and graphical user interface.	3 Credits

	ITS 210 - Network OS - Desktop Offered autumn. Prereq., ITS 150. In-depth study of a secure, multi-user, client-based network operating system. Topics include installation, administration of resources, performance, network services, and security.	3 Credits
	ITS 280 - Computer Repair & Maint. Offered autumn. Prereq./Co-req, ITS 150. In-depth study of personal computer hardware. Focus on field replaceable components. Topics include: storage devices, processors, system boards, memory, ports, cabling, power supplies, multimedia devices, printers, and troubleshooting.	3 Credits
	ITS 289 - Professional Certification (R-4) Offered autumn and spring. Prereq., consent of instr. Review objectives of an information technology industry-based professional certification. Certification objectives, preparation strategies, and exam strategies included. Course can be repeated for different industry-based professional certifications.	1 Credits
Minimum Required Grade: C-		34 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Applied Science

Missoula College Academic Advising Center

The Bachelor of Applied Science (BAS) degree is a baccalaureate degree designed for students who have earned an Associate of Applied Science (AAS) degree from a regionally accredited institution for higher education. The Missoula College section of the University of Montana-Missoula catalog identifies Associate of Applied Science degree programs offered at The University of Montana.

Interdisciplinary in nature, the BAS affords students the opportunity to identify an area or areas of concentration from which they will take upper-division courses. Students are encouraged to consider subject area(s) that will assist them with their academic and/or professional goals.

Specific requirements for the degree are: 1.) Completion of an AAS degree with a 2.50 GPA; 2.) Completion of a BAS degree plan identifying academic coursework which is approved by an identified degree plan advisor group; 3.) Completion of a minimum of 127 credits of coursework with 39 upper-division credits and a minimum 2.0 cumulative GPA; 4.) Completion of all UM General Education Requirements. Up to 50 credits earned from the AAS degree may count towards the 127 required for the BAS.

It is important to understand that the BAS degree does not identify a specific discipline major or minor, but rather areas of concentration.

Students interested in pursuing this degree should contact the BAS Advisor at 406-243-7801 for more information.

Bachelor of Applied Science - Applied Science

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 127

Required Cumulative GPA: 2.0

Note: null

Writing Skills

Rule: Both WRIT 101 AND an Approved Writing Course are required.

Note: NOTE: Students who place into and successfully complete WRIT 201 are considered to have satisfied both the WRIT 101 and the Lower-Division Approved Writing Course General Education Requirements.

Minimum Required Grade: C-

6 Total Credits Required

WRIT 101

Rule: Take 1 of the courses below.

Note: Appropriate placement into WRIT 101/201 required. Prerequisites may apply.

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
	WRIT 201 - College Writing II Offered autumn and spring. Prereq., placement or C or better in WRIT 101. MUSWA at or above 5.5, SAT/ACT essay at or above 11, a SAT writing section score at or above 700 or a Combined English/Writing portion of the ACT at or above 32. Designed for first year students with advanced writing ability and students who seek a lower-division writing course. Offers instruction in rhetorical reading and writing, particularly the study and practice of written argumentation in different academic and civic contexts.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Lower-Division Approved Writing Course

Rule: Any course designated as an Approved Writing Course during semester it's taken.

Perspectives

Rule: A minimum of 3 credits towards each Perspective Category is required, except Natural Sciences.

Note: Some courses satisfy multiple Perspectives or GER Categories. Some courses included in your specific degree plan may overlap with Perspective or other GER categories; visit with your advisor for more information.

Minimum Required Grade: C-

27 Total Credits Required

Expressive Arts (A)

Rule: A minimum of three credits is required.

Literary & Artistic Studies (L)

Rule: A minimum of three credits is required.

Historical & Cultural Studies (H)

Rule: A minimum of three credits is required.

Social Sciences (S)

Rule: A minimum of three credits is required.

Ethical & Human Values (E)

Rule: A minimum of three credits is required.

American & European Perspectives (Y)

Rule: A minimum of three credits is required.

Indigenous & Global Perspectives (X)

Rule: A minimum of three credits is required.

Natural Sciences (N)

Rule: A minimum of six credits is required. At least one course must have a laboratory component.

Symbolic System/Foreign Language

Rule: Students must complete either a Symbolic System OR a Foreign Language.

Minimum Required Grade: C-

3-10 Total Credits Required

Symbolic Systems

Rule: Successful completion of 1 course from the list below.

Note: Prerequisites apply for all courses listed below; some courses from this list are major-restricted. Other baccalaureate major-specific Symbolic Systems may be used in lieu of course list above; speak with your advisor for more information.

	Course	Credits
	M 133 - Geom & Meas for K-8 Teachers Offered autumn and spring. Prereq., M 132. The study of geometry and geometric measurement for prospective elementary and middle school teachers, including synthetic, transformational, and coordinate geometry, constructions, congruence and similarity, 2-dimensional and 3-dimensional measurement, and problem solving.	3 Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Foreign Language

Rule: Successful completion of first-year sequence of a Modern and Classical Language (MCLL).

Note: A first-year sequence usually consists of courses numbered 101 & 102 (5 credits each) for most catalog-approved languages, though some exceptions to this course numbering and sequencing apply. Depending on the language, students may take a placement test to demonstrate proficiency to receive non-credit exemption from this requirement. Refer to the General Education Requirements section of this catalog and speak with your advisor for more information.

Mathematics

Rule: Any Mathematics course level 104 or higher (excluding M 111 Technical Mathematics).

Note: Appropriate placement into mathematics courses required. Prerequisites may apply. If a student successfully places into and completes a mathematics (either "M" or "STAT") course that is also considered a Symbolic System, that course may be used to count towards both the Mathematics and Symbolic Systems General Education Requirements.

Minimum Required Grade: C-

3-4 Total Credits Required

Upper-Division Credit Requirement

Rule: 39 upper-division courses required for UM GERs. At least 30 of the 39 upper-division credits must be from the degree plan.

39 Total Credits Required

Upper-Division Writing

Rule: At least one upper-division writing course is required for UM GERs.

Note: This course may be included as part of the student's degree plan or total Upper-Division Credits.

3 Total Credits Required

AAS Degree Credits

Rule: Up to 50 technical credits earned from AAS may be counted towards the 127 required for the BAS.

Minimum Required Grade: C-

38-50 Total Credits Required

Communication Studies A.A.

Associate of Arts - General AA; Communication Studies Option

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 60

Required Cumulative GPA: 2.0

Note: The AA degree has three requirements: completion of UM's lower-division General Education Requirements (GERs), a minimum of 60 total earned credits, and a minimum cumulative GPA of 2.0. At least 30 of the total 60 degree credits must be earned from Missoula College or UM-Missoula. Missoula College students are limited to enrolling in lower-division coursework (course level 100 or 200).

Up to 15 technical credits may be counted towards the total 60 required for the AA. If the student has previously earned an AAS degree, the student may use up to 20 technical credits.

In addition, to receive to Associate of Arts with and Option in Communication Studies, a student must complete the requirements specific to that degree.

Degree Specific Requirements for AA with an Option in Communication Studies

Rule: All courses required

Note: Some courses required for the Associate of Arts with an Option in Communication Studies satisfy multiple Perspectives or GER Categories; visit with your advisor for more information.

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits

	COMX 140L - Intro to Visual Rhetoric Offered autumn and spring. An introduction to the persuasive nature of visual symbols as texts. Readings will include historical to contemporary rhetorical criticisms on advertising, billboards, bodies, cartoons, memorials, and photography.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		

Organizational Communication or Rhetorical Theory

Rule: Take one of the following

	Course	Credits
	COMX 220S - Intro to Organizational Comm Offered yearly. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.	3 Credits
	COMX 240H - Intro to Rhetorical Theory Offered yearly. An overview of rhetorical theory including an exploration of classical rhetoric, British and Continental rhetorical theory, and contemporary theories of language and persuasion.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Statistics

Rule: Take one of the following

Note: Completion of one of these courses satisfies the Symbolic Systems GER category.

	Course	Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Communication Elective

Rule: Complete 6 credits

Note: Student must select at least two directed elective courses (minimum of 6 credits). Directed electives must be approved by student's advisor.

Mathematics

Rule: Any Mathematics course level 104 or higher (excluding M 111 Technical Mathematics).

Note: Appropriate placement into mathematics courses required. Prerequisites may apply. If a student successfully places into and completes a mathematics (either "M" or "STAT") course that is also considered a Symbolic System, that course may be used to count towards both the Mathematics and Symbolic Systems General Education Requirements.

Minimum Required Grade: C-

3 Total Credits Required

Writing Skills

Rule: Both WRIT 101 AND an Approved Writing Course are required.

Note: NOTE: Students who place into and successfully complete WRIT 201 are considered to have satisfied both the WRIT 101 and the Lower-Division Approved Writing Course General Education Requirements.

Minimum Required Grade: C-

3 Total Credits Required

WRIT 101

Rule: Take 1 of the courses below.

Note: Appropriate placement into WRIT 101/201 required. Prerequisites may apply.

	Course	Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
	WRIT 201 - College Writing II Offered autumn and spring. Prereq., placement or C or better in WRIT 101. MUSWA at or above 5.5, SAT/ACT essay at or above 11, a SAT writing section score at or above 700 or a Combined English/Writing portion of the ACT at or above 32. Designed for first year students with advanced writing ability and students who seek a lower-division writing course. Offers instruction in rhetorical reading and writing, particularly the study and practice of written argumentation in different academic and civic contexts.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Lower-Division Approved Writing Course

Rule: Any course designated as an Approved Writing Course during semester it's taken.

Perspectives

Rule: A minimum of 3 credits towards each Perspective Category is required.

Note: Some courses satisfy multiple Perspectives or GER Categories; visit with your advisor for more information. Students who take the maximum number of Perspective "double-dippers" possible will be able to complete the Perspectives with a total of 21 credits.

In addition, courses required for the Associate of Arts with an Option in Communication Studies will satisfy applicable Perspectives or GER Categories.

Minimum Required Grade: C-

3 Total Credits Required

Expressive Arts (A)

Rule: A minimum of three credits is required.

Literary & Artistic Studies (L)

Rule: A minimum of three credits is required.

Historical & Cultural Studies (H)

Rule: A minimum of three credits is required.

Social Sciences (S)

Rule: A minimum of three credits is required.

Ethical & Human Values (E)

Rule: A minimum of three credits is required.

American & European Perspectives (Y)

Rule: A minimum of three credits is required.

Indigenous & Global Perspectives (X)

Rule: A minimum of three credits is required.

Natural Sciences (N)

Rule: A minimum of six credits is required. At least one course must have a laboratory component.

Symbolic System/Foreign Language

Rule: Students must complete either a Symbolic System OR a Foreign Language.
Minimum Required Grade: C-
3-10 Total Credits Required

Symbolic Systems

Rule: Successful completion of 1 course from the list below.

Note: Prerequisites apply for all courses listed above; some courses from this list are major-restricted. Other baccalaureate major-specific Symbolic Systems may be used in lieu of course list above; speak with your advisor for more information.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits

	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Foreign Language

Rule: Successful completion of first-year sequence of a Modern and Classical Language (MCLL).

Note: A first-year sequence consists of 101 & 102 courses (5 credits each) for all MCLL majors except Irish; 101, 102, & 103 courses of Irish (3 credits each) must be completed. Students may take placement test to demonstrate proficiency to receive non-credit exemption from this requirement. Speak with your advisor for more information.

AA Degree Electives

Rule: Number of elective credits required varies; student needs to ensure s/he earns at least 60 total credits for the AA degree.

Note: Transfer students may count up to 30 transfer credits towards the total 60 necessary for degree. A maximum of 15 technical credits may be counted towards the total 60. (A student may use 20 technical credits towards the 60 if s/he has earned an AAS degree.)

Minimum Required Grade: C-

13-27 Total Credits Required

Professional Communication A.A.

Associate of Arts - General AA; Professional Communication Option

Missoula College

Catalog Year: 2016-2017

Degree Specific Credits: 60

Required Cumulative GPA: 2.0

Note: The AA degree has three requirements: completion of UM's lower-division General Education Requirements (GERs), a minimum of 60 total earned credits, and a minimum cumulative GPA of 2.0. At least 30 of the total 60 degree credits must be earned from Missoula College or UM-Missoula. Missoula College students are limited to enrolling in lower-division coursework (course level 100 or 200).

Up to 15 technical credits may be counted towards the total 60 required for the AA. If the student has previously earned an AAS degree, the student may use up to 20 technical credits.

In addition, to receive to Associate of Arts with and Option in Professional Communication, a student must complete the requirements specific to that degree.

Degree Specific Requirements for AA with an Option in Professional Communication

Rule: All courses required

Note: Some courses required for the Associate of Arts with an Option in Professional Communication satisfy multiple Perspectives or GER Categories; visit with your advisor for more information.

	Course	**Credits**

	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	COMX 115S - Intro to Interpersonal Communc Offered autumn and spring. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills. Credit not allowed for both COMM 110S and COM 150S.	3 Credits
	COMX 140L - Intro to Visual Rhetoric Offered autumn and spring. An introduction to the persuasive nature of visual symbols as texts. Readings will include historical to contemporary rhetorical criticisms on advertising, billboards, bodies, cartoons, memorials, and photography.	3 Credits
	COMX 220S - Intro to Organizational Comm Offered yearly. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
	WRIT 121 - Intro to Technical Writing Offered every term. Introduction to technical writing situations that integrate text, design, and graphics. Emphasis is on evidence-based, informative writing that uses design and graphics to visually represent logic and organization. Course focuses on writing as a process and includes student self-assessment. Major assignments include a pure technical document, exploration of credibility, and public science writing. Students are expected to write without major faults in grammar or usage and to have basic computer literacy.	3 Credits

	WRIT 221 - Intermediate Tech Writing Offered intermittently. Prereq., WRIT 121, WRIT 101, or consent of instr. Continuation of technical writing with emphasis on technical text including editing for technical content, graphic placement, and document design as seen through the eye of the audience. Current critical issues in technical writing are discussed.	3 Credits
Minimum Required Grade: C-		

Statistics

Rule: Take one of the following

	Course	Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Communication Elective

Rule: Complete 3 credits

Note: Student must select at least two directed elective courses (minimum of 6 credits). Directed electives must be approved by student's advisor.

Mathematics

Rule: Any Mathematics course level 104 or higher (excluding M 111 Technical Mathematics).

Note: Appropriate placement into mathematics courses required. Prerequisites may apply. If a student successfully places into and completes a mathematics (either "M" or "STAT") course that is also considered a Symbolic System, that course may be used to count towards both the Mathematics and Symbolic Systems General Education Requirements.

Minimum Required Grade: C-

3 Total Credits Required

Writing Skills

Rule: Both WRIT 101 AND an Approved Writing Course are required.

Note: NOTE: Students who place into and successfully complete WRIT 201 are considered to have satisfied both the WRIT 101 and the Lower-Division Approved Writing Course General Education Requirements.

WRIT 101

Rule: Take 1 of the courses below.

Note: Appropriate placement into WRIT 101/201 required. Prerequisites may apply.

Lower-Division Approved Writing Course

Rule: Any course designated as an Approved Writing Course during semester it's taken.

Perspectives

Rule: A minimum of 3 credits towards each Perspective Category is required.

Note: Some courses satisfy multiple Perspectives or GER Categories; visit with your advisor for more information. Students who take the maximum number of Perspective "double-dippers" possible will be able to complete the Perspectives with a total of 21 credits.

In addition, courses required for the Associate of Arts with an Option in Communication Studies will satisfy applicable Perspectives or GER Categories.

Minimum Required Grade: C-

3 Total Credits Required

Expressive Arts (A)

Rule: A minimum of three credits is required.

Literary & Artistic Studies (L)

Rule: A minimum of three credits is required.

Historical & Cultural Studies (H)

Rule: A minimum of three credits is required.

Social Sciences (S)

Rule: A minimum of three credits is required.

Ethical & Human Values (E)

Rule: A minimum of three credits is required.

American & European Perspectives (Y)

Rule: A minimum of three credits is required.

Indigenous & Global Perspectives (X)

Rule: A minimum of three credits is required.

Natural Sciences (N)

Rule: A minimum of six credits is required. At least one course must have a laboratory component.

Symbolic System/Foreign Language

Rule: Students must complete either a Symbolic System OR a Foreign Language.

Minimum Required Grade: C-

3-10 Total Credits Required

Symbolic Systems

Rule: Successful completion of 1 course from the list below.

Note: Prerequisites apply for all courses listed above; some courses from this list are major-restricted. Other baccalaureate major-specific Symbolic Systems may be used in lieu of course list above; speak with your advisor for more information.

	Course	Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
	M 171 - Calculus I Offered autumn and spring. Prereq., M 122 or 151 or ALEKS placement >= 5. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.	4 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3-4 Total Credits Required

Foreign Language

Rule: Successful completion of first-year sequence of a Modern and Classical Language (MCLL).

Note: A first-year sequence consists of 101 & 102 courses (5 credits each) for all MCLL majors except Irish; 101, 102, & 103 courses of Irish (3 credits each) must be completed. Students may take placement test to demonstrate proficiency to receive non-credit exemption from this requirement. Speak with your advisor for more information.

AA Degree Electives

Rule: Number of elective credits required varies; student needs to ensure s/he earns at least 60 total credits for the AA degree.

Note: Transfer students may count up to 30 transfer credits towards the total 60 necessary for degree. A maximum of 15 technical credits may be counted towards the total 60. (A student may use 20 technical credits towards the 60 if s/he has earned an AAS degree.)

Minimum Required Grade: C-

13-27 Total Credits Required

College of Visual and Performing Arts

Stephen Kalm, Dean

The College of Visual and Performing Arts (CVPA) is comprised of four professionally accredited schools; Art, Media Arts, Music and Theatre & Dance. CVPA is committed to leadership in pedagogy, creative scholarship and professional performances and exhibitions. The College prides itself on its high achieving faculty, successful alumni and talented students. CVPA:

- serves UM students by teaching performing and visual arts with rigor and devotion, and by offering preparation and experience that enable students to succeed in the world of art, to perform and create with grace and maturity, and to teach with expertise and perspective
- serves the University, the community, state, region and nation, by presenting concerts, productions, and exhibitions of high quality, and by offering educational and research opportunities in the arts for all disciplines
- serves as the cultural center of the state and region
- provides national leadership in the arts by enhancing the excellence of traditional arts curricula, instruction and research with innovative and imaginative programs that utilize new technologies, incorporate various media, and enhance cultural and intellectual environments
- inspires the pursuit of excellence by encouraging creativity and expression through the arts

In addition, the College of Visual and Performing Arts offers *Creative Pulse: Master's Degree in Integrated Arts and Education* program for educators and education administrators during summer sessions. Creative Pulse students embrace and explore critical thinking processes and habits of the mind, enabling participants to develop, refine and integrate these processes into their own thinking and learning abilities, as well as those of their students.

For more information visit the College of Visual and Performing Arts website.

Name	Minor	Certificate	Associate	Bachelor
Art				Requirements
Art History/Criticism	Requirements			
Art Studio	Requirements			
Dance	Requirements			Requirements
Dance Specialization Education	Requirements			
Media Arts	Requirements			Requirements
Music	Requirements			Requirements
Music Education				Requirements
Theatre	Requirements			Requirements
Theatre Education	Requirements			

Theatre & Dance

Michael Monsos, Director

The School of Theatre & Dance is accredited by the National Association of Schools of Theatre (NAST) and is a member of the Association for Theatre in Higher Education (ATHE) and the United States Institute for Theatre Technology (USITT). The school is housed in the Performing Arts and Radio/Television Center, which includes three theatre/dance performance spaces and television/radio studios. The program is production-oriented with approximately ten major productions presented each year including contemporary, historical, period, musical, and experimental plays, as well as dance showcases and concerts. Montana Repertory Theatre and the

CoMotion Dance Project, professional touring companies based at UM, often involve students both on and off stage. The faculty is strong, possessing a diversity of educational and professional theatre and dance backgrounds.

The Bachelor of Arts with a major in Dance allows the student who plans to enter a dance career to select another major to complement that objective. The Bachelor of Arts with a major in Theatre provides the student with a broad liberal arts education and a general focus in theatre. The degree allows the student to complete an additional major and may form the basis for further training on the graduate level. The Bachelor of Arts with a major in Theatre and an area of specialization in Education Endorsement Preparation is designed for the student seeking teaching endorsement in the field of theatre. The Bachelor of Fine Arts with a major in Dance or Theatre is a professionally oriented degree designed for the student who plans to pursue a career in theatre, dance, or a related field. Areas of specialization are: Acting, Design/Technology, Choreography and Performance, and Teaching. Graduate programs lead to the Master of Arts in Theatre with a focus on either performance theory/criticism or teaching or the Master of Fine Arts in Theatre with areas of specialization in Acting, Design/Technology, or Directing.

For more information on the academic programs and to learn about Theatre & Dance productions, please visit our website.

Advisement

Each Theatre & Dance major or minor must have a faculty advisor who is assigned by the School and who is usually from the student's area. The School, through its advisement program, often recommends non-theatre and non-dance electives and specific General Education courses to the student depending on the student's area. Majors may not take core or area-required courses on a credit/no credit basis.

Auditions and Portfolio Reviews

Actors, dancers, designers and technicians undergo periodic review in the form of auditions or portfolio presentations. These ongoing evaluations provide each student with the opportunity and challenge of individualized critiques from faculty and professional staff.

Senior Project

A senior project is required of all students. The senior project is usually production-related and has both practical and written components. Requirements for the project vary and are outlined in the School of Theatre & Dance Handbook.

Department Faculty

Professors

Michele Antonioli, Professor of Dance
Randy Bolton, Professor of Theatre
Nicole Bradley Browning, Professor of Dance / Head of Dance
Jillian Campana, Professor of Theatre
Alessia Carpoca, Professor of Theatre / Head of Design & Technology
Mark Dean, Professor of Theatre
Gregory Johnson, Artistic Director, Montana Repertory Theatre / Professor of Theatre
Karen Kaufmann, Artistic Director, CoMotion Dance Project / Professor of Dance
Michael Monsos, School Director / Professor of Theatre

Associate Professors

John Kenneth DeBoer, Associate Professor of Theatre / Head of Performance & Practice
Heidi Eggert, Associate Professor of Dance
Bernadette Sweeney, Associate Professor of Theatre

Assistant Professors

Pamyla Stiehl, Assistant Professor of Theatre

Adjunct Faculty

Kelly Bouma, Instructor of Theatre
Sarah Donnelly, Instructor of Dance
Michael Fink, Instructor of Theatre
Joy French, Instructor of Dance
Sarah Fulford, Visiting Assistant Professor of Theatre

Zach Hamersley, Instructor of Theatre
Peter Musante, Instructor of Theatre
Linda Parker, Instructor of Dance
Tarn Ream, Instructor of Dance
Laurel Sears, Instructor of Dance
Teresa Waldorf, Educational Outreach Coordinator, Montana Repertory Theatre / Instructor of Theatre/Publicity Coordinator

Dance

Back to Top

- DANC 100A - Intro to Modern Dance
  Credits: 2. (R-4) Offered autumn and spring. Introduction to basic modern dance vocabulary through exercises for alignment, strength and flexibility and combinations across the floor. Course Attributes: Expressive Arts Course (A)
- DANC 108A - Dance Forms
  Credits: 1 TO 8. (R-8) Offered autumn and spring. Introduction to basic dance vocabulary and technique in a particular style. Course Attributes: Expressive Arts Course (A)
- DANC 110A - Intro to Ballet
  Credits: 2. (R-4) Offered autumn and spring. Introduction to basic ballet positions and steps. Course Attributes: Expressive Arts Course (A)
- DANC 115A - Intro to Jazz Dance
  Credits: 2. (R-4) Offered autumn and spring. Introduction to basic strengthening and stretching exercises and stylistic characteristics of jazz. Course Attributes: Expressive Arts Course (A)
- DANC 118A - Dance Forms: Tap
  Credits: 2. (R-8) Offered intermittently. Introduction to basic tap dance vocabulary and technique. Course Attributes: Expressive Arts Course (A)
- DANC 129A - Dance Performance Lab I
  Credits: 1. (R-7) Offered autumn and spring. Credit for rehearsing and performing in approved Theatre & Dance productions. Course Attributes: Expressive Arts Course (A)
- DANC 130A - Introduction to Dance
  Credits: 3. Offered autumn and spring. The various elements of dance and basic artistic principles underlying dance and all of the arts. Introduces the student to beginning-level dance vocabulary and dance skills as well as the creative process through direct experience. Course Attributes: Expressive Arts Course (A)
- DANC 160A - Dance Forms: Irish
  Credits: 2. (R-8) Offered autumn and spring. Introduction to basic Irish dance vocabulary and technique. Course Attributes: Expressive Arts Course (A)
- DANC 165A - Dance Forms: African
  Credits: 2. (R-8) Offered autumn. Introduction to basic African dance vocabulary and technique. Course Attributes: Expressive Arts Course (A)
- DANC 170A - Dance Forms: Tribal Belly
  Credits: 2. (R-8) Offered intermittently. Introduction to basic tribal-style belly dance vocabulary and technique. Course Attributes: Expressive Arts Course (A)
- DANC 191 - Special Topics
  Credits: 1 TO 6. (R-6) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- DANC 194 - Seminar/Workshop
  Credits: 1. Offered autumn and spring. Introduces incoming freshmen to the world of university dance and contemporary dance as a profession.
- DANC 200A - Contemporary Modern II

Credits: 2. (R-12) Offered autumn and spring. Prereq., DANC 100A. Continuation of the modern dance vocabulary at an advanced-beginner level. Course Attributes: Expressive Arts Course (A)

- DANC 205 - Improvisation
  Credits: 2. (R-6) Offered spring. Exploration of stimulus, structure and performance of improvised movement. Elements such as space, shape, motion, time, quality, form and awareness emphasized. Instructor-designed structures, transitioning to student-designed scores, culminating in improvised performance.
- DANC 210A - Ballet II
  Credits: 2. (R-12) Offered autumn and spring. Prereq., DANC 110A. Continuation of the ballet vocabulary at an advanced-beginner level. Course Attributes: Expressive Arts Course (A)
- DANC 215A - Jazz Dance II
  Credits: 2. (R-12) Offered autumn. Prereq., DANC 115A. Continuation of the jazz vocabulary at an advanced-beginner level. Course Attributes: Expressive Arts Course (A)
- DANC 220A - Creative Practice I
  Credits: 3. (R-6) Offered spring. Prereq., DANC 200A. Exploration of stimulus, structure, and performance of both composed and improvised movement. Elements such as space, shape, energy, motion, time, quality, form and awareness emphasized. Instructor-designed structures, transitioning to student-designed scores, culminating in originally created/improvised performance. Course Attributes: Expressive Arts Course (A)
- DANC 225 - Rehearsal & Performance
  Credits: 1 TO 4. (R-24) Offered autumn and spring. Open to students who are choreographing a dance for a concert or to those who have been selected through audition to perform.
- DANC 229A - Dance Performance Lab II
  Credits: 1. (R-7) Offered autumn and spring. Credit for rehearsing and performing in approved Theatre & Dance productions. Course Attributes: Expressive Arts Course (A)
- DANC 234L - Dance in Popular Movies
  Credits: 3. Offered spring odd-numbered years. Survey of the history of dance and movement on film, with specific focus on the use of and reasons for choreography in popular movies of specific decades. Course Attributes: Lit & Artistic Studies (L)
- DANC 280 - Dance Conditioning: Pilates
  Credits: 1. (R-8) Offered autumn and spring. Pilates mat (floor) exercises to build core control, strength and flexibility.
- DANC 294 - Seminar/Workshop
  Credits: 1. Offered autumn and spring. One-time offerings of current topics.
- DANC 295 - Student Teaching: Children's Dance
  Credits: 1. Offered autumn and spring. Students participate and gain beginning-level teaching experience in two of four dance classes for children ranging in ages from 3 ½ to 12 years old.
- DANC 298 - Cooperative Eductn/Internship
  Credits: 1. Offered intermittently. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (398, 498) may count toward graduation. Course Attributes: Internships/Practicums
- DANC 300 - Contemporary Modern III
  Credits: 3. (R-12) Offered autumn and spring. Prereq., DANC 200A. Extension of the modern dance vocabulary through lengthier combinations of movement.
- DANC 305 - Contact Improvisation
  Credits: 2. (R-6) Offered autumn odd-numbered years. The art of moving with one or more partners while using a shifting point of contact and supporting each other's weight. Skills such as rolling, suspending, falling and recovering together explored through physical sensations that use weight, counter-balance and yielding.
- DANC 310 - Ballet III

Credits: 2. (R-12) Offered autumn and spring. Development of ability to combine steps; carriage of head and arms.

- DANC 315 - Jazz III

  Credits: 2. (R-12) Offered autumn. Prereq., DANC 215A or consent of instr. Continuation of DANC 215A.

- DANC 320 - Creative Practice II

  Credits: 2. (R-6) Prereq., DANC 220A. Explores ways to manipulate several dancers in space, through repetition of shapes, through related rhythms. May include choreography for videotape.

- DANC 322 - Dance Touring

  Credits: 1 TO 4. (R-24) Offered autumn and spring. Prereq., audition. Rehearsal and touring to the community. Course Attributes: Service Learning/Volunteer Service Learning

- DANC 325 - Spirit Squad

  Credits: 1. (R-4) Offered autumn and spring. UM cheer and dance team selected during audition process each spring; students perform routines at the intermediate jazz level. Development of current dance performance, leadership, communication and organizational skills. (Only four credits of DANC 325, HHP 100-179, MS 203 and MS 315 may count toward a degree.) Course Attributes: PE Activity Skills Course

- DANC 329 - Dance Stage Management Practicum

  Credits: 1. (R-6) Offered autumn and spring. Stage management practicum involving stage managing or assistant stage managing a dance production. Involves evening and weekend work.

- DANC 334 - Dance History

  Credits: 3. Offered autumn odd-numbered years. Discussion of primary movements and major figures in American modern dance, including global influences and its relationship to cultural trends of the twentieth and twenty-first centuries.

- DANC 345 - Teaching for the Disabled

  Credits: 1. (R-4) Offered autumn and spring. Students interact with adults with developmental disabilities in an adaptive dance class where movement is used as a therapeutic modality for people with cognitive and physical impairments. Students interact with the participants, engage as role models and gain beginning teaching experience.

- DANC 346 - Methods: Dance in K-8

  Credits: 2. (R-4) Offered autumn and spring. Open to majors in elementary education. Techniques and applications for using movement in the public school setting. Focus on movement elements, lesson design and planning, standards for dance, multiple intelligence theory, assessment, classroom management techniques and multiculturalism.

- DANC 360L - World Dance

  Credits: 3. (R-6) Offered autumn odd-numbered years. Investigation of dances of diverse cultures. Study of dance as: an emblem of cultural identity, social order, power and gender-specific behavior; an expression of religion and/or ritual; a classical art form; and as a medium for personal expression in Western and non-Western world cultures. Course Attributes: Lit & Artistic Studies (L) Cultural Intl Diversity (X)

- DANC 380 - Science of Dance Movement

  Credits: 3. Offered spring even-numbered years. Study of the skeletal system and how it relates to dance movement. Basic kinesthetic principles, conditioning for dancers, and injury recognition and prevention.

- DANC 391 - Special Topics

  Credits: 1 TO 24. (R-24) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- DANC 392 - Independent Study

  Credits: 1 TO 3. (R-24) Offered autumn and spring. Prereq., consent of instr.

- DANC 394 - Seminar/Workshop

  Credits: 1. (R-2) Offered autumn and spring. One-time offerings of current topics.

- DANC 395 - Studio/Practicum

Credits: 1 TO 6. (R-12) Studio-based course, emphasizing one-on-one faculty instruction. Students meet during regularly scheduled times with faculty or in small groups throughout the semester to discuss the development of their individual work.

- DANC 399 - Jr Creat/Research Proj

  Credits: 1. (R-6) Offered autumn and spring. Independent study in choreography or a research paper which could be on such subjects as teaching styles, multiple intelligence theory, dance historical topics, dance injuries, etc. An initial proposal, a journal, and a paper are required.

- DANC 400 - Contemporary Modern IV

  Credits: 3. (R-12) Offered autumn and spring. Prereq., DANC 300. Performance of exercises and combinations that are technically demanding in strength, balance, weight, agility and line.

- DANC 404 - Adv Contemporary Modern

  Credits: 3. (R-12) Offered autumn and spring. Prereq., DANC 400, 6 cr., or equiv. skill, and consent of instr. Continuation of DANC 400.

- DANC 405 - Advanced Improvisation

  Credits: 2. (R-6) Prereq., DANC 205, 305. Exploration of improvisation and contact improvisation as performance art forms. Instructor and students collaboratively design, rehearse, and publicly perform improvisational scores.

- DANC 406 - Dance as a Healing Art

  Credits: 2. (R-6) Offered spring. Study of body movement as a reflection of inner emotional states. How changes in movement lead to changes in the psyche, promoting health and growth. Exploration of techniques for experiencing the inter-connection between movement and emotional expression.

- DANC 410 - Ballet IV

  Credits: 2. (R-12) Offered autumn and spring. Continues to build on skills developed in Ballet III; emphasis on developing advanced petite allegro, grand allegro, turns, and artistry.

- DANC 440 - Dance Pedagogy

  Credits: 3. (R-9) Offered autumn even-numbered years. Methods and experiences in teaching modern dance, ballet and jazz.

- DANC 446 - Teaching Projects

  Credits: 1 TO 6. (R-24) Offered autumn and spring. Prereq., consent of instr. Independent study that may involve either assisting in the teaching of a dance technique class or actually planning and teaching it. Course Attributes: Service Learning/Volunteer Service Learning

- DANC 491 - Special Topics

  Credits: 1 TO 24. (R-24) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- DANC 492 - Independent Study

  Credits: 1 TO 6. (R-9) Offered autumn and spring. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- DANC 494 - Junior/Senior Seminar

  Credits: 3. (R-6) Offered autumn even-numbered years. Seminar to discuss both practical and philosophical issues confronting dance students about to enter the "real" world. Course Attributes: Writing Course-Advanced

- DANC 495 - Practicum/Field Work

  Credits: 1 TO 6. (R-6) Studio-based course, emphasizing one-on-one faculty instruction. Students meet during regularly scheduled times with faculty or in small groups throughout the semester to discuss the development of their individual work.

- DANC 497 - Methods: Tchng Movmnt in Schls

  Credits: 3. Offered autumn odd-numbered years. Prereq., consent of instr. Experience in planning, observing and directing creative movement as a teaching tool in K-5.

- DANC 499 - Senior Thesis/Creative Project

  Credits: 2 TO 3. (R-6) Offered autumn and spring. Independent study in choreography or teaching. The student is responsible for setting up the project. An initial proposal, a journal, and a paper are

required.

- DANC 591 - Special Topics
  Credits: 1 TO 6. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate

Theatre

Back to Top

- THTR 101L - Introduction to Theatre
  Credits: 3. Offered autumn and spring. The various elements of play production and dance. The basic artistic principles underlying dance, theatre and all of the arts. Course Attributes: Lit & Artistic Studies (L) Democracy and Citizenship (Y)
- THTR 102A - Introduction to Theatre Design
  Credits: 3. Offered autumn. Basic understanding of the principles of design for the theatre and television, including the production elements of scenery, costumes and lighting. Course Attributes: Expressive Arts Course (A)
- THTR 103 - Introd to House Management
  Credits: 1. (R-3) Offered autumn and spring. Introduction to the skills and experience of the front-of-house staff for a theatrical production.
- THTR 106A - Theat Prod I: Run Crew
  Credits: 1. (R-6) Offered autumn and spring. Operation and running a show backstage on a scenery, costume, or prop crew for a major school production. Course Attributes: Expressive Arts Course (A)
- THTR 107A - Theat Prod I: Constr Crew
  Credits: 3. (R-9) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting under supervision. Most assignments involve very basic construction techniques and/or maintenance duties found in professional shop. Involves minimum of two 4-hour labs a week. Course Attributes: Expressive Arts Course (A)
- THTR 113A - Introduction to Voice Acting
  Credits: 3. An introduction to the skills and techniques required of the actor's voice to be effective in communication with others online, onstage, and in the world. Course Attributes: Expressive Arts Course (A)
- THTR 120A - Introduction to Acting I
  Credits: 3. Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage. Course Attributes: Expressive Arts Course (A)
- THTR 121 - Introduction to Acting II
  Credits: 3. Offered autumn and spring. Prereq., THTR 120A. Continuation of 120A.
- THTR 155 - Drawing Fundamntls for Theatre
  Credits: 3. Offered spring. Students will begin to develop skills in drawing the human form, perspective, and architecture.
- THTR 191 - Special Topics/Exprmtl Courses
  Credits: 1 TO 6. (R-6) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- THTR 202 - Stagecraft I
  Credits: 3. Offered autumn. Fundamental theories and hands-on application in the areas of costuming, lighting, scenery, and properties.
- THTR 203 - Stagecraft II: Scenery & Props
  Credits: 3. Offered spring. Fundamental theories and hands-on application in the areas of scenery, properties, and rigging.
- THTR 206 - Theat Prod II: Run Crew

Credits: 1. (R-6) Offered autumn and spring. Prereq., THTR 106A. Operation and running a show backstage, as in scenery, costumes, or props for a major school production.

- THTR 207 - Theat Prod II: Constr Crew

  Credits: 3. (R-6) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting. Advanced construction assignments and/or maintenance duties found in professional shop; possible supervision of a small construction crew. Involves minimum of two 4-hour labs a week.

- THTR 210 - Voice & Speech I

  Credits: 3. Offered autumn. Prereq., THTR 221 or consent of instr. Voice production, phonetics and speech for the stage.

- THTR 211 - Voice & Speech II

  Credits: 3. Offered spring. Prereq., THTR 210. Continuation of 210.

- THTR 220A - Acting I

  Credits: 3. Offered autumn and spring. Studio class intended to cultivate skill sets necessary for those with a background or interest in the craft of acting, especially those considering a career in the performing arts (theatre, music, dance, film, broadcasting): observation, imagination, concentration, improvisation, and character. Course Attributes: Expressive Arts Course (A)

- THTR 221 - Acting II

  Credits: 3. Offered spring. Prereq., THTR 220A. Continuation of 220A. Scene study and characterization. Works selected from realism and poetic realism, utilizing modern and contemporary scripts of the American masters.

- THTR 229 - Production Acting I

  Credits: 1. (R-4) Offered autumn and spring. Credit for acting in approved Drama/Dance productions.

- THTR 235L - Dramatic Literature

  Credits: 3. Offered autumn and spring. The study of representative texts in dramatic literature as a foundation for play analysis. Course Attributes: Lit & Artistic Studies (L)

- THTR 239A - Creative Drama/Dance: K-8

  Credits: 2. Offered autumn and spring. Restricted to majors in Elementary Education and Early Childhood Education: P-3. Focus on the use of creative drama and dance as types of educational tools. Students will explore, experience, and implement creative teaching methods in order to promote scholarship through kinesthetic teaching in elementary education. Course Attributes: Expressive Arts Course (A)

- THTR 245 - Int Costume Construction

  Credits: 3. Offered spring. Intermediate costume construction focusing on the development of skills needed to function as a stitcher.

- THTR 249 - Stage Makeup

  Credits: 2. Offered spring. Principles of and practice in theatrical makeup. Students will work on makeup for major productions.

- THTR 255 - Drafting for Theatre I

  Credits: 3. Offered spring. Drawing techniques for the theatre with an emphasis on drafting as utilized by technicians, designers, stage managers and directors.

- THTR 264 - Master Electrician

  Credits: 2. Offered intermittently. Prereq., THTR 107A, THTR 202, or consent of instr. Training for the position of master electrician and assistant lighting designer. Practical application of production planning, lighting paperwork, overseeing lighting crews, advanced electrical theory, power distribution, and creative problem solving. Students will work on major school productions.

- THTR 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- THTR 292 - Independent Study

Credits: 1 TO 12. (R-12) Offered autumn and spring. Independent study in all the arts of the theatre.

- THTR 305 - Theatre Workshop III

  Credits: 1 TO 20. (R-20) Offered autumn and spring. Prereq., consent of instructor. Advanced laboratory production in all the arts of the theatre.

- THTR 306 - Summer Theatre

  Credits: 1 TO 12. (R-12) Offered summer. Prereq., consent of instr. Practicum in school-approved summer theatre companies in the capacity of actor, designer, director, stage manager and/or technician.

- THTR 307 - Production Construction I

  Credits: 3. (R-12) Offered autumn and spring. Prereq., THTR 107A and consent of instr. Students serve as the construction/maintenance crew in a shop (sound, light, costume, or scenery) for School productions.

- THTR 308 - Production Team I

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., consent of instr. Students function as part of the production team in a role of responsibility (i.e., master electrician, cutter, first hand, master carpenter, etc.) for a school production. These assignments and duties may serve also as part of the required junior project.

- THTR 309 - Production Design I

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., consent of instr. Students function as a member of the production team in a role of responsibility (i.e., scenic designer, costume designer, light designer, etc.) for a school production. These assignments and duties may serve also as part of the required junior project.

- THTR 310 - Voice and Speech III

  Credits: 3. Offered autumn. Prereq., THTR 211 and audition, or consent of instr. Dialects, accents, and continued development of good voice and speech skills.

- THTR 311 - Voice and Speech IV

  Credits: 3. Offered spring. Integration of voice and speech skills, vocal character.

- THTR 315 - Physical Performance Skills I

  Credits: 3. Offered spring. Prereq., THTR 221 or consent of instr. Basics of physical performance: collaboration, concentration, centering, balance, agility, and body awareness through a variety of stage movement techniques.

- THTR 316 - Physical Performance Skills II

  Credits: 3. Offered autumn. Prereq., THTR 315. Physical characterization: exploring weight, rhythm, tempo, and kinesthetic relationships through Laban, animal studies, and Michael Chekhov.

- THTR 320 - Acting III

  Credits: 3. Offered autumn. Prereq., THTR 221. Selected scenes and projects from European and American realistic texts such as Chekhov, Ibsen, Strindberg, and Shaw.

- THTR 321 - Acting IV

  Credits: 3. Offered spring. Prereq., THTR 320. Study and practice of working with a camera and film/television scripts.

- THTR 329 - Production Acting II

  Credits: 1. (R-4) Offered autumn and spring. Prereq., THTR 229A. Credit for acting in approved Theatre & Dance productions. Course Attributes: Expressive Arts Course (A)

- THTR 330H - Theatre History I

  Credits: 3. Offered autumn. Prereq., WRIT 101 (or higher) or equivalent, or consent of instr. A survey of the major developments of the theatre from primitive beginnings to the 19th century, including various cultures and their representative plays and performances throughout the world. Course Attributes: Hist & Cultural Studies (H) Writing Course-Intermediate

- THTR 331Y - Theatre History II

  Credits: 3. Offered spring. Prereq., THTR 330H or theatre minor. Continuation of 330H. The many and varied periods since the 19th century as reflected in the theatre of the times in America and

Europe. Course Attributes: Writing Course-Advanced Democracy and Citizenship (Y)

- THTR 332 - Dramaturgy
  Credits: 3. Prereq., THTR 330H or consent of instr. An introduction to literary, historical, and contextual analysis of play scripts and performance pieces intended for production.
- THTR 336 - Costume History
  Credits: 3. Offered intermittently. History of Western costume from ancient Egypt to the present day.
- THTR 339 - Theatre in Elem Education
  Credits: 2. (R-4) Offered autumn and spring. Exploration, implementation and experience in teaching strategies for using theatre in elementary education. Focus on techniques and applications for teaching theatre and for utilizing theatre as a tool for teaching other subject matter. Course Attributes: Expressive Arts Course (A)
- THTR 340 - Costume Design I
  Credits: 3. Offered autumn. Prereq., THTR 102A, 202. Introduction to principles and practices of stage costume design.
- THTR 345 - Flat Pattern Des & Drafting
  Credits: 3. Offered autumn. Prereq., THTR 202. Pattern design using the flat pattern method, pattern drafting of various garment parts, advanced principles of fitting.
- THTR 346 - Textile Selection & Manipulatn
  Credits: 3. Offered spring alternate years. Analysis of fibers, yarns, structures and finishes, as related to selection and use for the theatre. Basic dyeing, distressing and painting.
- THTR 350 - Scenic Design I
  Credits: 3. Offered autumn. Prereq., THTR 102A, 202. Introduction to the problems encountered in designing scenery, analyzing of script, research and practical demands of theatre conventions. Projects include those for theatre, musicals, opera, dance and television.
- THTR 353 - Technical Direction
  Credits: 1 TO 3. Offered intermittently. Prereq., THTR 255 or consent of instr. Training for position of technical director. The role and scope of technical direction, production scheduling, design analysis, budgets and bookkeeping, and methods of construction.
- THTR 355 - Computer Aid Draft & Appl
  Credits: 3. (R-6) Offered autumn. Prereq., THTR 255. Computer drafting for scenery, costumes, lighting, and sound design drawings, including 2-D and 3-D plans, layouts and renderings. Work with CAD, photo manipulation, spreadsheet, database, and word processing programs.
- THTR 356 - Scenic Painting
  Credits: 1 TO 3. (R-6) Offered spring. Introduction to the basic skills needed as a scenic artist. Emphasis on the varied materials and techniques used in the scenic studio, color mixing, and interpretation of the designer's work.
- THTR 360 - Theatre Lighting I
  Credits: 3. Offered autumn. Prereq., THTR 102A, 202. Introduction to principles and practices of theatre lighting design. Training for position of lighting designer for theatre. Design requirements and decisions, color, development of stage picture; concentration on proscenium theatre design concepts.
- THTR 365 - Theatre Sound I
  Credits: 3. Offered autumn. Prereq., THTR 102A, 202, or consent of instr. Introduction to principles and practices of theatre sound design. Training for position of sound designer for theatre. Principles, practices, and equipment used to create finished sound designs for theatre, dance and related areas.
- THTR 370 - Stage Management I
  Credits: 2. Offered autumn. Prereq., THTR 202. Beginning study of the duties of the stage manager concentrating on the rehearsal process in the non-professional theatre situation.
- THTR 371 - Stage Mgmt Pract I

Credits: 1 TO 3. (R-6) Offered autumn and spring. Prereq., THTR 370 or consent of instr. Stage management practicum involving stage managing a showcase production or assistant stage managing a major show. Involves evening work.

- THTR 375 - Directing I

  Credits: 3. Offered autumn and spring. Prereq., THTR 120A or THTR 220A; THTR 235L. Open to juniors and seniors. Introduction to the analytical skills, staging, and conceptual techniques of the director; includes some practical application in scene work.

- THTR 380 - Playwriting

  Credits: 3. (R-6) Offered intermittently. Techniques and practice in writing short and full-length plays.

- THTR 391 - Special Topics/Exprmtl Courses

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- THTR 392 - Independent Study

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- THTR 395 - Practicum

  Credits: 1 TO 3. (R-18) Offered autumn and spring. Service learning experience in theatre in a setting compatible with the student's major and interests.

- THTR 398 - Cooperative Eductn/Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- THTR 405 - Professional Theatre

  Credits: 9. (R-18) Offered spring. Prereq., consent of instr. Laboratory experience in total play production through participation in state, regional, national and international touring production programs.

- THTR 406 - Professional Tech Prod

  Credits: 1 TO 9. (R-18) Offered spring. Prereq., consent of instr. Students experience the rigors and develop the skills required of technicians in touring theatre, maintaining integrity of all production elements through three months of intensive travel and varying venues.

- THTR 407 - Prod Construct II

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., consent of instr. Students serve as construction crew in one of the shops for productions.

- THTR 408 - Production Team II

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., consent of instr. Students serve as a member of the production team in a role of responsibility (i.e., master electrician, sound board operator, cutter, first hand, etc.) for major productions. These assignments and duties may serve also as part of the required senior project.

- THTR 409 - Production Design II

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., consent of instr. Students serve as a member of the production team in a role of designer (i.e., set designer, costume designer, light designer, etc.) for major productions. These assignments and duties may serve also as part of the required senior project.

- THTR 410 - Singing For Actors

  Credits: 2. (R-4) Offered spring. Prereq., audition, acting specialization, or consent of instr. Development and presentation of musical numbers in a dramatic context. A broad-based acquaintance with music theatre literature is acquired, and techniques for approaching songs are explored with an eye toward developing competency in music theatre forms. Course Attributes: Co-Convened Course

- THTR 415 - Physical Performnce Skills III

Credits: 3. Offered spring. Prereq., THTR 316 or consent of instructor, which includes audition for acting specialization. Extremes of performance: stage combat, martial arts, and biomechanics/theatre of the grotesque.

- THTR 416 - Physical Performance Skills IV

  Credits: 3. Offered spring. Advanced specialized physical skills such as period styles, advanced combat/choreography, and commedia.

- THTR 420 - Acting V

  Credits: 3. Offered autumn. Prereq., THTR 321 and BFA acting specialization, or consent of instr. Selected scenes and projects from specific historical and stylistic periods, from Molière to Restoration comedy. Course Attributes: Co-Convened Course

- THTR 421 - Acting VI

  Credits: 3. Offered spring. Prereq., THTR 420. Selected speeches, scenes and projects from verse drama, especially Shakespeare. Course Attributes: Co-Convened Course

- THTR 423 - Professional Performance

  Credits: 1 TO 9. (R-18) Offered spring. Prereq., consent of instr. Students experience the rigors and develop the skills required for actors in touring theatre; creating characters and maintaining consistent performances through three months of intensive travel and varying venues.

- THTR 425 - Acting VII

  Credits: 3. Offered autumn. Prereq., THTR 421. Performance and scene work in contemporary practice and theory. Course Attributes: Co-Convened Course

- THTR 426 - Acting VIII

  Credits: 3. Offered spring. Prereq., THTR 425. Developing professional skills, material for the actor, professional portfolio, resume audition material, commercial acting, performance market research. Course Attributes: Co-Convened Course

- THTR 429 - Production Acting III

  Credits: 1. (R-9) Offered autumn and spring. Prereq., THTR 329. Credit for acting in approved Theatre & Dance productions.

- THTR 439 - Methods of Teaching Theatre

  Credits: 3. (R-6) Offered autumn. Prereq., consent of instr. Building and addressing specific curriculum in theatre arts. Course Attributes: Co-Convened Course

- THTR 440 - Costume Design II

  Credits: 3. (R-9) Offered spring. Prereq., THTR 340. Advanced techniques in costume design; possible topics include design for dance, opera, large scale drama and musicals. Course Attributes: Co-Convened Course

- THTR 445 - Draping

  Credits: 3. Offered spring. Prereq., THTR 345. Garment design based on manipulation of fabric on a body form; emphasis on creative solutions to design problems and the interrelationships between fabric, design, and form.

- THTR 447 - Tailoring

  Credits: 3. Offered spring alternate years. Prereq., consent of instr. Principles used in the construction of tailored garments.

- THTR 450 - Scene Design II

  Credits: 3. Offered spring. Prereq., THTR 350. A continuation of the techniques and projects in 350. Course Attributes: Co-Convened Course

- THTR 456 - Advanced Scene Painting

  Credits: 3. (R-9) Offered spring. Prereq., THTR 356 and/or consent of instr. Students will explore advanced scene painting techniques.

- THTR 460 - Theatre Lighting II

  Credits: 3. Offered spring. Prereq., THTR 360 or consent of instr. Advanced study of principles and practices of theatre lighting design. Training for position of light designer for theatre. Design requirements and decisions, color, development of stage picture; thrust and arena theatre. Course Attributes: Co-Convened Course

- THTR 465 - Theatre Sound II

  Credits: 3. Offered spring. Prereq., THTR 365 or consent of instr. Advanced study of principles and practices of theatre sound design. Training for position of theatre sound designer. Principles, practices and equipment used to create sound and music designs for the theatre, dance and related areas. Course Attributes: Co-Convened Course

- THTR 470 - Stage Management II

  Credits: 2. Offered intermittently. Prereq., THTR 370 or consent of instr. Additional study of stage management concentrating on pre-rehearsal duties, aspects of maintaining a show's integrity as established by the director, inter-production relationships, supervision of crews and union contracts. Understanding a stage manager's need for paperwork and writing skills. Students encouraged to enroll in THTR 472 to use skills in a living situation.

- THTR 472 - Stage Mgmt Pract II

  Credits: 3. (R-9) Offered autumn and spring. Prereq., THTR 470 or consent of instr. Stage managing a major show in the drama season in the Montana or Masquer Theatres or assistant stage managing for an Equity stage manager on a Montana Repertory Theatre production.

- THTR 475 - Directing II

  Credits: 3. Offered autumn. Prereq., THTR 375 or consent of instr. Directing skills for the advanced student; extensive scene work.

- THTR 476 - Directing III

  Credits: 3. Offered spring. Prereq., THTR 475. Continuation of 475. Course material coordinated with laboratory projects

- THTR 481 - Adv Acting: Persnl Performance

  Credits: 3. Offered autumn. Prereq., THTR 321 or consent of instr. Developing personal performance skills.

- THTR 482 - Adv Acting: Solo Performance

  Credits: 3. Offered spring, Prereq., THTR 481 or consent of instr. Creating solo performance material from original material or existing texts.

- THTR 484 - Adv Acting: Professionl Skills

  Credits: 3. Offered spring. Prereq., THTR 420 or consent of instr. Developing professional skills, material for the actor, professional portfolio, resume audition material, commercial acting, performance market research.

- THTR 490 - Undergraduate Research

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereq., consent of instr. Directed individual research and study appropriate to the back ground and objectives of the student. Course Attributes: Research & Creative Schlrshp

- THTR 491 - Special Topics/Exprmtl Courses

  Credits: 1 TO 9. (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- THTR 492 - Independent Study

  Credits: 1 TO 12. (R-24) Offered intermittently. Prereq., consent of school director. Independent work under the University omnibus option. See index.

- THTR 494 - Seminar/Workshop

  Credits: 2. (R-6) Offered intermittently. Prereq., 10 credits in Theatre or in English dramatic literature and consent of instr. Intensive study of dramatic theory relating to acting, directing, design and dramaturgy.

- THTR 495 - Practicum

  Credits: 1 TO 3. (R-9) Offered intermittently autumn and spring. Service learning experience in theatre in a setting compatible with the student’s major and interests.

- THTR 498 - Cooperative Eductn/Internship

  Credits: 1 TO 6. Offered intermittently. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A

maximum of 6 credits of Internship (398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- THTR 499 - Senior Project

  Credits: 1. Offered autumn and spring. Prereq., senior-level theatre major. The student, with approval from his/her advisor, will begin a project during the semester prior to the semester of his/her graduation. An in-depth paper and brief defense of the project are required.

- THTR 501 - Intro to Grad Studies

  Credits: 1. Offered autumn. Introduction to basic research and writing skills. Level: Graduate

- THTR 505 - Professional Theatre

  Credits: 9. (R-18) Offered spring. Prereq., consent of instr. Laboratory experience in total play production through participation in state, regional, national, and international touring production programs. Level: Graduate

- THTR 506 - Graduate Summer Theatre

  Credits: 1 TO 3. (R-6) Offered summer. Prereq., consent of instr. Practicum in school-approved summer theatre companies in the capacity of actor, designer, director, stage manager and/or technician. The student and instructor will meet prior to the student's registration for the course in order to determine the proper credit load and work expectations for the course. Student will earn credit for said work in consultation with Director of the School and outside producing company, with credit correlating to significance of above-listed duties. Level: Graduate

- THTR 507 - Tech Prod Assignment

  Credits: 2 TO 4. (R-12) Offered autumn and spring. Prereq., consent of instr. Production assignment made by the faculty. Student assigned a responsible technical position such as technical director, master electrician, sound engineer, cutter/draper or scenic artist. Credit variable and will be assigned by faculty. Level: Graduate

- THTR 508 - Desgn Prod Assignment

  Credits: 2 TO 4. (R-24) Offered autumn and spring. Prereq., consent of instr. Production design assignment made by the faculty. Student designs an element of a Theatre & Dance production with the supervision of a faculty designer. Level: Graduate

- THTR 509 - Tech Direct Pract

  Credits: 3. (R-12) Offered autumn and spring. Prereq., consent of instr. Technical direction of a major show in the drama season in the Montana or Masquer Theatres. Level: Graduate

- THTR 510 - Graduate Singing for Actors

  Credits: 2. (R-4) Offered spring. Prereq., audition, acting specialization, or consent of instr. Development and presentation of musical numbers in a dramatic context. A broad-based acquaintance with music theatre literature is acquired, and techniques for approaching songs are explored with an eye toward developing competency in music theatre forms. Co-convenes with THTR 410. Level: Graduate Course Attributes: Co-Convened Course

- THTR 512 - Prob in Voice/Speech

  Credits: 1 TO 3. (R-12) Offered intermittently. Prereq., consent of instr. Development of specific advanced skills in vocal work. Level: Graduate

- THTR 513 - Grad Voice & Speech I

  Credits: 3. Offered autumn. Prereq., consent of instr. Studio training with extensive focus on exercises designed to foster awareness of how the body, breath, voice, resonance, and enunciation are the artist's tactics when acting. Level: Graduate

- THTR 514 - Graduate Voice & Speech II

  Credits: 3. Offered spring. Prereq., THTR 513. Continuation of 513; advanced studio encompassing standard speech, character voice, accent and dialect-acquisition studies. Level: Graduate

- THTR 515 - Grad Phys Performance Skills

  Credits: 3. Offered autumn. Prereq., consent of instructor. Investigation of the history and methodology of major physical-performance models. Studio work resulting in exercises and scene work to accompany each discipline explored. Level: Graduate

- THTR 517 - Prob in Physcial Perfrmnce

  Credits: 1 TO 3. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific advanced skills in physical performance. Level: Graduate

- THTR 520 - Graduate Acting I

  Credits: 3. (R-12) Offered autumn. Prereq., consent of instr. Intensive rehearsal and project work with emphasis on integration of advanced skills. Level: Graduate

- THTR 521 - Grad Acting II

  Credits: 3. Offered spring. Prereq., THTR 520 or consent of instr. Continuation of 521; intimate exploration of monologues, scene work, and contemporary techniques. Level: Graduate

- THTR 525 - Problems in Acting

  Credits: 1 TO 3. (R-18) Offered autumn and spring. Prereq., consent of instr. Development of specific advanced skills in acting. Level: Graduate

- THTR 526 - Studio Training I

  Credits: 3. Offered autumn. Scenes and projects from specific historical and stylistic periods, from Molière to Restoration comedy to drawing-room comedy. Co-convenes with THTR 421. Level: Graduate Course Attributes: Co-Convened Course

- THTR 527 - Studio Training II

  Credits: 3. Offered spring. Work in speeches, scenes, and projects from Shakespeare and other classical verse drama. Co-convenes with THTR 421. Level: Graduate Course Attributes: Co-Convened Course

- THTR 528 - Studio Training III

  Credits: 3. Offered autumn. Performance and scene work in contemporary practice and theory. Course will additionally familiarize students with contemporary performance theory and criticism. Co-convenes with THTR 425. Level: Graduate Course Attributes: Co-Convened Course

- THTR 529 - Studio Training IV

  Credits: 3. Offered spring. Developing professional skills, material for the actor, professional portfolio, resume audition material, commercial acting, performance market research, and knowledge about unions. Co-convenes with THTR 426. Level: Graduate Course Attributes: Co-Convened Course

- THTR 530 - Grad Sem Dramatic Lit

  Credits: 3. (R-9) Offered intermittently. Prereq., consent of instr. Selected topics with individual research projects presented in seminar concerning various genres, periods, and themes in dramatic literature. Level: Graduate

- THTR 531 - Grad Sem Theatre Hist

  Credits: 3. (R-9) Offered intermittently. Prereq., consent of instr. Selected topics and issues with individual research projects presented in seminar concerning various genres, periods, themes, and cultural contexts in theatre history. Level: Graduate

- THTR 532 - Grad Sem Dramaturgy

  Credits: 3. A graduate-level introduction to literary, historical, and contextual analysis of play scripts and performance pieces intended for production. Level: Graduate

- THTR 535 - Perform Theory & Criticism

  Credits: 3. Offered spring. Survey of the theories, elements and ingredients of multi-cultural live performance forms, including theatre, popular entertainment, ceremonies, and other public events. Includes instruction in and application of various approaches to the criticism of live performance. Level: Graduate

- THTR 539 - Grad Methods Tchg Theatre

  Credits: 3. In-depth study of teaching methods for presenting the craft of acting and theatre production to introductory-level students. Co-convenes with THTR 439. Level: Graduate Course Attributes: Co-Convened Course

- THTR 540 - Graduate Costume Design

  Credits: 3. (R-12) Offered autumn and spring. Prereq., consent of instr. Further advancement of techniques in costume design using script/character analysis, color/texture/form usage, and presentation. Possible designs for dance, opera, large-scale drama and musicals. Co-convenes with THTR 440. Level: Graduate Course Attributes: Co-Convened Course

- THTR 542 - Prob in Costume Design

Credits: 3. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in costume design. Level: Graduate

- THTR 545 - Grad Design Seminar I

  Credits: 2. Offered autumn. This course is designed to teach graduate students effective research, collaboration, and script-analysis methodologies and exploration practices. Level: Graduate

- THTR 546 - Grad Design Seminar II

  Credits: 2. Offered spring. This course is designed to continue the design process skills developed in Seminar I of effective research, collaboration and script-analysis methodologies and exploration practices. Level: Graduate

- THTR 550 - Graduate Scene Design

  Credits: 3. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific design skills in scenery through unrealized design opportunities as well as design concept and process development. Co-convenes with THTR 450. Level: Graduate Course Attributes: Co-Convened Course

- THTR 552 - Prob in Scene Design

  Credits: 3. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in scene design. Level: Graduate

- THTR 553 - Technical Direction

  Credits: 3. Offered autumn and spring. Prereq., consent of instr. Role and scope of technical direction, production scheduling, design analysis, budgets and bookkeeping and methods of construction. Level: Graduate

- THTR 555 - Grad CADD

  Credits: 3. (R-6) Offered autumn. Students will further their understanding for how CADD software is used to create complete, accurate draftings for design and technology in theatre and theatre-related activities. Level: Graduate

- THTR 556 - Grad Rendering Techniques

  Credits: 2. Offered spring. Students will begin to develop personal design styles using both traditional and digital drawing and rendering techniques. Level: Graduate

- THTR 560 - Graduate Light Design

  Credits: 3. (R-12) Offered autumn and spring. Prereq., consent of instr. Advanced study of principles and practices of theatre lighting design, especially collaboration and communication. Training for position of light designer for theatre or lighting instructor. Design requirements and decisions, color, development of stage picture; thrust and arena theatre. Co-convenes with THTR 460. Level: Graduate Course Attributes: Co-Convened Course

- THTR 562 - Prob in Light Design

  Credits: 3. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in light design. Level: Graduate

- THTR 565 - Graduate Sound Design

  Credits: 3. (R-12) Offered autumn and spring. Prereq., consent of instr. Further advanced study of principles and practices of theatre sound design, especially script analysis and collaboration. Training for position of theatre sound designer or instructor. Principles, practices and equipment used to create sound and music designs for the theatre, dance and related areas. Co-convenes with THTR 465. Level: Graduate Course Attributes: Co-Convened Course

- THTR 567 - Problems in Sound Design

  Credits: 3. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in sound design. Level: Graduate

- THTR 570 - Grad Stage Mgmt

  Credits: 2. Offered autumn. Prereq., consent of instr. Study of duties of stage manager in rehearsal and performance process. Includes stage managing a production for a faculty or guest-artist director. Level: Graduate

- THTR 572 - Stage Mgmt Pract

  Credits: 1 TO 6. (R-18) Offered autumn and spring. Prereq., consent of instr. Practical work in stage management projects. Level: Graduate

- THTR 574 - Prob Theatre Mgmt
  Credits: 1 TO 6. (R-18) Offered intermittently. Prereq., consent of instr. Level: Graduate
- THTR 577 - Directing IV
  Credits: 3. Offered autumn. Prereq., THTR 476 or consent of instr. Formalist styles of dramatic material. Through a variety of tools, textual and linguistic analysis, metrical and rhetorical analysis, archetypes, and musical structures, students analyze, interpret and stage projects drawn from opera and pre-modern drama, especially Shakespeare. Level: Graduate
- THTR 578 - Directing V
  Credits: 3. Offered spring. Prereq., THTR 577. Exploration of image, time manipulation, and nonlinear storytelling. Level: Graduate
- THTR 580 - Problems in Playwriting
  Credits: 1 TO 3. (R-12) Offered intermittently. Development of specific advanced writing projects based on dramatic structure, conflict, tension, and character complexities/psychology. Level: Graduate
- THTR 590 - Research
  Credits: 1 TO 6. (R-24) Offered autumn and spring. Prereq., consent of instr. Level: Graduate
- THTR 591 - Special Topics
  Credits: 1 TO 18. (R-18) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- THTR 592 - Independent Study
  Credits: 1 TO 6. (R-24) Offered autumn and spring. Prereq., consent of instr. Level: Graduate
- THTR 594 - Seminar
  Credits: 1 TO 3. (R-12) Offered intermittently. Prereq., consent of instr. A review and discussion of current research. Topics vary. Level: Graduate
- THTR 595 - Practicum
  Credits: 1 TO 3. (R-9) Service learning experience in theatre in a setting compatible with the student's major and interests. Level: Graduate Course Attributes: Internships/Practicums
- THTR 597 - Educational Methods
  Credits: 1 TO 6. (R-24) Offered autumn and spring. Prereq., consent of instr. Level: Graduate
- THTR 598 - Internship
  Credits: 2 TO 6. (R-24) Offered intermittently. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Level: Graduate Course Attributes: Internships/Practicums
- THTR 599 - Professional Paper
  Credits: 1 TO 4. (R-4) Offered autumn and spring. Preparation of a professional paper appropriate to the needs and objectives of the individual student. Level: Graduate
- THTR 609 - Grad Design Project
  Credits: 2. Students serve in one or more design roles of the production team for major theatre and dance events, working from conceptual stage to realized production. Level: Graduate
- THTR 645 - Grad Design Seminar III
  Credits: 2. Offered autumn. This course is designed to continue the design process skills developed in Seminar II of effective research, collaboration and script analysis methodologies and exploration practices. Level: Graduate
- THTR 646 - Grad Design Seminar IV
  Credits: 2. Offered spring. This course is the capstone to the seminar sequence which completes the design process skills developed in Seminar I, II, and III of effective research, collaboration and script analysis methodologies and exploration practices. Level: Graduate
- THTR 675 - Directing VI
  Credits: 3. Offered autumn. Prereq., THTR 578. The history and literature of directing. Level: Graduate

- THTR 677 - Problems in Directing
  Credits: 1 TO 3. (R-18) Offered autumn and spring. Prereq., consent of instr. Level: Graduate
- THTR 690 - Research
  Credits: 1 TO 6. Offered autumn and spring. Prereq., consent of instr. An in-house project that takes the form of a capstone directing assignment or acting role in a School production. A paper detailing and reflecting upon the process accompanies the creative work. Level: Graduate
- THTR 695 - Grad Final Creative Project
  Credits: 1 TO 6. Offered autumn and spring. Prereq., consent of instr. An in-house project that takes the form of a capstone directing assignment or acting role in a School production. A paper detailing and reflecting upon the process accompanies the creative work. Level: Graduate
- THTR 699 - Thesis
  Credits: 1 TO 12. (R-12) Offered autumn and spring. Preparation of a thesis or manuscript based on research for presentation and/or publication. Level: Graduate

Dance Minor

Minor - Dance (Minor)

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 27
Required Cumulative GPA: 2.0

Dance Minor LD Core

Rule: Must complete the following subcategories

22 Total Credits Required

Composition

Rule: Course is required.

	Course	Credits
	DANC 220A - Creative Practice I (R-6) Offered spring. Prereq., DANC 200A. Exploration of stimulus, structure, and performance of both composed and improvised movement. Elements such as space, shape, energy, motion, time, quality, form and awareness emphasized. Instructor-designed structures, transitioning to student-designed scores, culminating in originally created/improvised performance.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Modern Experience I

Rule: 6 credits required at or above the listed level.

	Course	Credits
	DANC 100A - Intro to Modern Dance (R-4) Offered autumn and spring. Introduction to basic modern dance vocabulary through exercises for alignment, strength and flexibility and combinations across the floor.	2 Credits
Minimum Required Grade: C-		6 Total Credits Required

Ballet Experience I

Rule: 6 credits required at or above the listed level.

	Course	Credits
	DANC 110A - Intro to Ballet (R-4) Offered autumn and spring. Introduction to basic ballet positions and steps.	2 Credits
Minimum Required Grade: C-		6 Total Credits Required

Jazz Experience

Rule: 2 credits required at or above the listed level.

	Course	Credits
	DANC 115A - Intro to Jazz Dance (R-4) Offered autumn and spring. Introduction to basic strengthening and stretching exercises and stylistic characteristics of jazz.	2 Credits
Minimum Required Grade: C-		2 Total Credits Required

Technique Experience II

Rule: 2 credits required at or above the listed level.
Note: Select 1 of the 4 options.

	Course	Credits
	DANC 165A - Dance Forms: African (R-8) Offered autumn. Introduction to basic African dance vocabulary and technique.	2 Credits
	DANC 200A - Contemporary Modern II (R-12) Offered autumn and spring. Prereq., DANC 100A. Continuation of the modern dance vocabulary at an advanced-beginner level.	2 Credits

	DANC 210A - Ballet II (R-12) Offered autumn and spring. Prereq., DANC 110A. Continuation of the ballet vocabulary at an advanced-beginner level.	2 Credits
	DANC 215A - Jazz Dance II (R-12) Offered autumn. Prereq., DANC 115A. Continuation of the jazz vocabulary at an advanced-beginner level.	2 Credits
Minimum Required Grade: C-		2 Total Credits Required

Costume Experience

Rule: Select 1 of the 3 options.

Note: For THTR 107A: choose either Section 02: Costume Shop on MW or Section 05: Costume Shop on TR.

	Course	Credits
	THTR 102A - Introduction to Theatre Design Offered autumn. Basic understanding of the principles of design for the theatre and television, including the production elements of scenery, costumes and lighting.	3 Credits
	THTR 107A - Theat Prod I: Constr Crew (R-9) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting under supervision. Most assignments involve very basic construction techniques and/or maintenance duties found in professional shop. Involves minimum of two 4-hour labs a week.	3 Credits
	THTR 245 - Int Costume Construction Offered spring. Intermediate costume construction focusing on the development of skills needed to function as a stitcher.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Dance Minor UD Core

Rule: Course is required.

	Course	Credits
	DANC 334 - Dance History Offered autumn odd-numbered years. Discussion of primary movements and major figures in American modern dance, including global influences and its relationship to cultural trends of the twentieth and twenty-first centuries.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Dance Minor Electives

Rule: Select 2 of the 6 options.

2 Total Credits Required

	Course	Credits
	DANC 280 - Dance Conditioning: Pilates (R-8) Offered autumn and spring. Pilates mat (floor) exercises to build core control, strength and flexibility.	1 Credits
	DANC 295 - Stdnt Tching:Children's Dance Offered autumn and spring. Students participate and gain beginning-level teaching experience in two of four dance classes for children ranging in ages from 3 ½ to 12 years old.	1 Credits
	DANC 305 - Contact Improvisation (R-6) Offered autumn odd-numbered years. The art of moving with one or more partners while using a shifting point of contact and supporting each other's weight. Skills such as rolling, suspending, falling and recovering together explored through physical sensations that use weight, counter-balance and yielding.	2 Credits
	DANC 360L - World Dance (R-6) Offered autumn odd-numbered years. Investigation of dances of diverse cultures. Study of dance as: an emblem of cultural identity, social order, power and gender-specific behavior; an expression of religion and/or ritual; a classical art form; and as a medium for personal expression in Western and non-Western world cultures.	3 Credits
	DANC 380 - Science of Dance Movement Offered spring even-numbered years. Study of the skeletal system and how it relates to dance movement. Basic kinesthetic principles, conditioning for dancers, and injury recognition and prevention.	3 Credits
	DANC 406 - Dance as a Healing Art (R-6) Offered spring. Study of body movement as a reflection of inner emotional states. How changes in movement lead to changes in the psyche, promoting health and growth. Exploration of techniques for experiencing the inter-connection between movement and emotional expression.	2 Credits
Minimum Required Grade: C-		2 Total Credits Required

Dance - Choreography and Performance

Bachelor of Fine Arts - Dance; Track: Choreography and Performance

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 70

Required Cumulative GPA: 2.0

Note: : There is an Admission Audition which a prospective major students must pass at the end ofduring the first year to continue in the program. All students must take DANC 194: Freshman Seminar prior to auditioning for the major. Students who intend to pursue the Choreography & Performance specialization will normally enter the University as Bachelor of Arts students in Dance. They should then declare intent to pursue the BFA degree no later than the beginning of the second year of a four-year program.

BFA Dance Major LD Core

Rule: Must complete the following subcategories.

8 Total Credits Required

Required Courses

Rule: All courses are required.

	Course	Credits
	DANC 220A - Creative Practice I (R-6) Offered spring. Prereq., DANC 200A. Exploration of stimulus, structure, and performance of both composed and improvised movement. Elements such as space, shape, energy, motion, time, quality, form and awareness emphasized. Instructor-designed structures, transitioning to student-designed scores, culminating in originally created/improvised performance.	3 Credits
	DANC 295 - Stdnt Tching:Children's Dance Offered autumn and spring. Students participate and gain beginning-level teaching experience in two of four dance classes for children ranging in ages from 3 ½ to 12 years old.	1 Credits
	THTR 106A - Theat Prod I:Run Crew (R-6) Offered autumn and spring. Operation and running a show backstage on a scenery, costume, or prop crew for a major school production.	1 Credits
Minimum Required Grade: C-		5 Total Credits Required

Costuming Experience

Rule: Select 1 of the 2 options.

Note: For THTR 107A: choose either Section 02: Costume Shop on MW or Section 05: Costume Shop on TR.

	Course	Credits
	THTR 107A - Theat Prod I:Constr Crew (R-9) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting under supervision. Most assignments involve very basic construction techniques and/or maintenance duties found in professional shop. Involves minimum of two 4-hour labs a week.	3 Credits
	THTR 245 - Int Costume Construction Offered spring. Intermediate costume construction focusing on the development of skills needed to function as a stitcher.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

BFA Dance Major UD Core

Rule: Must complete the following subcategories.

36 Total Credits Required

Required Courses

Rule: All courses are required.

	Course	Credits
	DANC 305 - Contact Improvisation (R-6) Offered autumn odd-numbered years. The art of moving with one or more partners while using a shifting point of contact and supporting each other's weight. Skills such as rolling, suspending, falling and recovering together explored through physical sensations that use weight, counter-balance and yielding.	2 Credits
	DANC 334 - Dance History Offered autumn odd-numbered years. Discussion of primary movements and major figures in American modern dance, including global influences and its relationship to cultural trends of the twentieth and twenty-first centuries.	3 Credits
	DANC 360L - World Dance (R-6) Offered autumn odd-numbered years. Investigation of dances of diverse cultures. Study of dance as: an emblem of cultural identity, social order, power and gender-specific behavior; an expression of religion and/or ritual; a classical art form; and as a medium for personal expression in Western and non-Western world cultures.	3 Credits
	DANC 380 - Science of Dance Movement Offered spring even-numbered years. Study of the skeletal system and how it relates to dance movement. Basic kinesthetic principles, conditioning for dancers, and injury recognition and prevention.	3 Credits
	DANC 406 - Dance as a Healing Art (R-6) Offered spring. Study of body movement as a reflection of inner emotional states. How changes in movement lead to changes in the psyche, promoting health and growth. Exploration of techniques for experiencing the inter-connection between movement and emotional expression.	2 Credits
	DANC 440 - Dance Pedagogy (R-9) Offered autumn even-numbered years. Methods and experiences in teaching modern dance, ballet and jazz.	3 Credits
	DANC 494 - Junior/Senior Seminar (R-6) Offered autumn even-numbered years. Seminar to discuss both practical and philosophical issues confronting dance students about to enter the "real" world.	3 Credits

Minimum Required Grade: C-	19 Total Credits Required

Ballet Experience

Rule: 12 credits required at or above the listed level.

	Course	Credits
	DANC 310 - Ballet III (R-12) Offered autumn and spring. Development of ability to combine steps; carriage of head and arms.	2 Credits
Minimum Required Grade: C-		12 Total Credits Required

Stage Management Course

Rule: Registration based on production assignment as determined by Dance faculty.

	Course	Credits
	DANC 329 - Dance Stage Mgmt Pract (R-6) Offered autumn and spring. Stage management practicum involving stage managing or assistant stage managing a dance production. Involves evening and weekend work.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Junior Project

Rule: Students must complete project for graduation.

Note: Junior projects must be planned with the student's project advisor and all journals and papers will be submitted to that advisor. All choreography and performance BFA candidates are required to choreograph for their junior projects.

	Course	Credits
	DANC 399 - Jr Creat/Research Proj (R-6) Offered autumn and spring. Independent study in choreography or a research paper which could be on such subjects as teaching styles, multiple intelligence theory, dance historical topics, dance injuries, etc. An initial proposal, a journal, and a paper are required.	1 To 6 Credits
Minimum Required Grade: C-		1 Total Credits Required

Senior Project

Rule: Students must complete project for graduation.

Note: Senior projects must be planned with the student's project advisor and all journals and papers will be submitted to that advisor.

	Course	Credits
	DANC 499 - Senior Thesis/Creative Project (R-6) Offered autumn and spring. Independent study in choreography or teaching. The student is responsible for setting up the project. An initial proposal, a journal, and a paper are required.	2 To 3 Credits
Minimum Required Grade: C-		3 Total Credits Required

BFA Choreography & Performance Degree Electives

Rule: Must complete the follow subcategories.

1 Total Credits Required

Cross-Training

Rule: One credit from HHP by advisement.

Acting Elective

Rule: Optional by advisement.

	Course	Credits
	THTR 220A - Acting I Offered autumn and spring. Studio class intended to cultivate skill sets necessary for those with a background or interest in the craft of acting, especially those considering a career in the performing arts (theatre, music, dance, film, broadcasting): observation, imagination, concentration, improvisation, and character.	3 Credits
Minimum Required Grade: Pass		3 Total Credits Required

BFA Choreography & Performance Requirements

Rule: Must complete the following subcategories.

25 Total Credits Required

Required Courses

Rule: All courses are required.

	Course	Credits
	DANC 280 - Dance Conditioning: Pilates (R-8) Offered autumn and spring. Pilates mat (floor) exercises to build core control, strength and flexibility.	1 Credits

	DANC 320 - Creative Practice II (R-6) Prereq., DANC 220A. Explores ways to manipulate several dancers in space, through repetition of shapes, through related rhythms. May include choreography for videotape.	2 Credits
	DANC 405 - Advanced Improvisation (R-6) Prereq., DANC 205, 305. Exploration of improvisation and contact improvisation as performance art forms. Instructor and students collaboratively design, rehearse, and publicly perform improvisational scores.	2 Credits
Minimum Required Grade: C-		5 Total Credits Required

Production Courses

Rule: Registration and credit load based on casting for Theatre & Dance productions.
Note: Performing in one piece equals one credit.

	Course	Credits
	DANC 225 - Rehearsal & Performance (R-24) Offered autumn and spring. Open to students who are choreographing a dance for a concert or to those who have been selected through audition to perform.	1 To 4 Credits
Minimum Required Grade: C-		2 Total Credits Required

Modern Experience I

Rule: 6 credits required at or above the listed level.

	Course	Credits
	DANC 300 - Contemporary Modern III (R-12) Offered autumn and spring. Prereq., DANC 200A. Extension of the modern dance vocabulary through lengthier combinations of movement.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Modern Experience II

Rule: Repeat once.

	Course	Credits
	DANC 400 - Contemporary Modern IV (R-12) Offered autumn and spring. Prereq., DANC 300. Performance of exercises and combinations that are technically demanding in strength, balance, weight, agility and line.	3 Credits

Minimum Required Grade: C-	6 Total Credits Required

Modern Experience III

Rule: Repeat once.

	Course	Credits
	DANC 404 - Adv Contemporary Modern (R-12) Offered autumn and spring. Prereq., DANC 400, 6 cr., or equiv. skill, and consent of instr. Continuation of DANC 400.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Dance - Studio Teaching

Bachelor of Fine Arts - Dance; Track: Studio Teaching

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 74

Required Cumulative GPA: 2.0

Note: There is an Admission Audition which a prospective majorstudents must pass at the end ofduring the first year to continue in the program. All students must take DANC 194: Freshman Seminar prior to auditioning for the major. Students who intend to pursue the Studio Teaching specialization will normally enter the University as Bachelor of Arts students in Dance. They should then declare intent to pursue the BFA degree no later than the beginning of the second year of a four-year program.

BFA Dance Major LD Core

Rule: Must complete the following subcategories.

8 Total Credits Required

Required Courses.

Rule: All courses are required.

	Course	Credits
	DANC 220A - Creative Practice I (R-6) Offered spring. Prereq., DANC 200A. Exploration of stimulus, structure, and performance of both composed and improvised movement. Elements such as space, shape, energy, motion, time, quality, form and awareness emphasized. Instructor-designed structures, transitioning to student-designed scores, culminating in originally created/improvised performance.	3 Credits

	DANC 295 - Stdnt Tching:Children's Dance Offered autumn and spring. Students participate and gain beginning-level teaching experience in two of four dance classes for children ranging in ages from 3 ½ to 12 years old.	1 Credits
	THTR 106A - Theat Prod I:Run Crew (R-6) Offered autumn and spring. Operation and running a show backstage on a scenery, costume, or prop crew for a major school production.	1 Credits
Minimum Required Grade: C-		5 Total Credits Required

Costuming Experience

Rule: Select 1 of the 2 options.

Note: For THTR 107A: choose either Section 02: Costume Shop on MW or Section 05: Costume Shop on TR.

	Course	Credits
	THTR 107A - Theat Prod I:Constr Crew (R-9) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting under supervision. Most assignments involve very basic construction techniques and/or maintenance duties found in professional shop. Involves minimum of two 4-hour labs a week.	3 Credits
	THTR 245 - Int Costume Construction Offered spring. Intermediate costume construction focusing on the development of skills needed to function as a stitcher.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

BFA Dance Major UD Core

Rule: Must complete the following subcategories.

36 Total Credits Required

Required Courses

Rule: All courses are required.

	Course	Credits
	DANC 305 - Contact Improvisation (R-6) Offered autumn odd-numbered years. The art of moving with one or more partners while using a shifting point of contact and supporting each other's weight. Skills such as rolling, suspending, falling and recovering together explored through physical sensations that use weight, counter-balance and yielding.	2 Credits

	DANC 334 - Dance History Offered autumn odd-numbered years. Discussion of primary movements and major figures in American modern dance, including global influences and its relationship to cultural trends of the twentieth and twenty-first centuries.	3 Credits
	DANC 360L - World Dance (R-6) Offered autumn odd-numbered years. Investigation of dances of diverse cultures. Study of dance as: an emblem of cultural identity, social order, power and gender-specific behavior; an expression of religion and/or ritual; a classical art form; and as a medium for personal expression in Western and non-Western world cultures.	3 Credits
	DANC 380 - Science of Dance Movement Offered spring even-numbered years. Study of the skeletal system and how it relates to dance movement. Basic kinesthetic principles, conditioning for dancers, and injury recognition and prevention.	3 Credits
	DANC 406 - Dance as a Healing Art (R-6) Offered spring. Study of body movement as a reflection of inner emotional states. How changes in movement lead to changes in the psyche, promoting health and growth. Exploration of techniques for experiencing the inter-connection between movement and emotional expression.	2 Credits
	DANC 440 - Dance Pedagogy (R-9) Offered autumn even-numbered years. Methods and experiences in teaching modern dance, ballet and jazz.	3 Credits
	DANC 494 - Junior/Senior Seminar (R-6) Offered autumn even-numbered years. Seminar to discuss both practical and philosophical issues confronting dance students about to enter the "real" world.	3 Credits
Minimum Required Grade: C-		19 Total Credits Required

Ballet Experience

Rule: 12 credits required at or above the listed level

	Course	**Credits**
	DANC 310 - Ballet III (R-12) Offered autumn and spring. Development of ability to combine steps; carriage of head and arms.	2 Credits
Minimum Required Grade: C-		12 Total Credits Required

Stage Management Course

Rule: Registration based on production assignment as determined by Dance faculty.

Note: null

	Course	Credits
	DANC 329 - Dance Stage Mgmt Pract (R-6) Offered autumn and spring. Stage management practicum involving stage managing or assistant stage managing a dance production. Involves evening and weekend work.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Junior Project

Rule: Students must complete project for graduation.

Note: Junior projects must be planned with the student's project advisor and all journals and papers will be submitted to that advisor.

	Course	Credits
	DANC 399 - Jr Creat/Research Proj (R-6) Offered autumn and spring. Independent study in choreography or a research paper which could be on such subjects as teaching styles, multiple intelligence theory, dance historical topics, dance injuries, etc. An initial proposal, a journal, and a paper are required.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Senior Project

Rule: Students must complete project for graduation.

Note: Senior projects must be planned with the student's project advisor and all journals and papers will be submitted to that advisor.

	Course	Credits
	DANC 499 - Senior Thesis/Creative Project (R-6) Offered autumn and spring. Independent study in choreography or teaching. The student is responsible for setting up the project. An initial proposal, a journal, and a paper are required.	2 To 3 Credits
Minimum Required Grade: C-		3 Total Credits Required

BFA Teaching Requirements

Rule: Must complete the following subcategories.

30 Total Credits Required

Required Courses

Rule: All courses are required.

Note: For DANC 440: Section 40

	Course	Credits
	DANC 345 - Teaching for the Disabled (R-4) Offered autumn and spring. Students interact with adults with developmental disabilities in an adaptive dance class where movement is used as a therapeutic modality for people with cognitive and physical impairments. Students interact with the participants, engage as role models and gain beginning teaching experience.	1 Credits
	DANC 440 - Dance Pedagogy (R-9) Offered autumn even-numbered years. Methods and experiences in teaching modern dance, ballet and jazz.	3 Credits
Minimum Required Grade: C-		4 Total Credits Required

Teaching Assistant Experience

Rule: Course required.

Note: Completion of two credits must include serving as teaching assistant for at least one 100-level technique course offered in DANC rubric on campus. It is optional to earn credits through the Flagship Program.

	Course	Credits
	DANC 446 - Teaching Projects (R-24) Offered autumn and spring. Prereq., consent of instr. Independent study that may involve either assisting in the teaching of a dance technique class or actually planning and teaching it.	1 To 6 Credits
Minimum Required Grade: C-		2 Total Credits Required

In-Schools Experience

Rule: Repeat once.

Note: Section 01 for first registration; Section 40 for second.

	Course	Credits
	DANC 497 - Methods: Tchng Movmnt in Schls Offered autumn odd-numbered years. Prereq., consent of instr. Experience in planning, observing and directing creative movement as a teaching tool in K-5.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Modern Experience

Rule: 18 credits required at or above the listed level.

	Course	Credits
	DANC 300 - Modern III (R-12) Offered autumn and spring. Prereq., DANC 200A. Extension of the modern dance vocabulary through lengthier combinations of movement.	3 Credits
Minimum Required Grade: C-		18 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Dance

Bachelor of Arts - Dance

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 51

Required Cumulative GPA: 2.0

Note: There is an Admission Audition which a prospective major students must pass at the end of during the first year to continue in the program. All students must take DANC 194: Freshman Seminar prior to auditioning for the major.

BA Dance Major LD Core

Rule: Must complete the following subcategories.

24 Total Credits Required

Required Courses

Rule: All courses are required.

	Course	Credits
	DANC 165A - Dance Forms: African (R-8) Offered autumn. Introduction to basic African dance vocabulary and technique.	2 Credits
	DANC 200A - Contemporary Modern II (R-12) Offered autumn and spring. Prereq., DANC 100A. Continuation of the modern dance vocabulary at an advanced-beginner level.	2 Credits
	DANC 220A - Creative Practice I (R-6) Offered spring. Prereq., DANC 200A. Exploration of stimulus, structure, and performance of both composed and improvised movement. Elements such as space, shape, energy, motion, time, quality, form and awareness emphasized. Instructor-designed structures, transitioning to student-designed scores, culminating in originally created/improvised performance.	3 Credits

	THTR 102A - Introduction to Theatre Design Offered autumn. Basic understanding of the principles of design for the theatre and television, including the production elements of scenery, costumes and lighting.	3 Credits
	THTR 106A - Theat Prod I:Run Crew (R-6) Offered autumn and spring. Operation and running a show backstage on a scenery, costume, or prop crew for a major school production.	1 Credits
Minimum Required Grade: C-		11 Total Credits Required

Costuming Experience

Rule: Select 1 of the 2 options.

Note: For THTR 107A choose one from these four sections: Section 02: Costume Shop on MW, Section 03: Light Shop on MW, Section 05: Costume Shop on TR, or Section 06: Light Shop on TR.

	Course	**Credits**
	THTR 107A - Theat Prod I:Constr Crew (R-9) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting under supervision. Most assignments involve very basic construction techniques and/or maintenance duties found in professional shop. Involves minimum of two 4-hour labs a week.	3 Credits
	THTR 245 - Int Costume Construction Offered spring. Intermediate costume construction focusing on the development of skills needed to function as a stitcher.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ballet Experience I

Rule: 6 credits required at or above the listed level.

	Course	**Credits**
	DANC 110A - Intro to Ballet (R-4) Offered autumn and spring. Introduction to basic ballet positions and steps.	2 Credits
Minimum Required Grade: C-		6 Total Credits Required

Jazz Experience I

Rule: 4 credits required at or above the listed level.

	Course	**Credits**

	DANC 115A - Intro to Jazz Dance (R-4) Offered autumn and spring. Introduction to basic strengthening and stretching exercises and stylistic characteristics of jazz.	2 Credits
Minimum Required Grade: C-		4 Total Credits Required

BA Dance Major UD Core

Rule: Must complete the following subcategories.

20 Total Credits Required

Required Courses

Rule: All courses are required

Note: Senior projects must be planned with the student's project advisor and all journals and papers will be submitted to that advisor.

	Course	Credits
	DANC 305 - Contact Improvisation (R-6) Offered autumn odd-numbered years. The art of moving with one or more partners while using a shifting point of contact and supporting each other's weight. Skills such as rolling, suspending, falling and recovering together explored through physical sensations that use weight, counter-balance and yielding.	2 Credits
	DANC 334 - Dance History Offered autumn odd-numbered years. Discussion of primary movements and major figures in American modern dance, including global influences and its relationship to cultural trends of the twentieth and twenty-first centuries.	3 Credits
	DANC 494 - Junior/Senior Seminar (R-6) Offered autumn even-numbered years. Seminar to discuss both practical and philosophical issues confronting dance students about to enter the "real" world.	3 Credits
Minimum Required Grade: C-		8 Total Credits Required

Modern Experience I

Rule: 9 credits required at or above the listed level.

	Course	Credits
	DANC 300 - Contemporary Modern III (R-12) Offered autumn and spring. Prereq., DANC 200A. Extension of the modern dance vocabulary through lengthier combinations of movement.	3 Credits

Minimum Required Grade: C-	9 Total Credits Required

Junior Project

Rule: Students must complete project for graduation.

Note: Junior projects must be planned with the student's project advisor and all journals and papers will be submitted to that advisor.

	Course	Credits
	DANC 399 - Jr Creat/Research Proj (R-6) Offered autumn and spring. Independent study in choreography or a research paper which could be on such subjects as teaching styles, multiple intelligence theory, dance historical topics, dance injuries, etc. An initial proposal, a journal, and a paper are required.	1 Credits
Minimum Required Grade: C-		1 Total Credits Required

Senior Project

Rule: Students must complete project for graduation.

	Course	Credits
	DANC 499 - Senior Thesis/Creative Project (R-6) Offered autumn and spring. Independent study in choreography or teaching. The student is responsible for setting up the project. An initial proposal, a journal, and a paper are required.	2 To 3 Credits
Minimum Required Grade: C-		2 Total Credits Required

BA Dance Major Electives

Rule: Must complete the following subcategories.

Minimum Required Grade: C-

7 Total Credits Required

Technique Experience II

Rule: 4 or 6 credits required at or above the listed level.

Note: Select 1 of the 3 options.

	Course	Credits
	DANC 215A - Jazz Dance II (R-12) Offered autumn. Prereq., DANC 115A. Continuation of the jazz vocabulary at an advanced-beginner level.	2 Credits

	DANC 300 - Contemporary Modern III (R-12) Offered autumn and spring. Prereq., DANC 200A. Extension of the modern dance vocabulary through lengthier combinations of movement.	3 Credits
	DANC 310 - Ballet III (R-12) Offered autumn and spring. Development of ability to combine steps; carriage of head and arms.	2 Credits
Minimum Required Grade: C-		4 or 6 Total Credits Required

Elective Courses

Rule: Select 2 of the 8 options.

	Course	Credits
	DANC 295 - Stdnt Tching:Children's Dance Offered autumn and spring. Students participate and gain beginning-level teaching experience in two of four dance classes for children ranging in ages from 3 ½ to 12 years old.	1 Credits
	DANC 320 - Creative Practice II (R-6) Prereq., DANC 220A. Explores ways to manipulate several dancers in space, through repetition of shapes, through related rhythms. May include choreography for videotape.	2 Credits
	DANC 360L - World Dance (R-6) Offered autumn odd-numbered years. Investigation of dances of diverse cultures. Study of dance as: an emblem of cultural identity, social order, power and gender-specific behavior; an expression of religion and/or ritual; a classical art form; and as a medium for personal expression in Western and non-Western world cultures.	3 Credits
	DANC 380 - Science of Dance Movement Offered spring even-numbered years. Study of the skeletal system and how it relates to dance movement. Basic kinesthetic principles, conditioning for dancers, and injury recognition and prevention.	3 Credits
	DANC 406 - Dance as a Healing Art (R-6) Offered spring. Study of body movement as a reflection of inner emotional states. How changes in movement lead to changes in the psyche, promoting health and growth. Exploration of techniques for experiencing the inter-connection between movement and emotional expression.	2 Credits
	DANC 440 - Dance Pedagogy (R-9) Offered autumn even-numbered years. Methods and experiences in teaching modern dance, ballet and jazz.	3 Credits
	DANC 497 - Methods: Tchng Movmnt in Schls Offered autumn odd-numbered years. Prereq., consent of instr. Experience in planning, observing and directing creative movement as a teaching tool in K-5.	3 Credits

	THTR 220A - Acting I Offered autumn and spring. Studio class intended to cultivate skill sets necessary for those with a background or interest in the craft of acting, especially those considering a career in the performing arts (theatre, music, dance, film, broadcasting): observation, imagination, concentration, improvisation, and character.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Dance Education Minor

Minor - Dance Specialization Education (Minor)

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 21
Required Cumulative GPA: 2.0
Note: null

Dance Education Minor LD Core

Rule: Must complete the following subcategories.

5 Total Credits Required

Composition

Rule: Course is required.

	Course	**Credits**
	DANC 220A - Creative Practice I (R-6) Offered spring. Prereq., DANC 200A. Exploration of stimulus, structure, and performance of both composed and improvised movement. Elements such as space, shape, energy, motion, time, quality, form and awareness emphasized. Instructor-designed structures, transitioning to student-designed scores, culminating in originally created/improvised performance.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Teaching Experience

Rule: Repeat once.

	Course	**Credits**

	DANC 295 - Stdnt Tching:Children's Dance Offered autumn and spring. Students participate and gain beginning-level teaching experience in two of four dance classes for children ranging in ages from 3 ½ to 12 years old.	1 Credits
Minimum Required Grade: C-		2 Total Credits Required

Dance Education Minor UD Core

Rule: Must complete the following subcategories.

14 Total Credits Required

Required Courses.

Rule: All courses are required

	Course	Credits
	DANC 360L - World Dance (R-6) Offered autumn odd-numbered years. Investigation of dances of diverse cultures. Study of dance as: an emblem of cultural identity, social order, power and gender-specific behavior; an expression of religion and/or ritual; a classical art form; and as a medium for personal expression in Western and non-Western world cultures.	3 Credits
	DANC 440 - Dance Pedagogy (R-9) Offered autumn even-numbered years. Methods and experiences in teaching modern dance, ballet and jazz.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

In-Schools Experience

Rule: Repeat once.

Note: Section 01 for first registration; Section 40 for second.

	Course	Credits
	DANC 497 - Methods: Tchng Movmnt in Schls Offered autumn odd-numbered years. Prereq., consent of instr. Experience in planning, observing and directing creative movement as a teaching tool in K-5.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Technique Experience I

Rule: Choose 1 of the 2 options.

	Course	Credits
	DANC 300 - Contemporary Modern III (R-12) Offered autumn and spring. Prereq., DANC 200A. Extension of the modern dance vocabulary through lengthier combinations of movement.	3 Credits
	DANC 310 - Ballet III (R-12) Offered autumn and spring. Development of ability to combine steps; carriage of head and arms.	2 Credits
Minimum Required Grade: C-		2-3 Total Credits Required

Technique Experience II

Rule: Select at least 1 of the 5 options as listed below.

	Course	Credits
	DANC 118A - Dance Forms: Tap (R-8) Offered intermittently. Introduction to basic tap dance vocabulary and technique.	2 Credits
	DANC 160A - Dance Forms: Irish (R-8) Offered autumn and spring. Introduction to basic Irish dance vocabulary and technique.	2 Credits
	DANC 165A - Dance Forms: African (R-8) Offered autumn. Introduction to basic African dance vocabulary and technique.	2 Credits
	DANC 315 - Jazz III (R-12) Offered autumn. Prereq., DANC 215A or consent of instr. Continuation of DANC 215A.	2 Credits
Minimum Required Grade: C-		2 Total Credits Required

Rule: By advisement.
Note: Social, Cultural/World, or Traditional/Indigenous technique course.

Dance Education Minor Electives

Rule: Optional; by advisement.

	Course	Credits
	DANC 334 - Dance History Offered autumn odd-numbered years. Discussion of primary movements and major figures in American modern dance, including global influences and its relationship to cultural trends of the twentieth and twenty-first centuries.	3 Credits
	DANC 380 - Science of Dance Movement Offered spring even-numbered years. Study of the skeletal system and how it relates to dance movement. Basic kinesthetic principles, conditioning for dancers, and injury recognition and prevention.	3 Credits

Minimum Required Grade: Pass	6 Total Credits Required

Theatre Education Minor

Minor - Theatre Education (Minor)

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 21

Required Cumulative GPA: 2.0

Note: Leads to an endorsement in theatre education for those attaining or holding a Montana teaching license (see the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information). A GPA of 2.75 in the minor is required to be eligible for student teaching.

Theatre Education Minor LD Core

Rule: All courses are required.

	Course	Credits
	THTR 106A - Theat Prod I: Run Crew (R-6) Offered autumn and spring. Operation and running a show backstage on a scenery, costume, or prop crew for a major school production.	1 Credits
	THTR 202 - Stagecraft I Offered autumn. Fundamental theories and hands-on application in the areas of costuming, lighting, scenery, and properties.	3 Credits
	THTR 220A - Acting I Offered autumn and spring. Studio class intended to cultivate skill sets necessary for those with a background or interest in the craft of acting, especially those considering a career in the performing arts (theatre, music, dance, film, broadcasting): observation, imagination, concentration, improvisation, and character.	3 Credits
	THTR 235L - Dramatic Literature Offered autumn and spring. The study of representative texts in dramatic literature as a foundation for play analysis.	3 Credits
Minimum Required Grade: C-		10 Total Credits Required

Theatre Education Minor UD Core

Rule: All courses are required.

	Course	Credits

	THTR 330H - Theatre History I Offered autumn. Prereq., WRIT 101 (or higher) or equivalent, or consent of instr. A survey of the major developments of the theatre from primitive beginnings to the 19th century, including various cultures and their representative plays and performances throughout the world.	3 Credits
	THTR 370 - Stage Management I Offered autumn. Prereq., THTR 202. Beginning study of the duties of the stage manager concentrating on the rehearsal process in the non-professional theatre situation.	2 Credits
	THTR 375 - Directing I Offered autumn and spring. Prereq., THTR 120A or THTR 220A; THTR 235L. Open to juniors and seniors. Introduction to the analytical skills, staging, and conceptual techniques of the director; includes some practical application in scene work.	3 Credits
	THTR 439 - Methods of Teaching Theatre (R-6) Offered autumn. Prereq., consent of instr. Building and addressing specific curriculum in theatre arts.	3 Credits
Minimum Required Grade: C-		11 Total Credits Required

Theatre

Bachelor of Arts - Theatre

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 43
Required Cumulative GPA: 2.0

BA Theatre Major LD Core

Rule: Must complete the following subcategories

24 Total Credits Required

Required Courses

Rule: All courses are required.

	Course	**Credits**
	THTR 102A - Introduction to Theatre Design Offered autumn. Basic understanding of the principles of design for the theatre and television, including the production elements of scenery, costumes and lighting.	3 Credits

	THTR 103 - Introd to House Management (R-3) Offered autumn and spring. Introduction to the skills and experience of the front-of-house staff for a theatrical production.	1 Credits
	THTR 106A - Theat Prod I:Run Crew (R-6) Offered autumn and spring. Operation and running a show backstage on a scenery, costume, or prop crew for a major school production.	1 Credits
	THTR 202 - Stagecraft I: Lightng/Costumes Offered autumn. Fundamental theories and hands-on application in the areas of costuming, lighting, scenery, and properties.	3 Credits
	THTR 203 - Stagecraft II: Scenery & Props Offered spring. Fundamental theories and hands-on application in the areas of scenery, properties, and rigging.	3 Credits
	THTR 206 - Theat Prod II: Run Crew (R-6) Offered autumn and spring. Prereq., THTR 106A. Operation and running a show backstage, as in scenery, costumes, or props for a major school production.	1 Credits
	THTR 220 - Acting I Offered autumn. Intensive development of basic acting skills through psycho-physical technique: dramatic action, image-making and improvisation.	3 Credits
	THTR 235L - Dramatic Literature Offered autumn and spring. The study of representative texts in dramatic literature as a foundation for play analysis.	3 Credits
Minimum Required Grade: C-		18 Total Credits Required

Shop Experience I

Rule: Select 1 of 6 different sections.

Note: Section 01: Scene Shop on MW; Section 02: Costume Shop on MW; Section 03: Light Shop on MW;
Section 04: Scene Shop on TR; Section 05: Costume Shop on TR; Section 06: Light Shop on TR.

	Course	Credits
	THTR 107A - Theat Prod I:Constr Crew (R-9) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting under supervision. Most assignments involve very basic construction techniques and/or maintenance duties found in professional shop. Involves minimum of two 4-hour labs a week.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Shop Experience II

Rule: Select 1 of 6 different sections. Should be a different shop than the one taken for THTR 107A.

Note: Section 01: Scene Shop on MW; Section 02: Costume Shop on MW; Section 03: Light Shop on MW;
Section 04: Scene Shop on TR; Section 05: Costume Shop on TR; Section 06: Light Shop on TR.

	Course	Credits
	THTR 207 - Theat Prod II:Constr Crew (R-6) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting. Advanced construction assignments and/or maintenance duties found in professional shop; possible supervision of a small construction crew. Involves minimum of two 4-hour labs a week.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

BA Theatre Major UD Core

Rule: Must complete the following subcategories

10 Total Credits Required

Required Courses

Rule: All courses are required.

	Course	Credits
	THTR 330H - Theatre History I Offered autumn. Prereq., WRIT 101 (or higher) or equivalent, or consent of instr. A survey of the major developments of the theatre from primitive beginnings to the 19th century, including various cultures and their representative plays and performances throughout the world.	3 Credits
	THTR 331Y - Theatre History II Offered spring. Prereq., THTR 330H or theatre minor. Continuation of 330H. The many and varied periods since the 19th century as reflected in the theatre of the times in America and Europe.	3 Credits
	THTR 375 - Directing I Offered autumn and spring. Prereq., THTR 120A or THTR 220A; THTR 235L. Open to juniors and seniors. Introduction to the analytical skills, staging, and conceptual techniques of the director; includes some practical application in scene work.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

Senior Project

Rule: Must be taken during student's final semester.

	Course	Credits

	THTR 499 - Senior Project Offered autumn and spring. Prereq., senior-level theatre major. The student, with approval from his/her advisor, will begin a project during the semester prior to the semester of his/her graduation. An in-depth paper and brief defense of the project are required.	1 Credits
Minimum Required Grade: Pass		1 Total Credits Required

BA Theatre Major Focused Area (acting, costumes, literature/history, scenery, etc.)

Rule: Minimum of 9 credits required.

Note: Dance or Media Arts courses may count toward these required electives with approval from advisor.

Minimum Required Grade: C-

9 Total Credits Required

Theatre - Education Endorsement Preparation

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Bachelor of Arts - Theatre; Track: Education Endorsement Preparation

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Note: The Education Endorsement Preparation specialization is designed for the student seeking an endorsement in the major teaching field of Theatre. For endorsement to teach Theatre, a student also must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major or minor GPA of 2.75 is required to be eligible for student teaching. This major does not qualify as a single field endorsement. Individuals must complete a second teaching major or minor in another content area. The demand in Montana high schools for teaching of courses in this field is limited. The required second endorsement (either a teaching major or teaching minor) should be in a field in high demand.

BA Theatre Education Major LD Core

Rule: Must complete the following subcategories.

24 Total Credits Required

Required Courses

Rule: All courses are required.

	Course	Credits
	THTR 102A - Introduction to Theatre Design Offered autumn. Basic understanding of the principles of design for the theatre and television, including the production elements of scenery, costumes and lighting.	3 Credits
	THTR 103 - Introd to House Management (R-3) Offered autumn and spring. Introduction to the skills and experience of the front-of-house staff for a theatrical production.	1 Credits
	THTR 106A - Theat Prod I:Run Crew (R-6) Offered autumn and spring. Operation and running a show backstage on a scenery, costume, or prop crew for a major school production.	1 Credits
	THTR 202 - Stagecraft I Offered autumn. Fundamental theories and hands-on application in the areas of costuming, lighting, scenery, and properties.	3 Credits
	THTR 206 - Theat Prod II: Run Crew (R-6) Offered autumn and spring. Prereq., THTR 106A. Operation and running a show backstage, as in scenery, costumes, or props for a major school production.	1 Credits
	THTR 210 - Voice & Speech I Offered autumn. Prereq., THTR 221 or consent of instr. Voice production, phonetics and speech for the stage.	3 Credits
	THTR 220A - Acting I Offered autumn and spring. Studio class intended to cultivate skill sets necessary for those with a background or interest in the craft of acting, especially those considering a career in the performing arts (theatre, music, dance, film, broadcasting): observation, imagination, concentration, improvisation, and character.	3 Credits
	THTR 221 - Acting II Offered spring. Prereq., THTR 220A. Continuation of 220A. Scene study and characterization. Works selected from realism and poetic realism, utilizing modern and contemporary scripts of the American masters.	3 Credits
	THTR 235L - Dramatic Literature Offered autumn and spring. The study of representative texts in dramatic literature as a foundation for play analysis.	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

Shop Experience

Rule: Select 1 of 6 different sections.

Note: Section 01: Scene Shop on MW; Section 02: Costume Shop on MW; Section 03: Light Shop on MW;
Section 04: Scene Shop on TR; Section 05: Costume Shop on TR; Section 06: Light Shop on TR.

	Course	Credits
	THTR 107A - Theat Prod I:Constr Crew (R-9) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting under supervision. Most assignments involve very basic construction techniques and/or maintenance duties found in professional shop. Involves minimum of two 4-hour labs a week.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

BA Theatre Education Major UD Core

Rule: Must complete the following subcategories.

19 Total Credits Required

Required Courses

Rule: All courses are required.

	Course	Credits
	THTR 320 - Acting III Offered autumn. Prereq., THTR 221. Selected scenes and projects from European and American realistic texts such as Chekhov, Ibsen, Strindberg, and Shaw.	3 Credits
	THTR 330H - Theatre History I Offered autumn. Prereq., WRIT 101 (or higher) or equivalent, or consent of instr. A survey of the major developments of the theatre from primitive beginnings to the 19th century, including various cultures and their representative plays and performances throughout the world.	3 Credits
	THTR 331Y - Theatre History II Offered spring. Prereq., THTR 330H or theatre minor. Continuation of 330H. The many and varied periods since the 19th century as reflected in the theatre of the times in America and Europe.	3 Credits
	THTR 370 - Stage Management I Offered autumn. Prereq., THTR 202. Beginning study of the duties of the stage manager concentrating on the rehearsal process in the non-professional theatre situation.	2 Credits
	THTR 375 - Directing I Offered autumn and spring. Prereq., THTR 120A or THTR 220A; THTR 235L. Open to juniors and seniors. Introduction to the analytical skills, staging, and conceptual techniques of the director; includes some practical application in scene work.	3 Credits
	THTR 439 - Methods of Teaching Theatre (R-6) Offered autumn. Prereq., consent of instr. Building and addressing specific curriculum in theatre arts.	3 Credits

Minimum Required Grade: C-	17 Total Credits Required

Stage Management Experience

Rule: Registration based on production assignment as determined by Design/Technology faculty/staff.

	Course	Credits
	THTR 371 - Stage Mgmt Pract I (R-6) Offered autumn and spring. Prereq., THTR 370 or consent of instr. Stage management practicum involving stage managing a showcase production or assistant stage managing a major show. Involves evening work.	1 To 3 Credits
Minimum Required Grade: C-		1 Total Credits Required

Senior Project

Rule: Must be taken during student's final semester on campus (not student-teaching semester).

	Course	Credits
	THTR 499 - Senior Project Offered autumn and spring. Prereq., senior-level theatre major. The student, with approval from his/her advisor, will begin a project during the semester prior to the semester of his/her graduation. An in-depth paper and brief defense of the project are required.	1 Credits
Minimum Required Grade: Pass		1 Total Credits Required

Theatre - Acting

Bachelor of Fine Arts - Theatre; Track: Acting

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 78

Required Cumulative GPA: 2.0

Note: Students who intend to pursue the Acting specialization will normally enter the University as Bachelor of Arts students in Theatre. They should then declare intent to pursue the BFA degree no later than the beginning of the second year of a four-year program. A student may elect a special concentration in directing, music theatre, or another discipline in addition to the BFA core and area-specialization requirements. The program is designed in consultation with the student's advisor and must be approved by the faculty. The special concentration may require five years to complete.

BFA Theatre Major LD Core

Rule: Must complete the following subcategories.

15 Total Credits Required

Required Courses.

Rule: All courses are required.

	Course	Credits
	THTR 103 - Introd to House Management (R-3) Offered autumn and spring. Introduction to the skills and experience of the front-of-house staff for a theatrical production.	1 Credits
	THTR 106A - Theat Prod I:Run Crew (R-6) Offered autumn and spring. Operation and running a show backstage on a scenery, costume, or prop crew for a major school production.	1 Credits
	THTR 202 - Stagecraft I Offered autumn. Fundamental theories and hands-on application in the areas of costuming, lighting, scenery, and properties.	3 Credits
	THTR 206 - Theat Prod II: Run Crew (R-6) Offered autumn and spring. Prereq., THTR 106A. Operation and running a show backstage, as in scenery, costumes, or props for a major school production.	1 Credits
	THTR 220A - Acting I Offered autumn and spring. Studio class intended to cultivate skill sets necessary for those with a background or interest in the craft of acting, especially those considering a career in the performing arts (theatre, music, dance, film, broadcasting): observation, imagination, concentration, improvisation, and character.	3 Credits
	THTR 235L - Dramatic Literature Offered autumn and spring. The study of representative texts in dramatic literature as a foundation for play analysis.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Shop Experience

Rule: Select 1 of 6 different sections.

Note: Section 01: Scene Shop on MW; Section 02: Costume Shop on MW; Section 03: Light Shop on MW;
Section 04: Scene Shop on TR; Section 05: Costume Shop on TR; Section 06: Light Shop on TR.

	Course	Credits
	THTR 107A - Theat Prod I:Constr Crew (R-9) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting under supervision. Most assignments involve very basic construction techniques and/or maintenance duties found in professional shop. Involves minimum of two 4-hour labs a week.	3 Credits

Minimum Required Grade: C-		3 Total Credits Required

BFA Theatre Major UD Core

Rule: All courses are required.

	Course	Credits
	THTR 330H - Theatre History I Offered autumn. Prereq., WRIT 101 (or higher) or equivalent, or consent of instr. A survey of the major developments of the theatre from primitive beginnings to the 19th century, including various cultures and their representative plays and performances throughout the world.	3 Credits
	THTR 331Y - Theatre History II Offered spring. Prereq., THTR 330H or theatre minor. Continuation of 330H. The many and varied periods since the 19th century as reflected in the theatre of the times in America and Europe.	3 Credits
	THTR 375 - Directing I Offered autumn and spring. Prereq., THTR 120A or THTR 220A; THTR 235L. Open to juniors and seniors. Introduction to the analytical skills, staging, and conceptual techniques of the director; includes some practical application in scene work.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

BFA Acting Requirements

Rule: Must complete the following subcategories. 54 Total Credits Required.

	Course	Credits
	THTR 210 - Voice & Speech I Offered autumn. Prereq., THTR 221 or consent of instr. Voice production, phonetics and speech for the stage.	3 Credits
	THTR 211 - Voice & Speech II Offered spring. Prereq., THTR 210. Continuation of 210.	3 Credits
	THTR 221 - Acting II Offered spring. Prereq., THTR 220A. Continuation of 220A. Scene study and characterization. Works selected from realism and poetic realism, utilizing modern and contemporary scripts of the American masters.	3 Credits
	THTR 249 - Stage Makeup Offered spring. Principles of and practice in theatrical makeup. Students will work on makeup for major productions.	2 Credits
	THTR 310 - Voice and Speech III Offered autumn. Prereq., THTR 211 and audition, or consent of instr. Dialects, accents, and continued development of good voice and speech skills.	3 Credits

	THTR 315 - Physical Performance Skills I Offered spring. Prereq., THTR 221 or consent of instr. Basics of physical performance: collaboration, concentration, centering, balance, agility, and body awareness through a variety of stage movement techniques.	3 Credits
	THTR 316 - Physical Performance Skills II Offered autumn. Prereq., THTR 315. Physical characterization: exploring weight, rhythm, tempo, and kinesthetic relationships through Laban, animal studies, and Michael Chekhov.	3 Credits
	THTR 320 - Acting III Offered autumn. Prereq., THTR 221. Selected scenes and projects from European and American realistic texts such as Chekhov, Ibsen, Strindberg, and Shaw.	3 Credits
	THTR 321 - Acting IV Offered spring. Prereq., THTR 320. Study and practice of working with a camera and film/television scripts.	3 Credits
	THTR 415 - Physical Performnce Skills III Offered spring. Prereq., THTR 316 or consent of instructor, which includes audition for acting specialization. Extremes of performance: stage combat, martial arts, and biomechanics/theatre of the grotesque.	3 Credits
	THTR 420 - Acting V Offered autumn. Prereq., THTR 321 and BFA acting specialization, or consent of instr. Selected scenes and projects from specific historical and stylistic periods, from Molière to Restoration comedy.	3 Credits
	THTR 421 - Acting VI Offered spring. Prereq., THTR 420. Selected speeches, scenes and projects from verse drama, especially Shakespeare.	3 Credits
	THTR 425 - Acting VII Offered autumn. Prereq., THTR 421. Performance and scene work in contemporary practice and theory.	3 Credits
	THTR 481 - Adv Acting: Persnl Performance Offered autumn. Prereq., THTR 321 or consent of instr. Developing personal performance skills.	3 Credits
	THTR 484 - Adv Acting: Professionl Skills Offered spring. Prereq., THTR 420 or consent of instr. Developing professional skills, material for the actor, professional portfolio, resume audition material, commercial acting, performance market research.	3 Credits
Minimum Required Grade: C-		44 Total Credits Required

Senior Project

Rule: Must be taken during student's final semester.

	Course	Credits

	THTR 499 - Senior Project Offered autumn and spring. Prereq., senior-level theatre major. The student, with approval from his/her advisor, will begin a project during the semester prior to the semester of his/her graduation. An in-depth paper and brief defense of the project are required.	1 Credits
Minimum Required Grade: Pass		1 Total Credits Required

BFA Acting Production Courses

Rule: All courses are required; registration based on casting for Theatre & Dance productions.

	Course	Credits
	THTR 395 - Practicum (R-18) Offered autumn and spring. Service learning experience in theatre in a setting compatible with the student's major and interests.	1 To 3 Credits
	THTR 495 - Practicum (R-9) Offered intermittently autumn and spring. Service learning experience in theatre in a setting compatible with the student's major and interests.	1 To 3 Credits
Minimum Required Grade: C-		3 Total Credits Required

BFA Acting Performance Electives

Rule: Minimum of 6 credits required.

Note: Dance, Media Arts, or Music courses may count toward these required electives with approval from advisor.

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Theatre - Design/Technology

Bachelor of Fine Arts - Theatre; Track: Design & Technology

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 78

Required Cumulative GPA: 2.5

Note: Students who intend to pursue the designDesign/ & technology Technology specialization will normally enter the University as Bachelor of Arts students in Theatre. They should then declare intent to pursue the B.F.A . degree no later than the beginning of the second year of a four-year program. Students wishing to pursue a B.F.A. with a specialization in design/ & technology must:
1. Complete a one-year residency at the UM-Missoula campus which includes a minimum of 12 credits in design/ & technology.
2. Attain a cumulative 2.5 overall GPA and a 3.0 GPA in design/ & technology coursework.
3. Present a theatre resume and portfolio consisting of class and production work.
4. Prepare a written statement explaining their educational and professional goals.

BFA Theatre Major LD Core

Rule: Must complete the following subcategories.

15 Total Credits Required

Required Courses

Rule: All courses are required

	Course	Credits
	THTR 103 - Introd to House Management (R-3) Offered autumn and spring. Introduction to the skills and experience of the front-of-house staff for a theatrical production.	1 Credits
	THTR 106A - Theat Prod I:Run Crew (R-6) Offered autumn and spring. Operation and running a show backstage on a scenery, costume, or prop crew for a major school production.	1 Credits
	THTR 202 - Stagecraft I Offered autumn. Fundamental theories and hands-on application in the areas of costuming, lighting, scenery, and properties.	3 Credits
	THTR 206 - Theat Prod II: Run Crew (R-6) Offered autumn and spring. Prereq., THTR 106A. Operation and running a show backstage, as in scenery, costumes, or props for a major school production.	1 Credits
	THTR 220A - Acting I Offered autumn and spring. Studio class intended to cultivate skill sets necessary for those with a background or interest in the craft of acting, especially those considering a career in the performing arts (theatre, music, dance, film, broadcasting): observation, imagination, concentration, improvisation, and character.	3 Credits
	THTR 235L - Dramatic Literature Offered autumn and spring. The study of representative texts in dramatic literature as a foundation for play analysis.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Shop Experience I

Rule: Select 1 of 6 different sections.

Note: Section 01: Scene Shop on MW; Section 02: Costume Shop on MW; Section 03: Light Shop on MW;
Section 04: Scene Shop on TR; Section 05: Costume Shop on TR; Section 06: Light Shop on TR.

	Course	Credits

	THTR 107A - Theat Prod I:Constr Crew (R-9) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting under supervision. Most assignments involve very basic construction techniques and/or maintenance duties found in professional shop. Involves minimum of two 4-hour labs a week.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

BFA Theatre Major UD Core

Rule: All courses are required.

	Course	Credits
	THTR 330H - Theatre History I Offered autumn. Prereq., WRIT 101 (or higher) or equivalent, or consent of instr. A survey of the major developments of the theatre from primitive beginnings to the 19th century, including various cultures and their representative plays and performances throughout the world.	3 Credits
	THTR 331Y - Theatre History II Offered spring. Prereq., THTR 330H or theatre minor. Continuation of 330H. The many and varied periods since the 19th century as reflected in the theatre of the times in America and Europe.	3 Credits
	THTR 375 - Directing I Offered autumn and spring. Prereq., THTR 120A or THTR 220A; THTR 235L. Open to juniors and seniors. Introduction to the analytical skills, staging, and conceptual techniques of the director; includes some practical application in scene work.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

BFA Design & Technology Requirements

Rule: All courses are required.

	Course	Credits
	THTR 102A - Introduction to Theatre Design Offered autumn. Basic understanding of the principles of design for the theatre and television, including the production elements of scenery, costumes and lighting.	3 Credits
	THTR 155 - Drawing Fundamntls for Theatre Offered spring. Students will begin to develop skills in drawing the human form, perspective, and architecture.	3 Credits
	THTR 255 - Drafting for Theatre I Offered spring. Drawing techniques for the theatre with an emphasis on drafting as utilized by technicians, designers, stage managers and directors.	3 Credits

	THTR 370 - Stage Management I Offered autumn. Prereq., THTR 202. Beginning study of the duties of the stage manager concentrating on the rehearsal process in the non-professional theatre situation.	2 Credits
Minimum Required Grade: C-		11 Total Credits Required

BFA Design & Technology Shop Experiences

Rule: Must complete the following subcategories.

9 Total Credits Required

Shop Experience II

Rule: Select 1 of 6 different sections from shops not already taken.

Note: Section 01: Scene Shop on MW; Section 02: Costume Shop on MW; Section 03: Light Shop on MW; Section 04: Scene Shop on TR; Section 05: Costume Shop on TR; Section 06: Light Shop on TR.

	Course	Credits
	THTR 107A - Theat Prod I:Constr Crew (R-9) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting under supervision. Most assignments involve very basic construction techniques and/or maintenance duties found in professional shop. Involves minimum of two 4-hour labs a week.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Shop Experience III

Rule: Select 1 of 6 different sections from shops not already taken.

Note: Section 01: Scene Shop on MW; Section 02: Costume Shop on MW; Section 03: Light Shop on MW; Section 04: Scene Shop on TR; Section 05: Costume Shop on TR; Section 06: Light Shop on TR.

	Course	Credits
	THTR 107A - Theat Prod I:Constr Crew (R-9) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting under supervision. Most assignments involve very basic construction techniques and/or maintenance duties found in professional shop. Involves minimum of two 4-hour labs a week.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Shop Experience IV

Rule: Select shop in primary area of emphasis after completing Shop Experiences I-III.

	Course	Credits
	THTR 307 - Production Construction I (R-12) Offered autumn and spring. Prereq., THTR 107A and consent of instr. Students serve as the construction/maintenance crew in a shop (sound, light, costume, or scenery) for School productions.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

BFA Design & Technology UD Drafting Requirement

Rule: Select 1 of 2 options based on primary area of emphasis.

	Course	Credits
	THTR 345 - Flat Pattrn Des &Draftg Offered autumn. Prereq., THTR 202. Pattern design using the flat pattern method, pattern drafting of various garment parts, advanced principles of fitting.	3 Credits
	THTR 355 - Computer Aid Draft & Appl (R-6) Offered autumn. Prereq., THTR 255. Computer drafting for scenery, costumes, lighting, and sound design drawings, including 2-D and 3-D plans, layouts and renderings. Work with CAD, photo manipulation, spreadsheet, database, and word processing programs.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

BFA Design & Technology Junior Project

Rule: Select 1 of 2 options based on production assignment as determined by Design & Technology faculty/staff.

	Course	Credits
	THTR 308 - Production Team I (R-12) Offered autumn and spring. Prereq., consent of instr. Students function as part of the production team in a role of responsibility (i.e., master electrician, cutter, first hand, master carpenter, etc.) for a school production. These assignments and duties may serve also as part of the required junior project.	1 To 12 Credits
	THTR 309 - Production Design I (R-12) Offered autumn and spring. Prereq., consent of instr. Students function as a member of the production team in a role of responsibility (i.e., scenic designer, costume designer, light designer, etc.) for a school production. These assignments and duties may serve also as part of the required junior project.	1 To 12 Credits
Minimum Required Grade: C-		2 Total Credits Required

BFA Design & Technology Senior Project

Rule: Select 1 of 2 options based on production assignment as determined by Design & Technology faculty/staff.

	Course	Credits
	THTR 408 - Production Team II (R-12) Offered autumn and spring. Prereq., consent of instr. Students serve as a member of the production team in a role of responsibility (i.e., master electrician, sound board operator, cutter, first hand, etc.) for major productions. These assignments and duties may serve also as part of the required senior project.	1 To 12 Credits
	THTR 409 - Production Design II (R-12) Offered autumn and spring. Prereq., consent of instr. Students serve as a member of the production team in a role of designer (i.e., set designer, costume designer, light designer, etc.) for major productions. These assignments and duties may serve also as part of the required senior project.	1 To 12 Credits
Minimum Required Grade: C-		3 Total Credits Required

BFA Design & Technology Electives

Rule: Select courses based on primary and secondary areas of interest; minimum of 12 credits must be UD.

Minimum Required Grade: C-

26 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Theatre Minor

Minor - Theatre (Minor)

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 22

Required Cumulative GPA: 2.0

Theatre Minor LD Core

Rule: Must complete the following subcategories.

Minimum Required Grade: C-

7 Total Credits Required

Shop Experience

Rule: Select 1 of 6 different sections.

Note: Section 01: Scene Shop on MW; Section 02: Costume Shop on MW; Section 03: Light Shop on MW; Section 04: Scene Shop on TR; Section 05: Costume Shop on TR; Section 06: Light Shop on TR.

	Course	Credits

	THTR 107A - Theat Prod I:Constr Crew (R-9) Offered autumn and spring. The construction and completion of scenery/props, costumes, and/or lighting under supervision. Most assignments involve very basic construction techniques and/or maintenance duties found in professional shop. Involves minimum of two 4-hour labs a week.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Introductory/Foundational Experience

Rule: Select 1 of 4 options.

	Course	Credits
	THTR 101L - Introduction to Theatre Offered autumn and spring. The various elements of play production and dance. The basic artistic principles underlying dance, theatre and all of the arts.	3 Credits
	THTR 102A - Introduction to Theatre Design Offered autumn. Basic understanding of the principles of design for the theatre and television, including the production elements of scenery, costumes and lighting.	3 Credits
	THTR 113A - Intro to Voice Acting An introduction to the skills and techniques required of the actor's voice to be effective in communication with others online, onstage, and in the world.	3 Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Production Experience

Rule: Select 1 of 2 options.

Note: For 395, registration based on casting for Theatre & Dance productions.

	Course	Credits
	THTR 103 - Introd to House Management (R-3) Offered autumn and spring. Introduction to the skills and experience of the front-of-house staff for a theatrical production.	1 Credits

	THTR 106A - Theat Prod I: Run Crew (R-6) Offered autumn and spring. Operation and running a show backstage on a scenery, costume, or prop crew for a major school production.	1 Credits
	THTR 395 - Practicum (R-18) Offered autumn and spring. Service learning experience in theatre in a setting compatible with the student's major and interests.	1 To 3 Credits
Minimum Required Grade: C-		1 Total Credits Required

Theatre Minor Theory/Literature/History Experience

Rule: Select 1 of 4 options.

	Course	Credits
	THTR 202 - Stagecraft I Offered autumn. Fundamental theories and hands-on application in the areas of costuming, lighting, scenery, and properties.	3 Credits
	THTR 235L - Dramatic Literature Offered autumn and spring. The study of representative texts in dramatic literature as a foundation for play analysis.	3 Credits
	THTR 330H - Theatre History I Offered autumn. Prereq., WRIT 101 (or higher) or equivalent, or consent of instr. A survey of the major developments of the theatre from primitive beginnings to the 19th century, including various cultures and their representative plays and performances throughout the world.	3 Credits
	THTR 331Y - Theatre History II Offered spring. Prereq., THTR 330H or theatre minor. Continuation of 330H. The many and varied periods since the 19th century as reflected in the theatre of the times in America and Europe.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Theatre Minor Focused Area (acting, costumes, literature/history, scenery, etc.)

Rule: 12-credit minimum: 8 credits must be UD.

Note: An advisor in Theatre & Dance must be consulted for guidelines regarding one's specific focus. Dance, Media Arts, or Music courses may count toward these required electives with approval from advisor.

Minimum Required Grade: C-

12 Total Credits Required

Music

Maxine Ramey, Director

The School of Music offers students who have demonstrated talent in music the opportunity to continue further study either for a profession or an avocation and at the same time acquire a broad general education. Complete sequences of courses are given to prepare a student for a career as a teacher or supervisor of music in the elementary/secondary schools; for a career directed toward composition, the music technology industry, private teaching, or concert work; or, for a thorough training in music within the structure of a broad liberal arts curriculum.

Four year degree programs at the undergraduate level include the Bachelor of Music Education; Bachelor of Music with areas of specialization in performance, piano performance and pedagogy or composition/music technology; and Bachelor of Arts in music. Two year graduate degree programs include the Master of Music with areas of specialization in music education, performance, composition/technology; and musical theater.

The University of Montana-Missoula is an accredited institutional member of the National Association of Schools of Music.

In general, admission as a major in the School of Music is by certificate from the high school from which the student graduates. The faculty of the School of Music is more concerned with evidence of talent, conspicuous achievement in music, promise of development, and scholarship in general than it is in the precise content of the program which the prospective music student has followed prior to admission to the University.

The School of Music welcomes the opportunity for prospective students and parents to consult with faculty and administration by paper and electronic correspondence and/or by appointment interviews on the campus. Every student wishing to become a music major or minor must take the Music Theory Assessment Examination and a Piano Proficiency Evaluation during orientation and also must audition and be accepted officially into the applied studio of a music faculty member prior to confirmation as a fully-admitted major or minor in music. Students may be admitted provisionally for one semester, and at the end of that semester students must reaudition to gain full admittance into a music major degree program

Department Faculty

Professors

Margaret Nichols Baldridge, Professor Violin and Viola
Anne Basinski, Professor, School of Music - Director, UM Opera Theater - Director, Undergraduate Voice Area
Fern Glass Boyd, Cello, Music Literature
Steven Hesla, Keyboard Area Chair
Stephen Kalm, Dean
Dr. Robert LedBetter, Director of Percussion Studies
Luis Millán, Director of Orchestra, Guitar
Maxine Ramey, Director, School of Music
Margaret Lund Schuberg, Professor of Flute

Associate Professors

David Cody, Voice, Opera, Musical Theatre
Jennifer Gookin Cavanaugh, Associate Professor; Oboe, Bassoon, and Theory
Lori Gray, Associate Professor, Music Education
Kevin Griggs, Associate Director of Bands/Director of Athletic Bands
Christopher Hahn, Professor of Piano and Piano Pedagogy
Kimberly Gratland James, Associate Professor, Voice; Coordinator, MM Vocal Performance Program
James Randall, Associate Professor of Music History
James Smart, Director of Bands, Trumpet

Assistant Professors

Zachary Cooper, Assistant Professor of Horn and Music Theory
David Edmonds, Director of Choral Studies
Johan Eriksson, Associate Professor of Saxophone and Jazz Studies
Christopher Kirkpatrick, Associate Professor of Clarinet
Emilie LeBel, Assistant Professor of Composition
Rob Tapper, Professor of Trombone & Director of Jazz Studies

Adjunct Faculty

Jeff Brandt, The Unprofessor
Nancy Cooper, Adjunct Assistant Professor of Music
John Driscoll, Instructor of Trumpet
Creighton James, Voice
Benedict Kirby, Adjunct Prof. of Tuba & Euphonium
Thomas Pertis, Instructor of Guitar
Amy Smart, Country Music On-line

Back to Top

- MUSE 120 - Techs: String Inst in Class I
  Credits: 1. (R-2) Offered autumn. Group instruction for beginning students on violin, viola, cello and bass, with emphasis on teaching procedures.
- MUSE 121 - Techs: String Inst in Class II
  Credits: 1. (R-2) Offered spring. Prereq., MUSE 120. Continuation of MUSE 120.
- MUSE 123 - Techniques: Voice
  Credits: 1. Offered autumn. This course examines vocal function and issues associated with the physical processes of singing such as alignment, breathing, creating sound, amplifying (resonating) sound. Additionally, students will learn basic information about becoming a voice teacher (or choral director). Students will also learn about singers' diction, voice classification, and the appropriate assigning of solo classical repertoire. Course Attributes: Expressive Arts Course (A) Performance Music Course
- MUSE 126 - Techs: Percussn Instruments I
  Credits: 1. (R-2) Offered autumn. Basic instruction in percussion instruments, with emphasis on teaching procedures.
- MUSE 127 - Techs: Percussn Instruments II
  Credits: 1. (R-2) Offered spring. Prereq., MUSE 126. Continuation of MUSE 126. Basic instruction in percussion instruments, with emphasis on teaching procedures.
- MUSE 272 - Techniqus: Flute & Single Reed
  Credits: 1. Composers are expected to bring new musical ideas, sketches, and eventually finished pieces to the workshop, while performers are expected to read, critique, practice, and finally perform the new works.
- MUSE 273 - Techniques: Double Reed
  Credits: 1. (R-2) Offered autumn. Basic instruction in oboe and bassoon, with emphasis on teaching procedures.
- MUSE 274 - Techniques: Upper Brass
  Credits: 1. (R-2) Offered autumn. Basic instruction in trumpet and horn, with emphasis on teaching procedures.
- MUSE 275 - Techniques: Lower Brass
  Credits: 1. Offered spring. Basic instruction in trombone, baritone, and tuba, with emphasis on teaching procedures.
- MUSE 333 - Gen Music Methods & Materls I
  Credits: 2. Offered autumn. Prereq., upper-division standing in music and C&I 200. Development of practical knowledge to effectively instruct and administer general music classes in the public schools, grades K-12.
- MUSE 334 - Gen Music Methods & Materls II
  Credits: 2. Offered spring. Prereq., upper-division standing in music and EDU 202. Continuation of MUSE 333.
- MUSE 397 - Methods: K-8 Music
  Credits: 2. Offered autumn and spring. Prereq., C&I 200. Integration of fundamental skills and basic rudiments of music into the various aspects of teaching music creatively in the elementary school. For non-music majors only.
- MUSE 425 - Technology and Materials
  Credits: 2. Offered autumn semesters, as an elective. The course will provide in-depth examination of technology and print resources appropriate for use in music classrooms K-12, all areas and ensembles. Students will work independently and collaboratively to reflect upon, discuss, and practice utilizing technology and print resources for the music classroom (K-12).
- MUSE 497 - Methods: Choral & Literature

Credits: 2. Offered Spring. Prereq., upper-division standing in music and MUSE 123. Development of strategies for directing the secondary choral ensemble. Focus on rehearsal techniques and literature selection for the developing choir.

- MUSE 521 - Psychology of Music

  Credits: 2. Offered intermittently. Prereq., graduate standing in music. Investigation of the perception, processing and cognition of music. Psychological foundations of musical behavior: psychoacoustics, measurement and prediction of musical ability, functional music, music and society, music learning, and effective response to music. Level: Graduate

- MUSE 522 - Philosophy of Music

  Credits: 2. Offered intermittently. Prereq., graduate standing in music. An investigation of the meaning of music, the relationship to various societies and social structures and the leading philosophical ideas which relate to music and music instruction. Level: Graduate

- MUSE 581 - Arts Educ Institute

  Credits: 2. (R-4) Offered summer. Same as ART 581, THTR 581. Open forum with national and regional speakers, panels, and symposia to promote discussion, understanding, and direction on significant national issues in the arts and arts education. Level: Graduate

- MUSE 582 - Arts Educ Seminar I

  Credits: 1 TO 2. (R-4) Same as CP 582. Offered summers. Topics vary. Level: Graduate

- MUSE 583 - Arts Educ Seminar II

  Credits: 1 TO 2. (R-4) Prereq., MUSE 582. Same as CP 583. Offered summers. Topics vary. Level: Graduate

- MUSE 584 - Arts Educ Seminar III

  Credits: 1 TO 2. (R-18) Prereq., MUSE 583. Same as CP 584. Continuation MUSE 583. Level: Graduate

- MUSE 585 - Arts Educ Seminar IV

  Credits: 1 TO 2. (R-4) Prereq., MUSE 584. Same as CP 585. Continuation of MUSE 584. Level: Graduate

- MUSE 586 - Arts Educ Seminar V

  Credits: 1 TO 2. (R-8) Offered summer. Prereq., MUSE 585. Same as CP 586. Continuation and synthesis of preceding seminars. Level: Graduate

- MUSE 588 - Arts Ed Apprenticeship

  Credits: 1 TO 3. (R-24) Offered summer. Same as CP 588. Exploration of art forms to develop new artistic and communicative perceptions and awareness. Level: Graduate

Music

Back to Top

- MUSI 101L - Enjoyment of Music

  Credits: 3. Offered autumn and spring. The development of music listening skills. Exploration of the relationship between musical materials and the expressive qualities of a musical composition or performance. Concert attendance required. No musical background is expected. For non majors only. Credit not allowed for both MUSI 101L and 202L (MUS 134L and 135L). Course Attributes: Lit & Artistic Studies (L)

- MUSI 102A - Performance Study

  Credits: 1 TO 2. Offered autumn and spring. Prereq., consent of instr. Individual instruction in voice, piano, organ, harpsichord, carillon, string, wind and percussion instruments. A total of 6 credits is allowed in any one performance area. All private instruction requires concurrent ensemble participation. Course Attributes: Expressive Arts Course (A)
  Performance Music Course

- MUSI 104 - Music Fundamentals

  Credits: 2. Offered autumn. Basic principles of notation, including clefs, scales, intervals, cords and rhythm.

- MUSI 105 - Music Theory I

  Credits: 2. Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.

- MUSI 106 - Music Theory II

  Credits: 2. Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.

- MUSI 108A - Orchestra: UMSO

  Credits: 1. Offered autumn and spring. See MUSI 112A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony. Course Attributes: Ensemble Music Course Expressive Arts Course (A)

- MUSI 110A - Opera Theatre I

  Credits: 1. (R-8) Offered autumn and spring. Prereq., consent of instr. Study and performance of the standard opera repertoire. Course Attributes: Ensemble Music Course
  Expressive Arts Course (A)

- MUSI 111A - Singing for Non-Majors

  Credits: 2. Offered autumn and spring. An introduction to the skills which enable and enhance artistic singing. As a group, students work to understand and exercise good tone production, musicality, and performance skills. Course Attributes: Expressive Arts Course (A)

- MUSI 112A - Choir

  Credits: 1. Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of MUSI 112A-114A, 110A/310, 131A/331, and 122A/322 toward graduation. Course Attributes: Ensemble Music Course
  Expressive Arts Course (A)

- MUSI 114A - Band: UM Concert Band

  Credits: 1. Offered autumn and spring. See MUSI 112A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble. Course Attributes: Ensemble Music Course Expressive Arts Course (A)

- MUSI 122A - Percussion Ensemble: UM

  Credits: 1. Offered autumn and spring. See MUSI 112A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs. Course Attributes: Ensemble Music Course Expressive Arts Course (A)

- MUSI 123A - World Percussion Ensemble

  Credits: 1. Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs. Course Attributes: Expressive Arts Course (A)

- MUSI 130L - History of Jazz

  Credits: 3. Offered autumn. The development of jazz in the 20th century with emphasis on critical listening and the recognition of important trends and people in its history. Course Attributes: Lit & Artistic Studies (L)

- MUSI 131A - Jazz Ensemble I: UM Jazz Bands

  Credits: 1. (R-8) Offered autumn and spring. Prereq., consent of instr. Study and performance of the jazz repertoire. Course Attributes: Ensemble Music Course Expressive Arts Course (A)

- MUSI 132L - History of Rock & Roll

  Credits: 3. Offered autumn and spring. A study of the roots, components, and development of the musical art form "Rock and Roll". Significant performing artists and movements with the style identified and presented. Includes traditional lecture with substantial use of audio and visual aids. Course Attributes: Lit & Artistic Studies (L)

- MUSI 133L - Cntry Msc:Cowbys,Opry,Nshville

  Credits: 3. This course will explore the country music genre, including its major performers, songwriters, songs and impact on culture from the early times on the radio to the beginning of the twenty-first century. Course Attributes: Lit & Artistic Studies (L)

- MUSI 135A - Keyboard Skills I

Credits: 1. Offered autumn. Music reading, techniques, and harmonization skills acquired through study of solo and ensemble repertoire in a contemporary electronic piano laboratory. Course Attributes: Expressive Arts Course (A) Performance Music Course

- MUSI 136A - Keyboard Skills II

  Credits: 1. Offered spring. Prereq., MUSI 135A. Continuation of MUSI 135A. Course Attributes: Expressive Arts Course (A) Performance Music Course

- MUSI 139 - Language of Music II

  Credits: 3. Offered spring. Prereq., MUSI 138. Continuation of MUSI 138 with emphasis on analysis of musical examples and aural recognition of basic harmonic patterns.

- MUSI 140 - Aural Perception I

  Credits: 2. Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.

- MUSI 141 - Aural Perception II

  Credits: 2. Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.

- MUSI 155A - Marching: Grizzly Marchng Band

  Credits: 1. Offered autumn. See MUSI 112A for repeatability limitations. A musical organization of brass, woodwinds, percussion, and auxiliary units open to all University students with no audition required. Course Attributes: Expressive Arts Course (A)

- MUSI 160A - Beginning Guitar

  Credits: 2. Offered autumn. A beginning course in the fundamentals of playing folk guitar. Includes introduction to the rudiments of music. Course Attributes: Expressive Arts Course (A)

- MUSI 162A - Chamber Ensembles I

  Credits: 1. (R-20) Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs. Course Attributes: Expressive Arts Course (A)

- MUSI 180 - Composition I

  Credits: 1 TO 2. (R-4) Offered autumn and spring. Prereq., consent of instr. An introduction to the basic art of music composition. May be substituted for upper division electives for students not majoring in theory or composition.

- MUSI 191 - Special / Experimental Courses

  Credits: 1 TO 9. (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- MUSI 192 - Independent Study

  Credits: 1 TO 3. (R-9) Offered autumn and spring. Course material appropriate to the needs and objectives of the individual student.

- MUSI 195 - Applied Study I

  Credits: 1 TO 4. (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation. Course Attributes: Internships/Practicums

- MUSI 202L - Intro to Music Literature

  Credits: 3. Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L. Course Attributes: Lit & Artistic Studies (L)

- MUSI 205 - Music Theory III

  Credits: 2. Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.

- MUSI 206 - Music Theory IV

Credits: 2. Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.

- MUSI 207H - World Music (equiv to 307)

  Credits: 3. Offered autumn and spring. Introduction to the diversity of music among the world's peoples. Selected music systems throughout the world examined in their broad cultural contexts: religious, historical, and social. Introduction to ethnomusicology-a combination of musicology, anthropology and other related disciplines. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)

- MUSI 218 - Int Piano Cls (Honors)

  Credits: 1. Offered intermittently. Prereq., placement examination. Accelerated offering of the material covered in MUSI 235 and 236. Course Attributes: Performance Music Course

- MUSI 225 - Jazz Theory & Improvisation I

  Credits: 2. Offered autumn. A performance oriented course to provide a basic understanding of jazz harmony. Application of scales and melodic patterns in improvising over various harmonic progressions.

- MUSI 226 - Jazz Theory & Improvisation II

  Credits: 2. Offered spring. Prereq., MUSI 225. Continuation of MUSI 225.

- MUSI 235 - Keyboard Skills III

  Credits: 1. Offered autumn. Prereq., MUSI 136A or equiv. Continuation of MUSI 136A. Course Attributes: Performance Music Course

- MUSI 236 - Keyboard Skills IV

  Credits: 1. Offered spring. Prereq., MUSI 235. Continuation of MUSI 235, culminates in piano functional examination. Course Attributes: Performance Music Course

- MUSI 240 - Aural Perception III

  Credits: 2. Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.

- MUSI 241 - Aural Perception IV

  Credits: 2. Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.

- MUSI 267A - Composer's Workshop

  Credits: 1. This is a composition workshop and new music ensemble, in which student composers and performers collaborate, guided by a faculty composer, to develop new pieces. Course Attributes: Expressive Arts Course (A)

- MUSI 280 - Composition II

  Credits: 1 TO 2. (R-4) Offered autumn and spring. Prereq., 4 credits of MUSI 180. Original work in composition may be substituted for upper-division electives for students not majoring in theory or composition.

- MUSI 281 - Diction: English, Italian

  Credits: 2. Offered autumn even-numbered years. Introduced course participants to the International Phonetic Alphabet (IPA) with application to American English Diction and Italian Diction.

- MUSI 282 - Dict: Gmn & French (equiv 382)

  Credits: 2. Offered spring odd-numbered years. Applies IPA to French and German Diction and addresses other guidelines that apply to the lyric pronunciation of these languages. Students will transcribe, translate, recite, and sing German and French texts. This is a required course for BM vocal performance majors; MUS 281 is the prerequisite course. Students who would like to be considered for mid-year registration in this diction series may do so only with the consent of the instructor.

- MUSI 291 - Special / Experimental Courses

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings by visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- MUSI 295 - Applied Study II

  Credits: 1 TO 4. (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Continuation of 151. All private instruction requires concurrent ensemble participation. Course Attributes: Internships/Practicums

- MUSI 296 - Piano Prof Assessment

  Credits: 0. Repeat 8 times. All majors pursuing a B.M. or B.M.E. degree must successfully complete all sections of the Piano Proficiency Assessment in order to attain upper-division standing in music. The eight-part exam is administered at the end of each semester. Successfully completed assessments will receive a grade of CR.

- MUSI 301H - Music History I

  Credits: 3. Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire. Course Attributes: Hist & Cultural Studies (H)
  Democracy and Citizenship (Y)

- MUSI 302H - Music History II

  Credits: 3. Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H. Course Attributes: Hist & Cultural Studies (H)
  Writing Course-Advanced Democracy and Citizenship (Y)

- MUSI 304A - Sound in the Natural World

  Credits: 3. Offered even-numbered years. This is a music composition and performance course that explores sound/music in relation to wilderness. Students will learn from cultures that have stayed in contact with their natural environment and will create compositions from materials collected in the field and will perform and critique them. As a result, students will become familiar with their own creative process. Course Attributes: Expressive Arts Course (A)

- MUSI 308 - Orchestras II: UM

  Credits: 1. Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 108A for description.

- MUSI 310 - Opera Theatre II

  Credits: 1. (R-8) Offered autumn and spring. Prereq., consent of instr. See MUSI 131A for description. Course Attributes: Expressive Arts Course (A)

- MUSI 312 - Choir III

  Credits: 1 TO 8. Offered autumn and spring. Prereq., upper-division standing in voice. See MUSI 112A for description.

- MUSI 314 - Band III: UM Concert Band

  Credits: 1. Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 114A for description.

- MUSI 322 - UM Percussion Ensemble

  Credits: 1. Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.

- MUSI 323 - World Percussion Ensemble

  Credits: 1. Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.

- MUSI 331 - Jzz Ens II: UM

  Credits: 1. (R-8) Offered autumn and spring. Prereq., consent of instr. See MUSI 131A for description.

- MUSI 332 - Advanced Functional Piano

  Credits: 1. Offered intermittently. Prereq., upper-division standing in music. Offered alternate years. Techniques of harmonization, transposition, sight-reading, modulation, and improvisation.

- MUSI 333 - Practicum in Piano Pedagogy

  Credits: 1 TO 2. (R-4) Offered intermittently. Prereq. or coreq., MUSI 435, 436. Student teaching of young pianists.

- MUSI 335 - Instrumental Conducting

Credits: 2. (R-4) Offered spring. Prereq., upper-division standing in music. Conducting methods and practice. Teaching methods and materials.

- MUSI 336 - Choral Conducting

  Credits: 2. (R-4) Offered autumn. Prereq., upper-division standing in music. A study of the techniques of choral conducting. Emphasis on issues encountered in various ensemble settings.

- MUSI 342 - Vocal Repertoire I

  Credits: 2. Offered autumn odd-numbered years. Prereq., upper-division standing in music. Comprehensive acquaintance with styles and interpretation in British, German, and possible additional repertoire genres.

- MUSI 343 - Vocal Repertoire II

  Credits: 2. Offered spring even-numbered years. Prereq., upper-division standing in music. Comprehensive acquaintance with styles and interpretation in American, French and possible additional genres.

- MUSI 355 - Marching Band II: Grizzly

  Credits: 1. (R-4) Offered autumn. Prereq., MUSI 155A or consent of instr. A musical organization of brass, woodwinds, percussion, and auxiliary units open to all University students.

- MUSI 356 - Form & Analysis I

  Credits: 2. Offered autumn. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.

- MUSI 357 - Form & Analysis II

  Credits: 2. Offered spring. Prereq., upper-division standing in music and MUSI 356. Continuation of MUSI 356.

- MUSI 362 - Chmbr Ens III: UM

  Credits: 1. Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.

- MUSI 380 - Composition III

  Credits: 1 TO 3. (R-6) Offered autumn and spring. Prereq., upper-division standing in music and 4 credits in MUSI 280. Creative writing of music.

- MUSI 388 - Concert Attendance UM

  Credits: 0. All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.

- MUSI 391 - Special / Experimental Courses

  Credits: 1 TO 9. (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- MUSI 392 - Independent Study

  Credits: 1 TO 3. (R-9) Offered autumn and spring. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- MUSI 395 - Applied Study III

  Credits: 1 TO 4. (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 295. All private instruction requires concurrent ensemble participation. Course Attributes: Internships/Practicums

- MUSI 399 - Junior Recital

  Credits: 1 TO 2. Coreq., MUSI 395. Offered autumn and spring. Public performance guided by applied music faculty during the junior year of applied study. This recital, consisting of a minimum of 20 minutes of music, may be scheduled in conjunction with another student's junior recital. Co-Requisite: MUSI 395.

- MUSI 407 - Counterpoint I

  Credits: 3. Offered intermittently. Prereq., upper-division standing in music. Writing and analysis of contrapuntal styles through the 18th century.

- MUSI 409 - String Pedagogy & Literature

Credits: 1 TO 2. (R-4) Offered intermittently. Prereq., upper-division standing in music and consent of instr. Procedures and materials in class string instruction.

- MUSI 411 - Woodwind Pedagogy

  Credits: 2. Offered intermittently. Prereq., upper-division standing in music and consent of instr. Procedures and materials in individual and class instruction are discussed. Philosophies, repertoire, individual and group techniques used in teaching woodwinds.

- MUSI 412 - Brass Pedagogy

  Credits: 2. Offered intermittently. Prereq., upper-division standing in music and consent of instr. Procedures and materials in individual and class instruction are discussed. Philosophies, repertoire, individual and group techniques used in teaching brass instruments.

- MUSI 413 - Percussion Pedagogy

  Credits: 2. Offered intermittently. Prereq., upper-division standing in music and consent of instr. Procedures and materials in individual and class instruction are discussed. Philosophies, repertoire, individual and group techniques used in teaching percussion instruments.

- MUSI 415 - Music 20th Century to Present

  Credits: 3. Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century. Course Attributes: Writing Course-Advanced

- MUSI 416 - Topics in Music History

  Credits: 3. (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology. Course Attributes: Writing Course-Advanced

- MUSI 417 - Cultural Studies in Music

  Credits: 3. (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology. Course Attributes: Writing Course-Advanced

- MUSI 420 - Jazz Pedagogy

  Credits: 3. Offered spring even-numbered years. Prereq., upper division or graduate standing in music or consent of instructor. Development of skills needed to rehearse and direct jazz ensembles at the middle school through high school level.

- MUSI 432 - Keyboard Literature

  Credits: 3. Offered autumn even-numbered years. Prereq., upper-division standing in music. Keyboard literature from the developments of the Baroque era to the contemporary period including the suite, sonata, character pieces, etc.

- MUSI 433 - Keyboard Literature II

  Credits: 3. Offered spring odd-numbered years. Continuation of MUSI 435.

- MUSI 435 - Piano Methods & Materials I

  Credits: 3. Offered autumn odd-numbered years. Prereq., upper-division standing in music or consent of instr. Methods and materials for teaching piano classes in public schools and private studios. Procedures in teaching beginning, intermediate and advanced students in private studios. Practical demonstrations and supervised laboratory experience with children's classes.

- MUSI 436 - Piano Methods & Materials II

  Credits: 3. Offered spring even-numbered years. Prereq., MUSI 435. Continuation of MUSI 435.

- MUSI 440 - Orchestration

  Credits: 2. Offered autumn. Prereq., upper-division standing in music. Orchestrating and transcribing for orchestra and band instruments.

- MUSI 442 - Vocal Studio Pedagogy and Lit

  Credits: 2. Offered autumn odd-numbered years or spring even-numbered years. Prereq., upper-division standing in music. Procedures, philosophies and terminology used in the teaching of singing. Individual and group techniques.

- MUSI 444 - Advanced Vocal Pedagogy

Credits: 3. Offered spring even-numbered years or as needed. Prereq., MUSI 442 or consent of instructor. A detailed examination of foundational vocal technique and science topics including respiration, phonation, resonation, and articulation. Offers students the opportunity to explore current topics in the field and how to approach them as a singer or voice teacher.

- MUSI 467 - Composers' Workshop II
  Credits: 1. Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.
- MUSI 470 - Jazz Arranging & Composition
  Credits: 3. Offered spring odd-numbered years. Prereq., upper division or graduate standing in music or consent of instructor. Composing and arranging for small to medium sized jazz ensembles. Rhythmic rewriting of melodies, re-harmonization techniques, arranging of pre-existing jazz compositions, and original compositions.
- MUSI 480 - Composition IV
  Credits: 1 TO 3. (R-6) Offered autumn and spring. Prereq., 3 credits in MUSI 380. A continuation of composition with writing in the larger forms.
- MUSI 491 - Special / Experimental Courses
  Credits: 1 TO 9. (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- MUSI 492 - Independent Study
  Credits: 1 TO 3. (R-9) Offered autumn and spring. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.
- MUSI 495 - Applied Study IV
  Credits: 1 TO 4. (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 395. All private instruction requires concurrent ensemble participation. Course Attributes: Internships/Practicums
- MUSI 499 - Senior Recital/Capstone Pjt
  Credits: 1 TO 4. (R-4) Offered autumn and spring.
- MUSI 500 - Secondary Perform Area
  Credits: 1 TO 2. (R-6) Offered every term. Prereq., audition and consent of instr. Continuation of MUSI 102A. Level: Graduate
- MUSI 511 - Advanced Conducting
  Credits: 2. (R-6) Offered intermittently. Prereq., MUSI 335/336 and consent of instr. Class and/or individual study of the art of conducting with emphasis on performance with university performing groups. Level: Graduate
- MUSI 520 - Research in Music
  Credits: 1 TO 2. Offered autumn and summer. Prereq., graduate standing in music. Research problems: their statement, organization, techniques, tabulation of materials, and concepts necessary for interpretation of data. Development of a research proposal. Level: Graduate
- MUSI 526 - Sem Instrumental Lit
  Credits: 2. (R-4) Offered intermittently. Prereq., graduate standing in music. Concentrated study of symphonic literature or instrumental chamber music literature. Level: Graduate
- MUSI 551 - Major Performance Area
  Credits: 1 TO 4. (R-12) Offered every term. Prereq., audition and consent of instr. Continuation of MUSI 495. Level: Graduate
- MUSI 554 - Analytical Techniques I
  Credits: 3. Offered autumn odd-numbered years. Prereq., graduate standing in music. A survey of the theoretical approach of leading composers from the polyphonic period to the present. Level: Graduate
- MUSI 555 - Analytical Techniques II
  Credits: 3. Offered spring even-numbered years. Prereq., MUSI 554. Continuation of MUSI 554. Level: Graduate
- MUSI 559 - Composition

Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Continuation of MUSI 480. Level: Graduate

- MUSI 593 - Professional Projects
  Credits: 1 TO 4. (R-4) Offered intermittently. Prereq., graduate standing in music. Level: Graduate
- MUSI 595 - Special Topics
  Credits: 1 TO 8. (R-8) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- MUSI 596 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Students must have projects approved by a music faculty member before enrolling. Level: Graduate Course Attributes: Independent Study
- MUSI 598 - Internship
  Credits: 1 TO 6. (R–6) Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Level: Graduate
- MUSI 599 - Thesis
  Credits: 1 TO 10. (R-10) Offered intermittently. Prereq., graduate standing in music. Level: Graduate
- MUSI 699 - Dissertation
  Credits: 1 TO 12. Offered intermittently. Prereq., graduate standing in music. Level: Graduate

Music-Technology

Back to Top

- MUST 110 - Digital Audio & Multitracking
  Credits: 2. Offered autumn and spring. Composition of computer music through recording, editing, and processing sound with digital audio software. Study of the theory and application of digital audio recording, multitracking, and digital signal processing, and electroacoustic music history. Survey of historical and current electronic and computer music composers, pieces, and practices.
- MUST 210 - Sequencng, Synthesis, Sampling
  Credits: 2. Offered autumn. Prereq., MUST 110. Composition of computer music using MIDI sequencing, sampling, and synthesis software, and score preparation using music notation software. Study of the theory and application of MIDI, synthesis algorithms, and effects processing, and the practice of music engraving.
- MUST 227A - Mtn Electroacoustc Lptp Ens I
  Credits: 1. This is a new music workshop, in which student composers, guided by a faculty composer, collaborate on new pieces for electroacoustic ensemble. Each student will compose structured improvisations, scored with a combination of traditional and graphic notation, that the Mountain Electroacoustic Laptop Ensemble (MELEe) will perform, with their electric or amplified instruments, MIDI controllers, and laptop computers. Successful completion of MUST 310 is a prerequisite for taking this class, unless otherwise exempted by the instructor. Course Attributes: Expressive Arts Course (A)
- MUST 310 - Interactivity Digitl Sgnl Proc
  Credits: 2. Offered spring. Prereq., MUST 210 and upper-division standing in music. Composition of interactive computer music using a graphical programming environment for MIDI, synthesis, and digital signal processing. Study of graphical programming, interactive composition and performance, generating and processing MIDI data, synthesizing computer-generated sound, and processing digital audio in real-time.
- MUST 410 - Computer Music Programming
  Credits: 2. Offered autumn. Upper-division standing in music. Composition of computer music through programming. Study of object oriented programming, synthesis and digital signal processing techniques, music-generating algorithms, sound spatialization, graphical user interface design, and external control.
- MUST 427 - Mtn Electroacoustc Lptp Ens II

Credits: 1. Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.

- MUST 491 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- MUST 492 - Independent Study
  Credits: 1 TO 3. (R-9) Offered autumn and spring. Prereq., consent of instr.
- MUST 595 - Special Topics
  Credits: 1 TO 8. (R-8) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
- MUST 596 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Students must have projects approved by a music faculty member before enrolling. Level: Graduate

Music Minor

Minor - Music

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 27

Required Cumulative GPA: 2.75

Note: Electives are to allow for emphasis in a particular area of Music study and must include course work at the upper-division level.

Upper-division course work normally requires a pre-requisite. Please see the University general catalog for details.
Consent of instructor will be required if all prerequisites have not been met.

To receive an academic minor in Music the student Must earn at least 27 credits to include the following:
• MUSI 202L (Introduction to Music Literature) 3 credits
• MUSI 195 (Major Performance I) 2 credits
• 2 credits chosen from MUSI 112A (Choral Ensembles), 108A (Orchestras), 155A (Marching Band), 112A (Concert Bands), 110A (Opera Theater), 131A (UM Jazz Bands), 162A (Chamber Ensembles), taken concurrently with 195.
• MUSI 105-106 (Music Theory I, II) 4 credits
• MUSI 140-141 (Aural Perception I, II) 4 credits
• 12 credits of Music electives which Must be approved in advance by the School of Music, Director.

Reguired for a Minor in Music

Rule: All courses required

Note: *MUSI 108A-114A,, +162A, #191 Ensembles for one credit each semester for a total of 2 credits each year. +Guitar principals, only #piano principals only. Ensembles must be taken concurrently with MUSI 195. MUSI 195 Applied Studies 1 credit each semester for a total of 2 credits for the year. Music electives approved by Director of the School 12 credits. See elective options.

	Course	Credits
	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits

	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits
	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Minor in Music Elective Options - Performance

Rule: All courses required

Note: MUSI 295 and MUSI 395 Applied Studies 1 credit each semester for a year total of 2 credits . Two year total of 4 credits in these Applied Studies. *MUSI 308A-314A, 362A, 391 Ensembles for four credits must be taken concurrently with MUSI 295, 395. Music Electives may be selected from MUSI 301H (Music History I), MUSI 205-206 (Theory III,IV) or from 300-400 level performance or academic classes for four credits.

Minimum Required Grade: C-

12 Total Credits Required

Minor in Music Elective Options - Theory

Rule: All courses required

Note: *MUSI 356-357 Form and Analysis I, II for 4 credits *or MUSI 379 (Counterpoint I), 3 crs + 1 cr. elective

	Course	**Credits**
	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits
	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits
	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits

Minimum Required Grade: C-	12 Total Credits Required

Minor in Music Elective Options - Music History

Rule: All courses required

Note: MUSI 415-417 History/Literature Period Courses for 6 credits and *Theory or Literature electives for 3 credits. *Although worth 4 crs., MUSI 205-206 (Theory III, IV) is strongly recommended to fulfill the Theory/Literature electives.

	Course	Credits
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Minor in Music Elective Options - Composition

Rule: All courses required

Note: MUSI 180 Composition I 1 credit each semester for a total of 2 credits each year for total of 4 credits, MUSI 280 Composition II 1 credit each semester for a total of 2 credits each year for total of 4 credits. MUSI 207X Music in World Cultures 3 credits

	Course	Credits
	MUSI 135A - Keyboard Skills I Offered autumn. Music reading, techniques, and harmonization skills acquired through study of solo and ensemble repertoire in a contemporary electronic piano laboratory.	1 Credits
Minimum Required Grade: C-		12 Total Credits Required

Minor in Music Elective Options - Technology

Rule: All courses required

Note: Music Technology
MUST 110 Digital Audio and Multitracking 2
MUST 210 Sequencing, Synthesis, Sampling 2
MUST 310 Interactivity Digital Sgnl Proc. 2
MUST 227A Mtn Electroacoustic Lap Top Ensemble 1
MUSI 207X Music in World Cultures 3

	Course	Credits

	MUST 410 - Computer Music Programming Offered autumn. Upper-division standing in music. Composition of computer music through programming. Study of object oriented programming, synthesis and digital signal processing techniques, music-generating algorithms, sound spatialization, graphical user interface design, and external control.	2 Credits
Minimum Required Grade: C-		12 Total Credits Required

Music History

Bachelor of Arts - Music; Track: Specialization in Music History

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 51

Required Cumulative GPA: 2.75

Note: **51 Credits of non-Music major courses (36 credits Must be in the College of Arts and Sciences)
**51 Credits in Music
All degrees require 39 upper division credits.

First year

Rule: All courses required

Note: 1st year requirements: MUSI 195 applied studies 1 credit each semester for a total of 2 credits first year. Spring semester MUSI 207X Music of the World's Peoples is required for 3 credits.

	Course	Credits
	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits
	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 135A - Keyboard Skills I Offered autumn. Music reading, techniques, and harmonization skills acquired through study of solo and ensemble repertoire in a contemporary electronic piano laboratory.	1 Credits
	MUSI 136A - Keyboard Skills II Offered spring. Prereq., MUSI 135A. Continuation of MUSI 135A.	1 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits

	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits
	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
	MUSI 207H - World Music (equiv to 307) Offered autumn and spring. Introduction to the diversity of music among the world's peoples. Selected music systems throughout the world examined in their broad cultural contexts: religious, historical, and social. Introduction to ethnomusicology-a combination of musicology, anthropology and other related disciplines.	3 Credits
Minimum Required Grade: C-		20-24 Total Credits Required

2nd year

Rule: All courses required

Note: 2nd year Required: MUSI 296-01 Upper-Division Required Performance is required by the end for 2nd year of study to advance to upper division classes.

	Course	**Credits**
	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits
	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits

	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		14 Total Credits Required

3rd year

Rule: All courses required

Note: 3rd year required: MUSI 416 or 417 Topics in History or Culture for 3 credits is required.

	Course	**Credits**
	MUSI 356 - Form & Analysis I Offered autumn. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.	2 Credits
	MUSI 357 - Form & Analysis II Offered spring. Prereq., upper-division standing in music and MUSI 356. Continuation of MUSI 356.	2 Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
Minimum Required Grade: C-		10-13 Total Credits Required

4th year

Rule: All courses required

Note: 4th year required: MUSI 499 Senior Research Project 2 credits required Spring Semester. MUSI 416 or 417 Topics in History or Culture required for 3 credits. All students majoring in music are required to attend in a minimum of 100 approved recitals/concerts prior to graduation. During the 4th year in an undergraduate degree program and upon completion of this requirement, students should register for MUSI 388, 0 cr.

	Course	Credits
	MUSI 388 - Concert Attendance UM All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.	
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
	MUSI 499 - Senior Recital/Capstone Pjt (R-4) Offered autumn and spring.	1 To 4 Credits
Minimum Required Grade: C-		7 Total Credits Required

Upper Division Writing Expecation

Rule: One course for 3 credits

	Course	Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits

Minimum Required Grade: C-	3-9 Total Credits Required

1ST YEAR Ensemble Requirements

Rule: One course each semester

Note: MUSI 108A-114A, +162, #191 one credit each semester for a total of two credits 1st year.
All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)
Majors whose principal performance area is wind/percussion must register for:
• MUSI 114A (MUS 110A), section 1, Symphonic Wind Ensemble (or MUSI 114A (MUS 110A), section 2, University Concert Band, or MUSI 108A (MUS 108A), section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 108A section 1, University Orchestra, every semester.
B.M., Vocal Performance, and B.A., voice, majors must register for:
• a minimum of 4 credits in MUSI 112 (MUS 107A), section 1 (University Choir).
Ensemble requirements for piano and organ are listed separately for each curriculum.
Music courses +guitar principals only #piano principals only

	Course	Credits
	MUSI 108A - Orchestra: UMSO Offered autumn and spring. See MUSI 112A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.	1 Credits
	MUSI 110A - Opera Theatre I (R-8) Offered autumn and spring. Prereq., consent of instr. Study and performance of the standard opera repertoire.	1 Credits
	MUSI 112A - Choir: Chamber Chorale Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of MUSI 112A-114A, 110A/310, 131A/331, and 122A/322 toward graduation.	1 Credits
	MUSI 114A - Band: UM Concert Band Offered autumn and spring. See MUSI 112A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.	1 Credits
	MUSI 162A - Chamber Ensembles I (R-20) Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.	1 Credits
	MUSI 191 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		2-8 Total Credits Required

Lower division Writing Expectation

Rule: All courses required

Note: Lower- Division Writing Expectation MUSI 302H

	Course	Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		

Music Requirements for Writing

Rule: All courses required

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3-6 Total Credits Required

Music Requirements for Mathematics

Rule: All courses required

Note: Mathmatics - M Couse 100 or above

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Modern & Classical Languages

Rule: All courses required

Note: MCLL (Modern and Classical Languages and Literature) Foreign Languages for 10 credits
Exemption from Modern and Classical Language Requirement - Symbolic Systems MUSI 105,106,140,141

Minimum Required Grade: C-

10 Total Credits Required

Music Requirements for Expressive Arts

Rule: All courses required

Note: Expressive Arts - A Courses - (min. 3 credits) Ensembles and Sec. Lessons taken each semester satisfies this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Literary & Artistic Studies

Rule: All courses required

Note: LS 151L and 152L Intro to Humanities for 8 credits
Literary and Artistic Studies - L Courses -(min. 3 credits) MUSI 202L taken in 1st year satisfies this requirement.

	Course	Credits
	LSH 151L - IntrHumanities:Greek,Bible,Rom Offered autumn. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, comparing and contrasting the Greco–Roman with the Jewish and Christian traditions.	0 To 4 Credits
	LSH 152L - Humanities Medieval to Modern Offered spring. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, in the modern period.	0 To 4 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Historic & Cultural Studies

Rule: All courses required

Note: Group VI and Group IX: Historical and Cultural Studies and American and European Perspectives - H/Y Courses - (min. 3 credits) MUSI 301 and MUSI 302

Minimum Required Grade: C-

Music Requirements for Indigenous & Global Perspectives

Rule: All courses required

Note: Indigenous and Global Perspectives - (min. 3 credits) MUSI 207X

Minimum Required Grade: C-

Music Requirements for Natural Sciences

Rule: All courses required

Note: Group XI: Natural Science (for this perspective, 6 credits required and at least one course Must include a lab experience)

Minimum Required Grade: C-

6 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Musical Studies

Bachelor of Arts - Music; Track: Specialization in Musical Studies

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 51

Required Cumulative GPA: 2.75

Note: **51 Credits of non-Music major courses (36 credits must be in the College of Arts and Sciences)
**51 Credits in Music

All degrees require 39 upper division credits.

1st year

Rule: All courses required

Note: MUSI 195 applied studies 1 credit each semester for a total of 2 credits first year.

	Course	Credits
	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits
	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 135A - Keyboard Skills I Offered autumn. Music reading, techniques, and harmonization skills acquired through study of solo and ensemble repertoire in a contemporary electronic piano laboratory.	1 Credits
	MUSI 136A - Keyboard Skills II Offered spring. Prereq., MUSI 135A. Continuation of MUSI 135A.	1 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits
	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits
	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits

	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
Minimum Required Grade: C-		17-21 Total Credits Required

2nd

Rule: All courses required

Note: MUSI 295 applied studies 1 credit each semester for a total of 2 credits first year. MUSI 296-01 Upper-Division Required Performance must be completed to advance on to upper divison classes.

__	**Course**	**Credits**
	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits
	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits
	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits
	MUSI 295 - Applied Study II (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Continuation of 151. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		18-22 Total Credits Required

3rd year

Rule: All courses required

Note: Upper-Division MUSIC Electives should include MUSI 415, 416, or 417 for 6 credits. MUSI 395 applied studies 1 credit Fall semester for the third year.

	Course	Credits
	MUSI 356 - Form & Analysis I Offered autumn. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.	2 Credits
	MUSI 357 - Form & Analysis II Offered spring. Prereq., upper-division standing in music and MUSI 356. Continuation of MUSI 356.	2 Credits
	MUSI 395 - Applied Study III (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 295. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
Minimum Required Grade: C-		10-17 Total Credits Required

4th year

Rule: All courses required

Note: *Upper-Division Music electives required 4 credits. All students majoring in music are required to attend in a minimum of 100 approved recitals/concerts prior to graduation. During the 4th year in an undergraduate degree program and upon completion of this requirement, students should register for MUSI 388, 0 cr.

	Course	Credits

	MUSI 388 - Concert Attendance UM All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.	
Minimum Required Grade: C-		4 Total Credits Required

1st and 2nd year Ensemble requirements

Rule: One course each semester

Note: Ensembles Required MUSI 108A -114a, +162A, #191 one credit each semester for a total of two credits each year.
All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)
Majors whose principal performance area is wind/percussion must register for:
• MUSI 114A (MUS 110A), section 1, Symphonic Wind Ensemble (or MUSI 114A (MUS 110A), section 2, University Concert Band, or MUSI 108A (MUS 108A), section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 108A (MUS 108A), section 1, University Orchestra, every semester.
Vocal Performance, and B.A., voice, majors must register for:
• a minimum of 4 credits in MUSI 112 (MUS 107A), section 1 (University Choir).
Ensemble requirements for piano and organ are listed separately for each curriculum.
+guitar principals only #piano principals only

	Course	Credits
	MUSI 108A - Orchestra: UMSO Offered autumn and spring. See MUSI 112A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.	1 Credits
	MUSI 110A - Opera Theatre I (R-8) Offered autumn and spring. Prereq., consent of instr. Study and performance of the standard opera repertoire.	1 Credits
	MUSI 112A - Choir: Chamber Chorale Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of MUSI 112A-114A, 110A/310, 131A/331, and 122A/322 toward graduation.	1 Credits
	MUSI 114A - Band: UM Concert Band Offered autumn and spring. See MUSI 112A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.	1 Credits
	MUSI 162A - Chamber Ensembles I (R-20) Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.	1 Credits

	MUSI 191 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		4-14 Total Credits Required

Music Requirements

Rule: All courses required

Note: LS 151L and 152L Intro to Humanities

	Course	Credits
	LSH 151L - IntrHumanities:Greek,Bible,Rom Offered autumn. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, comparing and contrasting the Greco–Roman with the Jewish and Christian traditions.	0 To 4 Credits
	LSH 152L - Humanities Medieval to Modern Offered spring. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, in the modern period.	0 To 4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Emsembles 3rd year

Rule: One course each semester

Note: Ensembles required MUSI 308-314, 310, +362, #491 one credit each semester for a year total of two credits. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)
Majors whose principal performance area is wind/percussion must register for:
• MUSI 314 (MUS 310), section 1, Symphonic Wind Ensemble (or MUSI 314 (MUS 310), section 2, University Concert Band, or MUSI 308 (MUS 308), section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 308 (MUS 308), section 1, University Orchestra, every semester.
Vocal Performance, and B.A., voice, majors must register for:
• a minimum of 4 credits in MUSI 312 (MUS 307A), section 1 (University Choir).
Ensemble requirements for piano and organ are listed separately for each curriculum.
Guitar principles +362, Piano principles #491

	Course	Credits
	MUSI 308 - Orchestras II: UM Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 108A for description.	1 Credits
	MUSI 310 - Opera Theatre II (R-8) Offered autumn and spring. Prereq., consent of instr. See MUSI 131A for description.	1 Credits

	MUSI 312 - Choir III: Chamber Chorale Offered autumn and spring. Prereq., upper-division standing in voice. See MUSI 112A for description.	1 To 8 Credits
	MUSI 314 - Band III: UM Concert Band Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 114A for description.	1 Credits
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
	MUSI 491 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		2-21 Total Credits Required

Music Requirements for Writing

Rule: All courses required

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Lower division Writing Expectation

Rule: All courses required

	Course	Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing Expecation

Rule: All courses required

	Course	Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
Minimum Required Grade: C-		3-9 Total Credits Required

Music Requirements for Mathematics

Rule: All courses required

Note: Mathmatics - M Couse 100 or above

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Modern & Classical Languages

Rule: All courses required

Note: MCLL (Modern and Classical Languages and Literature) Foreign Languages 10 credits

Minimum Required Grade: C-

10 Total Credits Required

Music Requirements for Expressive Arts

Rule: All courses required

Note: Expressive Arts - A Courses - (min. 3 credits) Ensembles and Sec. Lessons taken each semester satisfies this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Literary & Artistic Studies

Rule: All courses required

Note: Expressive Arts - A Courses - (min. 3 credits) Ensembles and Sec. Lessons taken each semester satisfies this requirement.

Minimum Required Grade: C-

Music Requirements for Historic & Cultural Studies

Rule: All courses required

Note: Historical and Cultural Studies and American and European Perspectives - H/Y Courses - (min. 3 credits) MUSI 301, 302

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Indigenous & Global Perspectives

Rule: All courses required

Note: Indigenous and Global Perspectives - (min. 3 credits) Recommend MUSI 207H

	Course	Credits
	MUSI 207H - World Music (equiv to 307) Offered autumn and spring. Introduction to the diversity of music among the world's peoples. Selected music systems throughout the world examined in their broad cultural contexts: religious, historical, and social. Introduction to ethnomusicology-a combination of musicology, anthropology and other related disciplines.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Natural Sciences

Rule: All courses required

Note: Group XI: Natural Science (for this perspective, 6 credits required and at least one course Must include a lab experience)

Minimum Required Grade: C-

6 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Composition

Bachelor of Arts - Music; Track: Specialization in Composition

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 58

Required Cumulative GPA: 2.75

Note: **51 Credits of non-Music major courses (36 credits must be in the College of Arts and Sciences)
**51 Credits in Music

1st year

Rule: All courses required

Note: All required for first year of study for a BA in Composition: MUSI 195 applied studies 1 credit each semester for a total of 2 credits first year. MUSI 180 Composition I studies 1 credit each semester for a total of 2 credits first year.

	Course	Credits

	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits
	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 135A - Keyboard Skills I Offered autumn. Music reading, techniques, and harmonization skills acquired through study of solo and ensemble repertoire in a contemporary electronic piano laboratory.	1 Credits
	MUSI 136A - Keyboard Skills II Offered spring. Prereq., MUSI 135A. Continuation of MUSI 135A.	1 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits
	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits
	MUSI 180 - Composition I (R-4) Offered autumn and spring. Prereq., consent of instr. An introduction to the basic art of music composition. May be substituted for upper division electives for students not majoring in theory or composition.	1 To 2 Credits
	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
	MUST 110 - Digital Audio & Multitracking Offered autumn and spring. Composition of computer music through recording, editing, and processing sound with digital audio software. Study of the theory and application of digital audio recording, multitracking, and digital signal processing, and electroacoustic music history. Survey of historical and current electronic and computer music composers, pieces, and practices.	2 Credits
Minimum Required Grade: C-		21-26 Total Credits Required

2nd year

Rule: See commentary

Note: All requrired for second year of study for a BA in Composition: MUSI 280 Composition II studies 1 credit each semester for a total of 2 credits first year. MUSE 123, 120-121, 126-127, 272-5 Voice/Instruments in Class 1 credit each semester for a total of two credits second year. MUSI 296-01 Upper-Division Required Performance required by the end of the 2nd year of study. UDRP to consist of scholarly writing example to be approved by faculty

	Course	Credits
	MUSE 120 - Techs: String Inst in Class I (R-2) Offered autumn. Group instruction for beginning students on violin, viola, cello and bass, with emphasis on teaching procedures.	1 Credits
	MUSE 121 - Techs: String Inst in Class II (R-2) Offered spring. Prereq., MUSE 120. Continuation of MUSE 120.	1 Credits
	MUSE 123 - Techniques: Voice Offered autumn. This course examines vocal function and issues associated with the physical processes of singing such as alignment, breathing, creating sound, amplifying (resonating) sound. Additionally, students will learn basic information about becoming a voice teacher (or choral director). Students will also learn about singers' diction, voice classification, and the appropriate assigning of solo classical repertoire.	1 Credits
	MUSE 126 - Techs: Percussn Instruments I (R-2) Offered autumn. Basic instruction in percussion instruments, with emphasis on teaching procedures.	1 Credits
	MUSE 127 - Techs: Percussn Instruments II (R-2) Offered spring. Prereq., MUSE 126. Continuation of MUSE 126. Basic instruction in percussion instruments, with emphasis on teaching procedures.	1 Credits
	MUSE 272 - Techniqus: Flute & Single Reed Composers are expected to bring new musical ideas, sketches, and eventually finished pieces to the workshop, while performers are expected to read, critique, practice, and finally perform the new works.	1 Credits
	MUSE 273 - Techniques: Double Reed (R-2) Offered autumn. Basic instruction in oboe and bassoon, with emphasis on teaching procedures.	1 Credits
	MUSE 274 - Techniques: Upper Brass (R-2) Offered autumn. Basic instruction in trumpet and horn, with emphasis on teaching procedures.	1 Credits
	MUSE 275 - Techniques: Lower Brass Offered spring. Basic instruction in trombone, baritone, and tuba, with emphasis on teaching procedures.	1 Credits
	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits

	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits
	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits
	MUSI 280 - Composition II (R-4) Offered autumn and spring. Prereq., 4 credits of MUSI 180. Original work in composition may be substituted for upper-division electives for students not majoring in theory or composition.	1 To 2 Credits
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
	MUST 210 - Sequencng, Synthesis, Sampling Offered autumn. Prereq., MUST 110. Composition of computer music using MIDI sequencing, sampling, and synthesis software, and score preparation using music notation software. Study of the theory and application of MIDI, synthesis algorithms, and effects processing, and the practice of music engraving.	2 Credits
Minimum Required Grade: C-		23-27 Total Credits Required

3rd year

Rule: See commentary

Note: All required for third year of study for a BA in Composition: MUSE 123, 120-121, 126-127, 272-5 Voice/Instruments in Class for 1 credit each semester for a total of two credits the third year. MUSI 380 Composition III studies 1 credit Fall semester.

	Course	**Credits**
	MUSE 120 - Techs: String Inst in Class I (R-2) Offered autumn. Group instruction for beginning students on violin, viola, cello and bass, with emphasis on teaching procedures.	1 Credits
	MUSE 121 - Techs: String Inst in Class II (R-2) Offered spring. Prereq., MUSE 120. Continuation of MUSE 120.	1 Credits

	MUSE 123 - Techniques: Voice Offered autumn. This course examines vocal function and issues associated with the physical processes of singing such as alignment, breathing, creating sound, amplifying (resonating) sound. Additionally, students will learn basic information about becoming a voice teacher (or choral director). Students will also learn about singers' diction, voice classification, and the appropriate assigning of solo classical repertoire.	1 Credits
	MUSE 126 - Techs: Percussn Instruments I (R-2) Offered autumn. Basic instruction in percussion instruments, with emphasis on teaching procedures.	1 Credits
	MUSE 127 - Techs: Percussn Instruments II (R-2) Offered spring. Prereq., MUSE 126. Continuation of MUSE 126. Basic instruction in percussion instruments, with emphasis on teaching procedures.	1 Credits
	MUSE 272 - Techniqus: Flute & Single Reed Composers are expected to bring new musical ideas, sketches, and eventually finished pieces to the workshop, while performers are expected to read, critique, practice, and finally perform the new works.	1 Credits
	MUSE 273 - Techniques: Double Reed (R-2) Offered autumn. Basic instruction in oboe and bassoon, with emphasis on teaching procedures.	1 Credits
	MUSE 274 - Techniques: Upper Brass (R-2) Offered autumn. Basic instruction in trumpet and horn, with emphasis on teaching procedures.	1 Credits
	MUSE 275 - Techniques: Lower Brass Offered spring. Basic instruction in trombone, baritone, and tuba, with emphasis on teaching procedures.	1 Credits
	MUSI 356 - Form & Analysis I Offered autumn. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.	2 Credits
	MUSI 357 - Form & Analysis II Offered spring. Prereq., upper-division standing in music and MUSI 356. Continuation of MUSI 356.	2 Credits
	MUSI 380 - Composition III (R-6) Offered autumn and spring. Prereq., upper-division standing in music and 4 credits in MUSI 280. Creative writing of music.	1 To 3 Credits
Minimum Required Grade: C-		9-16 Total Credits Required

4th year

Rule: All courses required

Note: 4th year required: All students majoring in music are required to attend in a minimum of 100 approved recitals/concerts prior to graduation. During the 4th year in an undergraduate degree program and upon completion of this requirement, students should register for MUSI 388, 0 cr.

	Course	**Credits**

	MUSI 388 - Concert Attendance UM All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.	
	MUSI 440 - Orchestration Offered autumn. Prereq., upper-division standing in music. Orchestrating and transcribing for orchestra and band instruments.	2 Credits
	MUSI 480 - Composition IV (R-6) Offered autumn and spring. Prereq., 3 credits in MUSI 380. A continuation of composition with writing in the larger forms.	1 To 3 Credits
Minimum Required Grade: C-		5 Total Credits Required

Ensemble requirements 1st and 2nd year

Rule: One course for each semester

Note: Ensembles - MUSI 108A -114A, +162A, #191, + guitar principals only #piano principals only required one credit each semester for a two year total.
All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)
Majors whose principal performance area is wind/percussion must register for:
• MUSI 114A/314 (MUS 110A/310), section 1, Symphonic Wind Ensemble (or MUSI 114A/314 (MUS 110A/310), section 2, University Concert Band, or MUSI 108A/308 (MUS 108A/308), section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 108A/308 (MUS 108A/308), section 1, University Orchestra, every semester.
B.A., voice, majors must register for:
• a minimum of 4 credits in MUSI 112 (MUS 107A), section 1 (University Choir).
Ensemble requirements for piano and organ are listed separately for each curriculum.

	Course	**Credits**
	MUSI 108A - Orchestra: UMSO Offered autumn and spring. See MUSI 112A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.	1 Credits
	MUSI 110A - Opera Theatre I (R-8) Offered autumn and spring. Prereq., consent of instr. Study and performance of the standard opera repertoire.	1 Credits
	MUSI 112A - Choir: Chamber Chorale Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of MUSI 112A-114A, 110A/310, 131A/331, and 122A/322 toward graduation.	1 Credits

	MUSI 114A - Band: UM Concert Band Offered autumn and spring. See MUSI 112A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.	1 Credits
	MUSI 162A - Chamber Ensembles I (R-20) Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.	1 Credits
	MUSI 191 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		4-14 Total Credits Required

Ensembles 3rd and 4th year

Rule: One course each semester

Note: Must participate in Music Ensembles MUSI 308A-314A, or MUSI +362A, #391 - (+guitar principals only #piano principals only) 1 credit each semester for a total of two credits each year. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)
Majors whose principal performance area is wind/percussion must register for:
• MUSI 314 (MUS 310), section 1, Symphonic Wind Ensemble (or MUSI 314 (MUS 310), section 2, University Concert Band, or MUSI 308 (MUS 308), section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 308 (MUSI 308), section 1, University Orchestra, every semester.
Upon completion of the upper-division recital performance, B.A., voice, majors may enroll in:
• MUSI 312 (MUS 307), section 1 (University Choir),
• MUSI 312 (MUS 307), section 2 (Chamber Chorale),
• MUSI 312 (MUS 307), section 3 (Women's Chorus),
• MUSI 310 (MUS 313) (Opera Theater), or
Ensemble requirements for piano and organ are listed separately for each curriculum

	Course	**Credits**
	MUSI 308 - Orchestras II: UM Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 108A for description.	1 Credits
	MUSI 310 - Opera Theatre II (R-8) Offered autumn and spring. Prereq., consent of instr. See MUSI 131A for description.	1 Credits
	MUSI 312 - Choir III: Chamber Chorale Offered autumn and spring. Prereq., upper-division standing in voice. See MUSI 112A for description.	1 To 8 Credits
	MUSI 314 - Band III: UM Concert Band Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 114A for description.	1 Credits
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits

	MUSI 391 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		4-14 Total Credits Required

Music Requirements

Rule: All courses required

Note: LS 151L and 152L Intro to Humanities 8 credits

	Course	Credits
	LSH 151L - IntrHumanities:Greek,Bible,Rom Offered autumn. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, comparing and contrasting the Greco–Roman with the Jewish and Christian traditions.	0 To 4 Credits
	LSH 152L - Humanities Medieval to Modern Offered spring. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, in the modern period.	0 To 4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Music Writing Expectation

Rule: All courses required

Note: Lower- Division Writing Expectation MUSI 302
Upper- Division Writing Expectation (MUSI 415, 416, 417)

	Course	Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits

	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
Minimum Required Grade: C-		6-12 Total Credits Required

Music Requirements for Writing

Rule: All courses required

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Mathematics

Rule: All courses required

Note: Mathmatics - M Couse 100 or above

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Modern & Classical Languages

Rule: All courses required

Note: MCLL (Modern and Classical Languages and Literature) Foreign Languages 10 credits required
Exemption from Modern and Classical Language Requirement - Symbolic Systems MUSI 105,106,140, 141

Minimum Required Grade: C-

10 Total Credits Required

Music Requirements for Expressive Arts

Rule: All courses required

Note: Expressive Arts - A Courses - (min. 3 credits) Ensembles and Sec. Lessons taken each semester satisfies this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Literary & Artistic Studies

Rule: All courses required

Note: Literary and Artistic Studies - L Courses -(min. 3 credits) MUSI 202L taken in 1st year satisfies this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Historic & Cultural Studies

Rule: All courses required

Note: Historical and Cultural Studies and American and European Perspectives - H/Y Courses - (min. 3 credits) MUSI 301 and MUSI 302

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Indigenous & Global Perspectives

Rule: All courses required

Note: Indigenous and Global Perspectives - (min. 3 credits) Recommend MUSI 207H

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Natural Sciences

Rule: All courses required

Note: Natural Science (for this perspective, 6 credits required and at least one course Must include a lab experience)

Minimum Required Grade: C-

6 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Applied Studies

Bachelor of Arts - Music; Track: Specialization in Applied Studies

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 51

Required Cumulative GPA: 2.75

Note: **51 Credits of non-Music major courses (36 credits Must be in the College of Arts and Sciences)
**51 Credits in Music

All degrees require 39 upper division credits.

1st year

Rule: All courses required

Note: First year required: MUSI 195 applied studies 1 credit each semester for a total of 2 credits first year.

	Course	Credits
	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits
	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 135A - Keyboard Skills I Offered autumn. Music reading, techniques, and harmonization skills acquired through study of solo and ensemble repertoire in a contemporary electronic piano laboratory.	1 Credits
	MUSI 136A - Keyboard Skills II Offered spring. Prereq., MUSI 135A. Continuation of MUSI 135A.	1 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits
	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits
	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
Minimum Required Grade: C-		17-21 Total Credits Required

2nd year

Rule: All courses required

Note: Second year required: first year. MUSI 295 applied studies 1 credit each semester for a total of 2 credits first year. MUSI 296-01 Upper-Division Required Performance required to advance to upper division study.

	Course	Credits

	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits
	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits
	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits
	MUSI 295 - Applied Study II (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Continuation of 151. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		18-21 Total Credits Required

3rd year

Rule: All courses required

Note: Third year required MUSI 395 one credit each semester for a total of two credits for the third year.

	Course	**Credits**
	MUSI 356 - Form & Analysis I Offered autumn. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.	2 Credits
	MUSI 357 - Form & Analysis II Offered spring. Prereq., upper-division standing in music and MUSI 356. Continuation of MUSI 356.	2 Credits
	MUSI 395 - Applied Study III (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 295. All private instruction requires concurrent ensemble participation.	1 To 4 Credits

Minimum Required Grade: C-	6-9 Total Credits Required

4th year

Rule: All courses required

Note: Fourth year required: MUSI 495 one credit each semester for a total of two credits for the fourth year. All students majoring in music are required to attend in a minimum of 100 approved recitals/concerts prior to graduation. During the 4th year in an undergraduate degree program and upon completion of this requirement, students should register for MUSI 388, 0 cr.

	Course	Credits
	MUSI 388 - Concert Attendance UM All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.	
	MUSI 495 - Applied Study IV (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 395. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
Minimum Required Grade: C-		2-4 Total Credits Required

Upper Division Writing Expecation

Rule: 3 credits required chose course below

	Course	Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits

	3-6 Total Credits Required

1st and 2nd year Ensemble requirements

Rule: one course each semester

Note: Ensembles - MUSI 108A -114A, +162A, #191, + guitar principals only #piano principals only ; required one credit each semester for two credits each year. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)
Majors whose principal performance area is wind/percussion must register for:
• MUSI 114A/314 (MUS 110A/310), section 1, Symphonic Wind Ensemble (or MUSI 114A/314 (MUS 110A/310), section 2, University Concert Band, or MUSI 108A/308 (MUS 108A/308), section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 108A/308 (MUS 108A/308), section 1, University Orchestra, every semester.
B.M., Vocal Performance, and B.A., voice, majors must register for:
• a minimum of 4 credits in MUSI 112 (MUS 107A), section 1 (University Choir).
Ensemble requirements for piano and organ are listed separately for each curriculum.

	Course	Credits
	MUSI 108A - Orchestra: UMSO Offered autumn and spring. See MUSI 112A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.	1 Credits
	MUSI 110A - Opera Theatre I (R-8) Offered autumn and spring. Prereq., consent of instr. Study and performance of the standard opera repertoire.	1 Credits
	MUSI 112A - Choir: Chamber Chorale Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of MUSI 112A-114A, 110A/310, 131A/331, and 122A/322 toward graduation.	1 Credits
	MUSI 114A - Band: UM Concert Band Offered autumn and spring. See MUSI 112A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.	1 Credits
	MUSI 162A - Chamber Ensembles I (R-20) Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.	1 Credits
	MUSI 191 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		4-18 Total Credits Required

Ensembles 3rd and 4th year

Rule: one course each semester

Note: Must participate in Music Ensembles MUSI 308A-314A, 310, MUSI +362A, MUSI #491 - + guitar principals only #piano principals only required one credit each semester for two credits each year. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)
Majors whose principal performance area is wind/percussion must register for:
• MUSI 314 (MUS 310), section 1, Symphonic Wind Ensemble (or MUSI 314 (MUS 310), section 2, University Concert Band, or MUSI 308 (MUS 308), section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 308 (MUS 308), section 1, University Orchestra, every semester.
B.A., voice, majors must register for:
• a minimum of 4 credits in MUSI 312 (MUS 307A), section 1 (University Choir).
Upon completion of the upper-division recital performance, B.M., Vocal Performance, and B.A., voice, majors may enroll in:
• MUSI 312 (MUS 307), section 1 (University Choir),
• MUSI 312 (MUS 307), section 2 (Chamber Chorale),
• MUSI 312 (MUS 307), section 3 (Women's Chorus),
• MUSI 310 (MUS 313) (Opera Theater), or
Ensemble requirements for piano and organ are listed separately for each curriculum.

	Course	Credits
	MUSI 308 - Orchestras II: UM Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 108A for description.	1 Credits
	MUSI 310 - Opera Theatre II (R-8) Offered autumn and spring. Prereq., consent of instr. See MUSI 131A for description.	1 Credits
	MUSI 312 - Choir III: Chamber Chorale Offered autumn and spring. Prereq., upper-division standing in voice. See MUSI 112A for description.	1 To 8 Credits
	MUSI 314 - Band III: UM Concert Band Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 114A for description.	1 Credits
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
	MUSI 491 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		4-21 Total Credits Required

Lower division Writing Expectation

Rule: All courses required

	Course	Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits

Minimum Required Grade: C-	7-12 Total Credits Required

Music Requirement for Liberal Studies

Rule: All courses required

	Course	Credits
	LSH 151L - IntrHumanities:Greek,Bible,Rom Offered autumn. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, comparing and contrasting the Greco–Roman with the Jewish and Christian traditions.	0 To 4 Credits
	LSH 152L - Humanities Medieval to Modern Offered spring. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, in the modern period.	0 To 4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Music Requirements for Writing

Rule: All courses required

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Mathematics

Rule: All courses required

Note: Math - M Course 100 or above

Minimum Required Grade: C-

3-5 Total Credits Required

Music Requirements for Modern & Classical Languages

Rule: All courses required

Note: MCLL (Modern and Classical Languages and Literature) Foreign Languages 10 credits required

Minimum Required Grade: C-

10 Total Credits Required

Music Requirements for Expressive Arts

Rule: All courses required

Note: Expressive Arts - A Courses - (min. 3 credits) Ensembles and Sec. Lessons taken each semester satisfies this requirement.

Minimum Required Grade: C-

1-4 Total Credits Required

Music Requirements for Literary & Artistic Studies

Rule: All courses required

Note: Literary and Artistic Studies - L Courses -(min. 3 credits) MUSI 130L taken in 1st year satisfies this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Historic & Cultural Studies

Rule: All courses required

Note: Historical and Cultural Studies and American and European Perspectives - H/Y Courses - (min. 3 credits) MUSI 301 and MUSI 302

	Course	Credits
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		3-6 Total Credits Required

Music Requirements for Indigenous & Global Perspectives

Rule: All courses required

Note: Indigenous and Global Perspectives - (min. 3 credits) Recommended MUSI 207H

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Natural Sciences

Rule: All courses required

Note: Natural Science (for this perspective, 6 credits required and at least one course Must include a lab experience)

Minimum Required Grade: C-

3 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Voice

Bachelor of Music - Music; Track: Specialization In Voice

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 84

Required Cumulative GPA: 2.75

Note: All degrees require 39 upper division credits.

1st year

Rule: All courses required

Note: Required 1st year: MUSI 195 applied studies 2 credit each semester for a total of 4 credits first year. MUSI 112 section 01-02 Ensembles 1 credit each semester for a total of 2 credits this year.

	Course	Credits
	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits
	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 112A - Choir: Chamber Chorale Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of MUSI 112A-114A, 110A/310, 131A/331, and 122A/322 toward graduation.	1 Credits
	MUSI 135A - Keyboard Skills I Offered autumn. Music reading, techniques, and harmonization skills acquired through study of solo and ensemble repertoire in a contemporary electronic piano laboratory.	1 Credits
	MUSI 136A - Keyboard Skills II Offered spring. Prereq., MUSI 135A. Continuation of MUSI 135A.	1 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits

	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits
	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
	MUSI 281 - Diction: English, Italian Offered autumn even-numbered years. Introduced course participants to the International Phonetic Alphabet (IPA) with application to American English Diction and Italian Diction.	2 Credits
	MUSI 282 - Dict: Gmn & French (equiv 382) Offered spring odd-numbered years. Applies IPA to French and German Diction and addresses other guidelines that apply to the lyric pronunciation of these languages. Students will transcribe, translate, recite, and sing German and French texts. This is a required course for BM vocal performance majors; MUS 281 is the prerequisite course. Students who would like to be considered for mid-year registration in this diction series may do so only with the consent of the instructor.	2 Credits
Minimum Required Grade: C-		23-26 Total Credits Required

2nd year

Rule: All courses required

Note: 2nd year Ensembles any of the MUSI 112A section 01, 02. - 1 credit each semester for a total of two credits this year. MUSI 295 applied studies 2 credit each semester for a total of 4 credits 2nd year. MUSI 296-01 Upper-Division Required Performance required to move on to upper division classes.

	Course	Credits
	MUSI 112A - Choir: Chamber Chorale Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of MUSI 112A-114A, 110A/310, 131A/331, and 122A/322 toward graduation.	1 Credits

	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits
	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 235 - Keyboard Skills III Offered autumn. Prereq., MUSI 136A or equiv. Continuation of MUSI 136A.	1 Credits
	MUSI 236 - Keyboard Skills IV Offered spring. Prereq., MUSI 235. Continuation of MUSI 235, culminates in piano functional examination.	1 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits
	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits
	MUSI 295 - Applied Study II (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Continuation of 151. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 296 - Piano Prof Assessment Repeat 8 times. All majors pursuing a B.M. or B.M.E. degree must successfully complete all sections of the Piano Proficiency Assessment in order to attain upper-division standing in music. The eight-part exam is administered at the end of each semester. Successfully completed assessments will receive a grade of CR.	
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		22-26 Total Credits Required

3rd year

Rule: All courses required

Note: Required 3rd year: MUSI 395 applied studies 2 credit each semester for a total of 4 credits, MUSI 310A Opera theatre 1 credit each semester for a total of 2 credits the 3rd year. Upper Division Music Electives should include MUSI 415, 416, 417 two credits Fall semester and one credit Spring semester.

	Course	Credits
	MUSI 310 - Opera Theatre II (R-8) Offered autumn and spring. Prereq., consent of instr. See MUSI 131A for description.	1 Credits
	MUSI 336 - Choral Conducting (R-4) Offered autumn. Prereq., upper-division standing in music. A study of the techniques of choral conducting. Emphasis on issues encountered in various ensemble settings.	2 Credits
	MUSI 356 - Form & Analysis I Offered autumn. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.	2 Credits
	MUSI 357 - Form & Analysis II Offered spring. Prereq., upper-division standing in music and MUSI 356. Continuation of MUSI 356.	2 Credits
	MUSI 395 - Applied Study III (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 295. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
Minimum Required Grade: C-		17-25 Total Credits Required

4th year

Rule: All courses required

Note: Required 4th year: MUSI 495 applied studies 2 credit each semester for a total of 4 credits the fourth year. MUSI 499 Senior Recital 2 credits Spring semester. Upper Division Music Electives should include MUSI 415, 416, 417 for 3 credits and 2 credits upper division electives. All students majoring in music are required to attend in a minimum of 100 approved recitals/concerts prior to graduation. During the 4th year in an undergraduate degree program and upon completion of this requirement, students should register for MUSI 388, 0 cr.

	Course	Credits
	MUSI 342 - Vocal Repertoire I Offered autumn odd-numbered years. Prereq., upper-division standing in music. Comprehensive acquaintance with styles and interpretation in British, German, and possible additional repertoire genres.	2 Credits
	MUSI 343 - Vocal Repertoire II Offered spring even-numbered years. Prereq., upper-division standing in music. Comprehensive acquaintance with styles and interpretation in American, French and possible additional genres.	2 Credits
	MUSI 388 - Concert Attendance UM All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.	
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
	MUSI 442 - Vocal Studio Pedagogy and Lit Offered autumn odd-numbered years or spring even-numbered years. Prereq., upper-division standing in music. Procedures, philosophies and terminology used in the teaching of singing. Individual and group techniques.	2 Credits
	MUSI 495 - Applied Study IV (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 395. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 499 - Senior Recital/Capstone Pjt (R-4) Offered autumn and spring.	1 To 4 Credits
Minimum Required Grade: C-		19-23 Total Credits Required

Upper Division Writing Expecation

Rule: 3 credits required of one of the courses below

	Course	Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
Minimum Required Grade: C-		3-9 Total Credits Required

Music Requirements

Rule: All courses required

	Course	Credits
	THTR 120A - Introduction to Acting I Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Ensembles 3rd and 4th year

Rule: 1 credit each semester from courses below

Note: Ensembles MUSI 312A, 310A, 362A 1 credit each semester for a total of two credits each year. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.) Upon completion of the upper-division recital performance, B.M., Vocal Performance majors may enroll in:
• MUSI 312 (MUS 307), section 1 (University Choir),
• MUSI 312 (MUS 307), section 2 (Chamber Chorale),
• MUSI 312 (MUS 307), section 3 (Women's Chorus),
• MUSI 310 (MUS 313) (Opera Theater)

	Course	Credits
	MUSI 310 - Opera Theatre II (R-8) Offered autumn and spring. Prereq., consent of instr. See MUSI 131A for description.	1 Credits

	MUSI 312 - Choir III: Chamber Chorale Offered autumn and spring. Prereq., upper-division standing in voice. See MUSI 112A for description.	1 To 8 Credits
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
Minimum Required Grade: C-		4-38 Total Credits Required

Lower division Writing Expectation

Rule: All courses required

	Course	Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Writing

Rule: All courses required

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Mathematics

Rule: All courses required

Note: Mathmatics - M Couse 100 or above

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Modern & Classical Languages

Rule: All courses required

Note: Foreign Language French, Italian or German, I & II for 5 credits each semester for a total of 10 credits

Minimum Required Grade: C-

10 Total Credits Required

Music Requirements for Expressive Arts

Rule: All courses required

Note: Expressive Arts - A Courses - (min. 3 credits) Ensembles and Sec. Lessons taken each semester satisfies this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Literary & Artistic Studies

Rule: All courses required

Note: Literary and Artistic Studies - L Courses -(min. 3 credits) MUSI 202L taken in 1st year satisfies this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Historic & Cultural Studies

Rule: All courses required

Note: Historical and Cultural Studies and American and European Perspectives - H/Y Courses - (min. 3 credits) MUSI 301 and MUSI 302

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Indigenous & Global Perspectives

Rule: All courses required

Note: Indigenous and Global Perspectives - (min. 3 credits) Required MUSI 207H

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Natural Sciences

Rule: All courses required

Note: Natural Science (for this perspective, 6 credits required and at least one course Must include a lab experience)

Minimum Required Grade: C-

6 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Piano Performance and Pedagogy

Bachelor of Music - Music; Track: Specialization in Piano Performance & Pedagogy

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 85

Required Cumulative GPA: 2.75

Note: All Degrees Require 39 Upper-Division Credits.

1st year

Rule: All courses required

Note: Required 1st year: MUSI 195 applied studies 2 credit each semester for a total of 4 credits first year.

	Course	Credits
	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits
	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits
	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits
	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
Minimum Required Grade: C-		15-19 Total Credits Required

2nd year

Rule: All courses required

Note: 2nd year required: MUSI 102A one credit each semester for a total of two credits. MUSI 295 applied studies 2 credit each semester for a total of 4 credits second year. MUSI 102A, 1 credit each semester for a total of two credits this year. Electives and General Education ((should include PSYX 100S) for a total of 8 credits. MUSI 296-01 Upper-Division Required Performance required to move on to upper division classes.

	Course	Credits

	MUSI 102A - Performance Study Offered autumn and spring. Prereq., consent of instr. Individual instruction in voice, piano, organ, harpsichord, carillon, string, wind and percussion instruments. A total of 6 credits is allowed in any one performance area. All private instruction requires concurrent ensemble participation.	1 To 2 Credits
	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits
	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits
	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits
	MUSI 295 - Applied Study II (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Continuation of 151. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 296 - Piano Prof Assessment Repeat 8 times. All majors pursuing a B.M. or B.M.E. degree must successfully complete all sections of the Piano Proficiency Assessment in order to attain upper-division standing in music. The eight-part exam is administered at the end of each semester. Successfully completed assessments will receive a grade of CR.	
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		22-30 Total Credits Required

3rd year

Rule: All courses required

Note: Required 3rd year: MUSI 395 applied studies 3 credit each semester for a total of 6 credits third year. MUSI 333, Piano Practicum 1 credit each semester for a total of two credits third year MUSI 335 or 336 Instrumental or Choral Conducting for 2 credits.

	Course	Credits
	MUSI 332 - Advanced Functional Piano Offered intermittently. Prereq., upper-division standing in music. Offered alternate years. Techniques of harmonization, transposition, sight-reading, modulation, and improvisation.	1 Credits
	MUSI 333 - Practicum in Piano Pedagogy (R-4) Offered intermittently. Prereq. or coreq., MUSI 435, 436. Student teaching of young pianists.	1 To 2 Credits
	MUSI 335 - Instrumental Conducting (R-4) Offered spring. Prereq., upper-division standing in music. Conducting methods and practice. Teaching methods and materials.	2 Credits
	MUSI 336 - Choral Conducting (R-4) Offered autumn. Prereq., upper-division standing in music. A study of the techniques of choral conducting. Emphasis on issues encountered in various ensemble settings.	2 Credits
	MUSI 356 - Form & Analysis I Offered autumn. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.	2 Credits
	MUSI 357 - Form & Analysis II Offered spring. Prereq., upper-division standing in music and MUSI 356. Continuation of MUSI 356.	2 Credits
	MUSI 395 - Applied Study III (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 295. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 435 - Piano Methods & Materials I Offered autumn odd-numbered years. Prereq., upper-division standing in music or consent of instr. Methods and materials for teaching piano classes in public schools and private studios. Procedures in teaching beginning, intermediate and advanced students in private studios. Practical demonstrations and supervised laboratory experience with children's classes.	3 Credits
	MUSI 436 - Piano Methods & Materials II Offered spring even-numbered years. Prereq., MUSI 435. Continuation of MUSI 435.	3 Credits
Minimum Required Grade: C-		21-25 Total Credits Required

4th year

Rule: All courses required

Note: Required 4th year: MUSI 333 Piano Practicum 1 credit each semester for a total of 2 credits. MUSI 495 applied studies 3 credit each semester for a total of 6 credits the fourth year. MUSI 492 Readings In Piano Ped. (Ind. Study) for a total of 2 credits. MUSI 499 - 2 credits Spring semester, Senior recital may be two half-recitals. One half recital may include pedagogical lecture/demonstration and/or collaborative repertoire. All students majoring in music are required to attend in a minimum of 100 approved recitals/concerts prior to graduation. During the 4th year in an undergraduate degree program and upon completion of this requirement, students should register for MUSI 388, 0 cr.

	Course	Credits
	MUSI 333 - Practicum in Piano Pedagogy (R-4) Offered intermittently. Prereq. or coreq., MUSI 435, 436. Student teaching of young pianists.	1 To 2 Credits
	MUSI 388 - Concert Attendance UM All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.	
	MUSI 432 - Keyboard Literature Offered autumn even-numbered years. Prereq., upper-division standing in music. Keyboard literature from the developments of the Baroque era to the contemporary period including the suite, sonata, character pieces, etc.	3 Credits
	MUSI 433 - Keyboard Literature II Offered spring odd-numbered years. Continuation of MUSI 435.	3 Credits
	MUSI 492 - Independent Study (R-9) Offered autumn and spring. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 3 Credits
	MUSI 495 - Applied Study IV (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 395. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 499 - Senior Recital/Capstone Pjt (R-4) Offered autumn and spring.	1 To 4 Credits
Minimum Required Grade: C-		21-32 Total Credits Required

Upper Division Writing Expecation

Rule: One course for 3 credits

	Course	Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits

	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
Minimum Required Grade: C-		3-9 Total Credits Required

Lower division Writing Expectation

Rule: All courses required

	Course	Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

1st and 2nd year Ensemble requirements

Rule: One course each semester

Note: Ensembles required for first and second year study: MUSI 108A -114A, 162A, 191, 1 credit each semester for a total of two credits each year. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)

	Course	Credits
	MUSI 108A - Orchestra: UMSO Offered autumn and spring. See MUSI 112A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.	1 Credits
	MUSI 112A - Choir: Chamber Chorale Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of MUSI 112A-114A, 110A/310, 131A/331, and 122A/322 toward graduation.	1 Credits
	MUSI 114A - Band: UM Concert Band Offered autumn and spring. See MUSI 112A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.	1 Credits
	MUSI 162A - Chamber Ensembles I (R-20) Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.	1 Credits

	MUSI 191 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		4-14 Total Credits Required

3rd and fourth Ensemble Requirements

Rule: One course each semester

Note: Ensembles required for third and fourth years of study: MUSI 308A -314A, 362A, #391, 1 credit each semester for a total of two credits each year.

	Course	Credits
	MUSI 308 - Orchestras II: UM Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 108A for description.	1 Credits
	MUSI 314 - Band III: UM Concert Band Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 114A for description.	1 Credits
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
Minimum Required Grade: C-		4- Total Credits Required

Music Electives Required

Rule: All courses required

	Course	Credits
	DANC 497 - Methods: Tchng Movmnt in Schls Offered autumn odd-numbered years. Prereq., consent of instr. Experience in planning, observing and directing creative movement as a teaching tool in K-5.	3 Credits
	PSYX 100S - Intro to Psychology Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.	4 Credits
	PSYX 230 - Developmental Psychology Offered autumn, spring, summer. Prereq., PSYX 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect. Appropriate for Social Work, Nursing, Addiction Studies, Education, and Psychology.	3 Credits
Minimum Required Grade: C-		10 Total Credits Required

Music Requirements for Writing

Rule: All courses required

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Mathematics

Rule: All courses required

Note: Mathematics - M Couse 100 or above for 3 credits

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Expressive Arts

Rule: All courses required

Note: Expressive Arts - A Courses - (min. 3 credits) Ensembles and Sec. Lessons taken each semester satisfies this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Literary & Artistic Studies

Rule: All courses required

Note: Literary and Artistic Studies - L Courses -(min. 3 credits) MUSI 202L taken in 1st year satisfies this requirement.

	Course	Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Historic & Cultural Studies

Rule: One course for 3 credits

Note: Historical and Cultural Studies and American and European Perspectives - H/Y Courses - (min. 3 credits) MUSI 301 and MUSI 302

	Course	Credits
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		

Music Requirements for Indigenous & Global Perspectives

Rule: All courses required

Note: Indigenous and Global Perspectives - (min. 3 credits) Required MUSI 207H

	Course	Credits
	MUSI 207H - World Music (equiv to 307) Offered autumn and spring. Introduction to the diversity of music among the world's peoples. Selected music systems throughout the world examined in their broad cultural contexts: religious, historical, and social. Introduction to ethnomusicology-a combination of musicology, anthropology and other related disciplines.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Natural Sciences

Rule: All courses required

Note: Natural Science (for this perspective, 6 credits required and at least one course Must include a lab experience)

Minimum Required Grade: C-

6 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Instrumental Jazz Studies

Bachelor of Arts - Music; Track: Specialization Instrumental Jazz Studies

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 50

Required Cumulative GPA: 2.75

Note: **51 Credits of non-Music major courses (36 credits Must be in the College of Arts and Sciences)
**51 Credits in Music

1st year

Rule: All courses required

Note: 1st year requirements MUSI 195 applied studies 1 credit each semester for a total of 2 credits first year.

	Course	Credits
	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits
	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 130L - History of Jazz Offered autumn. The development of jazz in the 20th century with emphasis on critical listening and the recognition of important trends and people in its history.	3 Credits
	MUSI 135A - Keyboard Skills I Offered autumn. Music reading, techniques, and harmonization skills acquired through study of solo and ensemble repertoire in a contemporary electronic piano laboratory.	1 Credits
	MUSI 136A - Keyboard Skills II Offered spring. Prereq., MUSI 135A. Continuation of MUSI 135A.	1 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits
	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits
	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
Minimum Required Grade: C-		14-21 Total Credits Required

2nd year

Rule: All courses required

Note: 2nd year requirements: MUSI 295 applied studies 1 credit each semester for a total of 2 credits first year. MUSI 296-01 Upper-Division Required Performance must be completed before moving on to upper division classes.

	Course	Credits
	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits
	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits
	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits
	MUSI 295 - Applied Study II (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Continuation of 151. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		18-22 Total Credits Required

3rd year

Rule: All courses required

Note: 3rd year requirements MUSI 395 applied studies 1 credit Fall semester. . MUSI 420 or 470 Jazz Pedagogy/Jazz Arranging for a total of 3 credits.

	Course	Credits
	MUSI 225 - Jazz Theory & Improvisation I Offered autumn. A performance oriented course to provide a basic understanding of jazz harmony. Application of scales and melodic patterns in improvising over various harmonic progressions.	2 Credits
	MUSI 226 - Jazz Theory & Improvisation II Offered spring. Prereq., MUSI 225. Continuation of MUSI 225.	2 Credits

	MUSI 395 - Applied Study III (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 295. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 420 - Jazz Pedagogy Offered spring even-numbered years. Prereq., upper division or graduate standing in music or consent of instructor. Development of skills needed to rehearse and direct jazz ensembles at the middle school through high school level.	3 Credits
	MUSI 470 - Jazz Arranging & Composition Offered spring odd-numbered years. Prereq., upper division or graduate standing in music or consent of instructor. Composing and arranging for small to medium sized jazz ensembles. Rhythmic rewriting of melodies, re-harmonization techniques, arranging of pre-existing jazz compositions, and original compositions.	3 Credits
Minimum Required Grade: C-		12-16 Total Credits Required

4th year

Rule: All courses required

Note: 4th year requirements: MUSI 420 or 470 Jazz Pedagogy/Jazz Arranging for a total of 3 credits. MUSI 499 Senior Research Project 2 credits.
All students majoring in music are required to attend in a minimum of 100 approved recitals/concerts prior to graduation. During the 4th year in an undergraduate degree program and upon completion of this requirement, students should register for MUSI 388, 0 cr.

	Course	**Credits**
	MUSI 388 - Concert Attendance UM All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.	
	MUSI 420 - Jazz Pedagogy Offered spring even-numbered years. Prereq., upper division or graduate standing in music or consent of instructor. Development of skills needed to rehearse and direct jazz ensembles at the middle school through high school level.	3 Credits
	MUSI 470 - Jazz Arranging & Composition Offered spring odd-numbered years. Prereq., upper division or graduate standing in music or consent of instructor. Composing and arranging for small to medium sized jazz ensembles. Rhythmic rewriting of melodies, re-harmonization techniques, arranging of pre-existing jazz compositions, and original compositions.	3 Credits

	MUSI 491 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	MUSI 499 - Senior Recital/Capstone Pjt (R-4) Offered autumn and spring.	1 To 4 Credits
Minimum Required Grade: C-		5-9 Total Credits Required

BA Requirement Liberal Sutdies

Rule: All courses required

	Course	Credits
	LSH 151L - IntrHumanities:Greek,Bible,Rom Offered autumn. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, comparing and contrasting the Greco–Roman with the Jewish and Christian traditions.	0 To 4 Credits
	LSH 152L - Humanities Medieval to Modern Offered spring. Prereq., eligibility for WRIT 101 (ENEX 101) based on writing placement examination. General survey of the field of Humanities in Western civilization, in the modern period.	0 To 4 Credits
Minimum Required Grade: C-		8 Total Credits Required

Lower division Writing Expectation

Rule: All courses required

	Course	Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

1st and 2nd year Emsembles Requirements

Rule: one course each semester

Note: All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.) Required - MUSI 108A -114a, + 162A, #191 ensembles, 1 credit each semester for a total of two credits. +guitar principals only #piano principals only.
Majors whose principal performance area is wind/percussion must register for:
• MUSI 114A (MUS 110A), section 1, Symphonic Wind Ensemble (or MUSI 114A (MUS 110A), section 2, University Concert Band, or MUSI 108A (MUS 108A), section 1, University Orchestra, if designated by the Director, every semester.

String majors must register for:
• MUSI 108A (MUS 108A) section 1, University Orchestra, every semester.
Ensemble requirements for piano and organ are listed separately for each curriculum.

	Course	Credits
	MUSI 108A - Orchestra: UMSO Offered autumn and spring. See MUSI 112A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.	1 Credits
	MUSI 114A - Band: UM Concert Band Offered autumn and spring. See MUSI 112A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.	1 Credits
	MUSI 162A - Chamber Ensembles I (R-20) Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.	1 Credits
	MUSI 191 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		2-26 Total Credits Required

3rd and fourth Ensemble Requirements

Rule: one course each semester

Note: Ensembles required 1 credit each semester for a year total of 2 credits. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)
Majors whose principal performance area is wind/percussion must register for:
• MUSI 314A (MUS 310), section 1, Symphonic Wind Ensemble (or MUSI 314 (MUS 310), section 2, University Concert Band, or MUSI 308 (MUS 308), section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 308 (MUS 308), section 1, University Orchestra, every semester
Ensemble requirements for piano and organ are listed separately for each curriculum.

	Course	Credits
	MUSI 308 - Orchestras II: UM Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 108A for description.	1 Credits
	MUSI 314 - Band III: UM Concert Band Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 114A for description.	1 Credits
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
Minimum Required Grade: C-		

Music General Requirement for Writing

Rule: All courses required

Note: Group I: English Writing Skills - WRIT 101

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing Expecation

Rule: All courses required

Note: Upper- Division Writing Expectation (MUSI 416,417-Jazz Topics Course)

	Course	Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
Minimum Required Grade: C-		3-6 Total Credits Required

Music Requirements for Mathematics

Rule: All courses required

Note: Group II: Mathmatics - M Couse 100 or above for 3 credits

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Modern & Classical Languages

Rule: Must complete 2 years of a foreign language

Minimum Required Grade: C-

10 Total Credits Required

Music Requirements for Expressive Arts

Rule: All courses required

Note: Group IV: Expressive Arts - A Courses - (min. 3 credits) Ensembles and Sec. Lessons taken each semester satisfies this requirement.

Minimum Required Grade: C-

Music Requirements for Literary & Artistic Studies

Rule: All courses required

Note: Group V: Literary and Artistic Studies - L Courses -(min. 3 credits) MUSI 130L taken in 1st year satisfies this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Historic & Cultural Studies

Rule: All courses required

Note: Group VI and Group IX: Historical and Cultural Studies and American and European Perspectives - H/Y Courses - (min. 3 credits) MUSI 301 and MUSI 302

	Course	Credits
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Social Sciences

Rule: All courses required

Note: Group VII: Social Sciences (min. of 3 credits)

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Ethical and Human Values

Rule: All courses required

Note: Group VIII: Ethical and Human Values (min. of 3 credits)

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Indigenous & Global Perspectives

Rule: All courses required

Note: Group X: Indigenous and Global Perspectives - (min. 3 credits)

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Natural Sciences

Rule: All courses required

Note: Group XI: Natural Science (for this perspective, 6 credits required and at least one course Must include a lab experience)

Minimum Required Grade: C-

6 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Organ Performance

Bachelor of Music - Music; Track: Specialization in Organ Performance

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 83

Required Cumulative GPA: 2.75

Note: All Degrees Require 39 Upper-Division Credits.

1st year

Rule: All courses required

Note: 1st year requirements: MUSI 195 applied studies 3 credit each semester for a total of 6 credits first year.

	Course	Credits
	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits
	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits
	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits

	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
Minimum Required Grade: C-		17-21 Total Credits Required

2nd year

Rule: All courses required

Note: 2nd year requirements: MUSI 295 applied studies 3 credit each semester for a total of 6 credits second year. MUSI 102A applied studies 1 credit each semester for a total of 2 credits second year. MUSI 296-01 Upper-Division Required Performance required for advancement to upper division classes.

	Course	**Credits**
	MUSI 102A - Performance Study Offered autumn and spring. Prereq., consent of instr. Individual instruction in voice, piano, organ, harpsichord, carillon, string, wind and percussion instruments. A total of 6 credits is allowed in any one performance area. All private instruction requires concurrent ensemble participation.	1 To 2 Credits
	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits
	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits
	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits
	MUSI 295 - Applied Study II (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Continuation of 151. All private instruction requires concurrent ensemble participation.	1 To 4 Credits

	MUSI 296 - Piano Prof Assessment Repeat 8 times. All majors pursuing a B.M. or B.M.E. degree must successfully complete all sections of the Piano Proficiency Assessment in order to attain upper-division standing in music. The eight-part exam is administered at the end of each semester. Successfully completed assessments will receive a grade of CR.	
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		22-26 Total Credits Required

3rd year

Rule: All courses required

Note: 3rd year required: MUSI 395 applied studies 4 credit each semester for a total of 8 credits third year.

	Course	**Credits**
	MUSI 332 - Advanced Functional Piano Offered intermittently. Prereq., upper-division standing in music. Offered alternate years. Techniques of harmonization, transposition, sight-reading, modulation, and improvisation.	1 Credits
	MUSI 336 - Choral Conducting (R-4) Offered autumn. Prereq., upper-division standing in music. A study of the techniques of choral conducting. Emphasis on issues encountered in various ensemble settings.	2 Credits
	MUSI 395 - Applied Study III (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 295. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 435 - Piano Methods & Materials I Offered autumn odd-numbered years. Prereq., upper-division standing in music or consent of instr. Methods and materials for teaching piano classes in public schools and private studios. Procedures in teaching beginning, intermediate and advanced students in private studios. Practical demonstrations and supervised laboratory experience with children's classes.	3 Credits
	MUSI 436 - Piano Methods & Materials II Offered spring even-numbered years. Prereq., MUSI 435. Continuation of MUSI 435.	3 Credits

Minimum Required Grade: C-	17 Total Credits Required

4th year

Rule: All courses required

Note: 4th year required: MUSI 495 applied studies 4 credit each semester for a total of 8 credits 4th year. MUSI 492 Independent study Organ Construction, Design & Ped. MUSI 499 Senior Recital/Capstone Project for two credits. Senior recital may be two half-recitals. One half recital may include pedagogical lecture/demonstration and/or collaborative repertoire. All students majoring in music are required to attend in a minimum of 100 approved recitals/concerts prior to graduation. During the 4th year in an undergraduate degree program and upon completion of this requirement, students should register for MUSI 388, 0 cr.

	Course	Credits
	MUSI 356 - Form & Analysis I Offered autumn. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.	2 Credits
	MUSI 357 - Form & Analysis II Offered spring. Prereq., upper-division standing in music and MUSI 356. Continuation of MUSI 356.	2 Credits
	MUSI 388 - Concert Attendance UM All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.	
	MUSI 492 - Independent Study (R-9) Offered autumn and spring. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.	1 To 3 Credits
	MUSI 495 - Applied Study IV (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 395. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 499 - Senior Recital/Capstone Pjt (R-4) Offered autumn and spring.	1 To 4 Credits
Minimum Required Grade: C-		19-20 Total Credits Required

1st and 2nd year Ensemble requirements

Rule: One course each semester

Note: Ensembles one credit each semester for a total of two credits each year. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)

	Course	Credits

	MUSI 108A - Orchestra: UMSO Offered autumn and spring. See MUSI 112A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.	1 Credits
	MUSI 110A - Opera Theatre I (R-8) Offered autumn and spring. Prereq., consent of instr. Study and performance of the standard opera repertoire.	1 Credits
	MUSI 112A - Choir: Chamber Chorale Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of MUSI 112A-114A, 110A/310, 131A/331, and 122A/322 toward graduation.	1 Credits
	MUSI 114A - Band: UM Concert Band Offered autumn and spring. See MUSI 112A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.	1 Credits
	MUSI 162A - Chamber Ensembles I (R-20) Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.	1 Credits
	MUSI 191 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		2-14 Total Credits Required

Ensembles 3rd year

Rule: One course each semester

Note: 2nd year ensembles one credit each semester for a total of two credits each year. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)

	Course	**Credits**
	MUSI 308 - Orchestras II: UM Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 108A for description.	1 Credits
	MUSI 310 - Opera Theatre II (R-8) Offered autumn and spring. Prereq., consent of instr. See MUSI 131A for description.	1 Credits
	MUSI 312 - Choir III: Chamber Chorale Offered autumn and spring. Prereq., upper-division standing in voice. See MUSI 112A for description.	1 To 8 Credits

	MUSI 314 - Band III: UM Concert Band Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 114A for description.	1 Credits
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
Minimum Required Grade: C-		2-8 Total Credits Required

4th year Ensemble Requirements

Rule: One course each semester

Note: 4th year ensembles one credit each semester for a total of two credits each year. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)

	Course	Credits
	MUSI 308 - Orchestras II: UM Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 108A for description.	1 Credits
	MUSI 310 - Opera Theatre II (R-8) Offered autumn and spring. Prereq., consent of instr. See MUSI 131A for description.	1 Credits
	MUSI 312 - Choir III: Chamber Chorale Offered autumn and spring. Prereq., upper-division standing in voice. See MUSI 112A for description.	1 To 8 Credits
	MUSI 314 - Band III: UM Concert Band Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 114A for description.	1 Credits
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
Minimum Required Grade: C-		2-12 Total Credits Required

Lower division Writing Expectation

Rule: All courses required

	Course	Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing Expecation

Rule: One course for 3 credits

Note: Must take one of the courses above for 3 credits.

	Course	Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
Minimum Required Grade: C-		3-9 Total Credits Required

Music Requirements for Writing

Rule: All courses required

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Mathematics

Rule: One course for 3 credits

Note: Mathematics - Math 105 or Math 115

	Course	Credits
	M 105 - Contemporary Mathematics Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Modern & Classical Languages

Rule: All courses required

Note: Foreign Language - French or German for 10 credits.

Minimum Required Grade: C-

10 Total Credits Required

Music Requirements for Expressive Arts

Rule: All courses required

Note: Expressive Arts - A Courses - (min. 3 credits) Ensembles and Sec. Lessons taken each semester satisfies this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Literary & Artistic Studies

Rule: All courses required

Note: Literary and Artistic Studies - L Courses -(min. 3 credits) MUSI 202L taken in 1st year satisfies this requirement.

	Course	Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Historic & Cultural Studies

Rule: All courses required

Note: Historical and Cultural Studies and American and European Perspectives - H/Y Courses - (min. 3 credits) MUSI 301 and/or MUSI 302

	Course	Credits
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		3-6 Total Credits Required

Music Requirements for Indigenous & Global Perspectives

Rule: All courses required

Note: Indigenous and Global Perspectives - (min. 3 credits) Required MUSI 207H

	Course	Credits
	MUSI 207H - World Music (equiv to 307) Offered autumn and spring. Introduction to the diversity of music among the world's peoples. Selected music systems throughout the world examined in their broad cultural contexts: religious, historical, and social. Introduction to ethnomusicology-a combination of musicology, anthropology and other related disciplines.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Natural Sciences

Rule: All courses required

Note: Natural Science (for this perspective, 6 credits required and at least one course Must include a lab experience)

Minimum Required Grade: C-

6 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Piano Performance

Bachelor of Music - Music; Track: Specialization in Piano Performance

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 87

Required Cumulative GPA: 2.75

Note: All degrees require 39 upper division credits.

1st year

Rule: All courses required

Note: 1st year required: MUSI 195 applied studies 2 credit each semester for a total of 4 credits first year.

	Course	Credits
	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits
	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits
	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits
	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
Minimum Required Grade: C-		17-21 Total Credits Required

2nd year

Rule: All courses required

Note: 2nd year required: MUSI 295 applied studies 3 credit each semester for a total of 6 credits first year. MUSI 102A is required for 1 credit each semester of the second year for a total of 2 credits. MUSI 296-01 Upper-Division Required Performance required to be completed to advance to upper division classes.

	Course	Credits

	MUSI 102A - Performance Study Offered autumn and spring. Prereq., consent of instr. Individual instruction in voice, piano, organ, harpsichord, carillon, string, wind and percussion instruments. A total of 6 credits is allowed in any one performance area. All private instruction requires concurrent ensemble participation.	1 To 2 Credits
	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits
	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits
	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits
	MUSI 295 - Applied Study II (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Continuation of 151. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 296 - Piano Prof Assessment Repeat 8 times. All majors pursuing a B.M. or B.M.E. degree must successfully complete all sections of the Piano Proficiency Assessment in order to attain upper-division standing in music. The eight-part exam is administered at the end of each semester. Successfully completed assessments will receive a grade of CR.	
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		24-30 Total Credits Required

3rd year

Rule: All courses required

Note: 3rd year required: MUSI 395 applied studies 4 credit each semester for a total of 8 credits third year. MUSI 335 or 336 Instrumental or Choral Conducting for 2 credits. * Piano principles must take MUSI 332 A Advanced Functional Piano or MUSI 218 with PPA (at the discretion of Piano Faculty)

	Course	Credits
	MUSI 332 - Advanced Functional Piano Offered intermittently. Prereq., upper-division standing in music. Offered alternate years. Techniques of harmonization, transposition, sight-reading, modulation, and improvisation.	1 Credits
	MUSI 356 - Form & Analysis I Offered autumn. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.	2 Credits
	MUSI 357 - Form & Analysis II Offered spring. Prereq., upper-division standing in music and MUSI 356. Continuation of MUSI 356.	2 Credits
	MUSI 395 - Applied Study III (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 295. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 435 - Piano Methods & Materials I Offered autumn odd-numbered years. Prereq., upper-division standing in music or consent of instr. Methods and materials for teaching piano classes in public schools and private studios. Procedures in teaching beginning, intermediate and advanced students in private studios. Practical demonstrations and supervised laboratory experience with children's classes.	3 Credits
	MUSI 436 - Piano Methods & Materials II Offered spring even-numbered years. Prereq., MUSI 435. Continuation of MUSI 435.	3 Credits
Minimum Required Grade: C-		21-23 Total Credits Required

4th year

Rule: All courses required

Note: 4th year required: MUSI 495 applied studies 4 credit each semester for a total of 8 credits fourth year. MUSI 499 Senior Recital for two credits. MUSI 415, 416 or 417 Upper Div. Writing Course for 3 credits, additional 2 credits upper division. All students majoring in music are required to attend in a minimum of 100 approved recitals/concerts prior to graduation. During the 4th year in an undergraduate degree program and upon completion of this requirement, students should register for MUSI 388, 0 cr.

	Course	Credits
	MUSI 388 - Concert Attendance UM All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.	

	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
	MUSI 432 - Keyboard Literature Offered autumn even-numbered years. Prereq., upper-division standing in music. Keyboard literature from the developments of the Baroque era to the contemporary period including the suite, sonata, character pieces, etc.	3 Credits
	MUSI 433 - Keyboard Literature II Offered spring odd-numbered years. Continuation of MUSI 435.	3 Credits
	MUSI 495 - Applied Study IV (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 395. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 499 - Senior Recital/Capstone Pjt (R-4) Offered autumn and spring.	1 To 4 Credits
Minimum Required Grade: C-		23- 31 Total Credits Required

Upper Division Writing Expecation

Rule: One course for 3 credits

	Course	Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits

	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
Minimum Required Grade: C-		3-9 Total Credits Required

1st and 2nd year Ensemble requirements

Rule: One course each semester

Note: Ensembles MUSI 108A, 112A, 114A, 162A, #191, (#piano principals only) 1 credit each semester for a total of two credits each year.* All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)

	Course	Credits
	MUSI 108A - Orchestra: UMSO Offered autumn and spring. See MUSI 112A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.	1 Credits
	MUSI 112A - Choir: Chamber Chorale Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of MUSI 112A-114A, 110A/310, 131A/331, and 122A/322 toward graduation.	1 Credits
	MUSI 114A - Band: UM Concert Band Offered autumn and spring. See MUSI 112A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.	1 Credits
	MUSI 162A - Chamber Ensembles I (R-20) Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.	1 Credits
	MUSI 191 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		4-14 Total Credits Required

3rd and fourth Ensemble Requirements

Rule: One course each semester

Note: Ensembles MUSI 308A, 312A, 314A, 362A, #391, (#piano principals only)1 credit each semester for a total of two credits first year.* All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence

of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)

	Course	Credits
	MUSI 308 - Orchestras II: UM Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 108A for description.	1 Credits
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
	MUSI 391 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		4-14 Total Credits Required

	Course	Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits

Lower division Writing Expectation

Rule: All courses required

	Course	Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Mathematics

Rule: Three credits required

Note: Mathematics - M Couse 100 or above

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Expressive Arts

Rule: See Commentary

Note: Expressive Arts - A Courses - (min. 3 credits) Ensembles and Sec. Lessons taken each semester satisfies this requirement.

Minimum Required Grade: C-

Music Requirements for Literary & Artistic Studies

Rule: See Commentary

Note: Literary and Artistic Studies - L Courses -(min. 3 credits) MUSI 202L taken in 1st year satisfies this requirement.

Minimum Required Grade: C-

Music Requirements for Historic & Cultural Studies

Rule: See Commentary

Note: Historical and Cultural Studies and American and European Perspectives - H/Y Courses - (min. 3 credits) MUSI 301and MUSI 302

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Indigenous & Global Perspectives

Rule: All courses required

Note: Indigenous and Global Perspectives - (min. 3 credits) Required MUSI 207H

	Course	Credits
	MUSI 207H - World Music (equiv to 307) Offered autumn and spring. Introduction to the diversity of music among the world's peoples. Selected music systems throughout the world examined in their broad cultural contexts: religious, historical, and social. Introduction to ethnomusicology-a combination of musicology, anthropology and other related disciplines.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Natural Sciences

Rule: All courses required

Note: Natural Science (for this perspective, 6 credits required and at least one course Must include a lab experience)

Minimum Required Grade: C-

6 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Instrumental Performance

Bachelor of Music - Music; Track: Specialization Instrumental Performance

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 85
Required Cumulative GPA: 2.75
Note: All Degrees Require 39 Upper-Division Credits

1st year

Rule: All courses required
Note: 1st year required: MUSI 195 applied studies 3 credit each semester for a total of 6 credits first year.

	Course	Credits
	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits
	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 135A - Keyboard Skills I Offered autumn. Music reading, techniques, and harmonization skills acquired through study of solo and ensemble repertoire in a contemporary electronic piano laboratory.	1 Credits
	MUSI 136A - Keyboard Skills II Offered spring. Prereq., MUSI 135A. Continuation of MUSI 135A.	1 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits
	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits
	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits

Minimum Required Grade: C-	19-21 Total Credits Required

2nd year

Rule: All courses required

Note: 2nd year required: MUSI 295 applied studies 3 credit each semester for a total of 6 credits second year. MUSI 296 Upper-Division Required Performance to be completed before advancing to upper division classes.

	Course	Credits
	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits
	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 235 - Keyboard Skills III Offered autumn. Prereq., MUSI 136A or equiv. Continuation of MUSI 136A.	1 Credits
	MUSI 236 - Keyboard Skills IV Offered spring. Prereq., MUSI 235. Continuation of MUSI 235, culminates in piano functional examination.	1 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits
	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits
	MUSI 295 - Applied Study II (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Continuation of 151. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 296 - Piano Prof Assessment Repeat 8 times. All majors pursuing a B.M. or B.M.E. degree must successfully complete all sections of the Piano Proficiency Assessment in order to attain upper-division standing in music. The eight-part exam is administered at the end of each semester. Successfully completed assessments will receive a grade of CR.	
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits

	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		22-24 Total Credits Required

3rd year

Rule: All courses required

Note: 3rd year required: MUSI 362A Chamber Ensembles 1 credit each semester for a total of two credits this year. MUSI 395 applied studies 4 credit each semester for a total of 8 credits third year.

	Course	**Credits**
	MUSI 335 - Instrumental Conducting (R-4) Offered spring. Prereq., upper-division standing in music. Conducting methods and practice. Teaching methods and materials.	2 Credits
	MUSI 356 - Form & Analysis I Offered autumn. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.	2 Credits
	MUSI 357 - Form & Analysis II Offered spring. Prereq., upper-division standing in music and MUSI 356. Continuation of MUSI 356.	2 Credits
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
	MUSI 395 - Applied Study III (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 295. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
Minimum Required Grade: C-		22 Total Credits Required

4th year

Rule: All courses required

Note: 4th year required: MUSI 495 applied studies 4 credit each semester for a total of 8 credits third year. MUSI 499 Senior Recital required for 2 credits Spring semester. MUSI 362A Chamber Ensembles 1 credit each semester for a total of two credits this year.

	Course	**Credits**
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits

	MUSI 388 - Concert Attendance UM All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.	
	MUSI 495 - Applied Study IV (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 395. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 499 - Senior Recital/Capstone Pjt (R-4) Offered autumn and spring.	1 To 4 Credits
Minimum Required Grade: C-		10 Total Credits Required

Instrumental Pedagogy

Rule: One course for 2 credits

Note: Four credits of Upper division Music Electives. At least 4 of these credits Must be in academic Music courses such as String principals Must take MUSI 409 (Pedagogy of Strings) Woodwind principals Must take MUSI 411 (woodwind pedagogy), Brass principals Must take MUSI 412 (brass pedagogy), Percussion principals Must take MUSI 413 (Percussion pedagogy).

	Course	**Credits**
	MUSI 409 - String Pedagogy & Literature (R-4) Offered intermittently. Prereq., upper-division standing in music and consent of instr. Procedures and materials in class string instruction.	1 To 2 Credits
	MUSI 411 - Woodwind Pedagogy Offered intermittently. Prereq., upper-division standing in music and consent of instr. Procedures and materials in individual and class instruction are discussed. Philosophies, repertoire, individual and group techniques used in teaching woodwinds.	2 Credits
	MUSI 412 - Brass Pedagogy Offered intermittently. Prereq., upper-division standing in music and consent of instr. Procedures and materials in individual and class instruction are discussed. Philosophies, repertoire, individual and group techniques used in teaching brass instruments.	2 Credits
	MUSI 413 - Percussion Pedagogy Offered intermittently. Prereq., upper-division standing in music and consent of instr. Procedures and materials in individual and class instruction are discussed. Philosophies, repertoire, individual and group techniques used in teaching percussion instruments.	2 Credits
Minimum Required Grade: C-		4-8 Total Credits Required

1st and 2nd year Ensemble requirements

Rule: One course each semester

Note: Ensembles - MUSI 108A -114A, +162A, + guitar principals only required one credit each semester for two credits each year.
All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)
Majors whose principal performance area is wind/percussion must register for:
• MUSI 114A (MUS 110A), section 1, Symphonic Wind Ensemble (or MUSI 114A (MUS 110A), section 2, University Concert Band, or MUSI 108A (MUS 108A), section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 108A (MUS 108A), section 1, University Orchestra, every semester.

	Course	Credits
	MUSI 108A - Orchestra: UMSO Offered autumn and spring. See MUSI 112A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.	1 Credits
	MUSI 114A - Band: UM Concert Band Offered autumn and spring. See MUSI 112A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.	1 Credits
	MUSI 162A - Chamber Ensembles I (R-20) Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.	1 Credits
Minimum Required Grade: C-		2-6 Total Credits Required

3rd and fourth Ensemble Requirements

Rule: One course each semester

Note: Ensembles required MUSI 308A -314A, 362A, 1 credit each semester for a total of two credits first year. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.) Majors whose principal performance area is wind/percussion must register for:
• MUSI 314 (MUS 310), section 1, Symphonic Wind Ensemble (MUSI 314), section 2, University Concert Band, or MUSI 308A (MUS 308A), section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 308 (MUS 308), section 1, University Orchestra, every semester.

	Course	Credits
	MUSI 308 - Orchestras II: UM Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 108A for description.	1 Credits
	MUSI 314 - Band III: UM Concert Band Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 114A for description.	1 Credits

	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
Minimum Required Grade: C-		4-12 Total Credits Required

Lower division Writing Expectation

Rule: All courses required

	Course	Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Writing Expecation

Rule: One course for 3 credits

Note: Must take one course from the above listed courses for 3 credits

	Course	Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
Minimum Required Grade: C-		3-9 Total Credits Required

Music Requirements for Writing

Rule: All courses required

	Course	Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Mathematics

Rule: One course for 3 credits

Note: Mathematics - M Couse 100 or above

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Expressive Arts

Rule: All courses required

Note: Expressive Arts - A Courses - (min. 3 credits) Ensembles and Sec. Lessons taken each semester satisfies this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Literary & Artistic Studies

Rule: All courses required

Note: Literary and Artistic Studies - L Courses -(min. 3 credits) MUSI 202L taken in 1st year satisfies this requirement.

	Course	**Credits**
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Historic & Cultural Studies

Rule: All courses required

Note: Historical and Cultural Studies and American and European Perspectives - H/Y Courses - (min. 3 credits) MUSI 301 and MUSI 302

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Indigenous & Global Perspectives

Rule: All courses required

Note: Indigenous and Global Perspectives - (min. 3 credits) Required MUSI 207H

	Course	Credits
	MUSI 207H - World Music (equiv to 307) Offered autumn and spring. Introduction to the diversity of music among the world's peoples. Selected music systems throughout the world examined in their broad cultural contexts: religious, historical, and social. Introduction to ethnomusicology-a combination of musicology, anthropology and other related disciplines.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Natural Sciences

Rule: All courses required

Note: Group XI: Natural Science (for this perspective, 6 credits required and at least one course Must include a lab experience)

Minimum Required Grade: C-

6 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Music Composition

Bachelor of Music - Music; Track: Specialization in Music Composition

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 86

Required Cumulative GPA: 2.75

Note: All degrees require 39 upper division credits.

1st year

Rule: All courses required

Note: 1st year requirements: MUSI 195 applied studies 1 credit each semester for a total of 2 credits first year. Composition I - 2 credits each semester for a total of four credits first year.

	Course	Credits

	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits
	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 135A - Keyboard Skills I Offered autumn. Music reading, techniques, and harmonization skills acquired through study of solo and ensemble repertoire in a contemporary electronic piano laboratory.	1 Credits
	MUSI 136A - Keyboard Skills II Offered spring. Prereq., MUSI 135A. Continuation of MUSI 135A.	1 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits
	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits
	MUSI 180 - Composition I (R-4) Offered autumn and spring. Prereq., consent of instr. An introduction to the basic art of music composition. May be substituted for upper division electives for students not majoring in theory or composition.	1 To 2 Credits
	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
	MUST 110 - Digital Audio & Multitracking Offered autumn and spring. Composition of computer music through recording, editing, and processing sound with digital audio software. Study of the theory and application of digital audio recording, multitracking, and digital signal processing, and electroacoustic music history. Survey of historical and current electronic and computer music composers, pieces, and practices.	2 Credits
Minimum Required Grade: C-		21-23 Total Credits Required

2nd year

Rule: All courses required

Note: 2nd year requirements: MUSI 295 applied studies 1 credit each semester for a total of 2 credits second year. Composition II - 2 credits each semester for a total of four credits the second year. MUSI 296 -01 Upper-Division Required Performance to be completed 2nd year to advance to upper division classes

	Course	Credits
	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits
	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 235 - Keyboard Skills III Offered autumn. Prereq., MUSI 136A or equiv. Continuation of MUSI 136A.	1 Credits
	MUSI 236 - Keyboard Skills IV Offered spring. Prereq., MUSI 235. Continuation of MUSI 235, culminates in piano functional examination.	1 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits
	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits
	MUSI 280 - Composition II (R-4) Offered autumn and spring. Prereq., 4 credits of MUSI 180. Original work in composition may be substituted for upper-division electives for students not majoring in theory or composition.	1 To 2 Credits
	MUSI 295 - Applied Study II (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Continuation of 151. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 296 - Piano Prof Assessment Repeat 8 times. All majors pursuing a B.M. or B.M.E. degree must successfully complete all sections of the Piano Proficiency Assessment in order to attain upper-division standing in music. The eight-part exam is administered at the end of each semester. Successfully completed assessments will receive a grade of CR.	
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits

	MUST 210 - Sequencng, Synthesis, Sampling Offered autumn. Prereq., MUST 110. Composition of computer music using MIDI sequencing, sampling, and synthesis software, and score preparation using music notation software. Study of the theory and application of MIDI, synthesis algorithms, and effects processing, and the practice of music engraving.	2 Credits
Minimum Required Grade: C-		24-26 Total Credits Required

3rd year

Rule: See commentary

Note: 3rd year requirements: MUSI 395 applied studies 1 credit Fall semester. Composition III - 3 credits each semester for a total of six credits the third year. MUSI 335 or 336 Instrumental OR Choral Conducting for 2 credits Spring Semester

	Course	Credits
	MUSI 335 - Instrumental Conducting (R-4) Offered spring. Prereq., upper-division standing in music. Conducting methods and practice. Teaching methods and materials.	2 Credits
	MUSI 336 - Choral Conducting (R-4) Offered autumn. Prereq., upper-division standing in music. A study of the techniques of choral conducting. Emphasis on issues encountered in various ensemble settings.	2 Credits
	MUSI 356 - Form & Analysis I Offered autumn. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.	2 Credits
	MUSI 357 - Form & Analysis II Offered spring. Prereq., upper-division standing in music and MUSI 356. Continuation of MUSI 356.	2 Credits
	MUSI 380 - Composition III (R-6) Offered autumn and spring. Prereq., upper-division standing in music and 4 credits in MUSI 280. Creative writing of music.	1 To 3 Credits
	MUSI 395 - Applied Study III (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 295. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 407 - Counterpoint I Offered intermittently. Prereq., upper-division standing in music. Writing and analysis of contrapuntal styles through the 18th century.	3 Credits
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits

	MUSI 440 - Orchestration Offered autumn. Prereq., upper-division standing in music. Orchestrating and transcribing for orchestra and band instruments.	2 Credits
Minimum Required Grade: C-		21-23 Total Credits Required

4th year

Rule: All courses required

Note: 4th year requirements: MUSI 499 Professional project 2 credits Spring semester. MUSI 480 Composition IV, 3 credits Fall semester. All students majoring in music are required to attend in a minimum of 100 approved recitals/concerts prior to graduation. During the 4th year in an undergraduate degree program and upon completion of this requirement, students should register for MUSI 388, 0 cr.

	Course	Credits
	MUSI 388 - Concert Attendance UM All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.	
	MUSI 480 - Composition IV (R-6) Offered autumn and spring. Prereq., 3 credits in MUSI 380. A continuation of composition with writing in the larger forms.	1 To 3 Credits
	MUSI 499 - Senior Recital/Capstone Pjt (R-4) Offered autumn and spring.	1 To 4 Credits
	MUST 310 - Interactivity Digitl Sgnl Proc Offered spring. Prereq., MUST 210 and upper-division standing in music. Composition of interactive computer music using a graphical programming environment for MIDI, synthesis, and digital signal processing. Study of graphical programming, interactive composition and performance, generating and processing MIDI data, synthesizing computer-generated sound, and processing digital audio in real-time.	2 Credits
	MUST 410 - Computer Music Programming Offered autumn. Upper-division standing in music. Composition of computer music through programming. Study of object oriented programming, synthesis and digital signal processing techniques, music-generating algorithms, sound spatialization, graphical user interface design, and external control.	2 Credits
Minimum Required Grade: C-		9-11 Total Credits Required

Upper Division Writing Expecation

Rule: All courses required

Note: Music 415, Music of the 20th Century to the Present, will satisfy the upper-division writing expectation.

	Course	Credits

	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

1st and 2nd year Ensemble requirements

Rule: One course each semester

Note: Ensembles - MUSI 108A -114A, +162A, #191, (+ guitar principals only #piano principals only)required one credit each semester for two credits each year. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)
Majors whose principal performance area is wind/percussion must register for:
• MUSI 114A (MUS 110A), section 1, Symphonic Wind Ensemble (or MUSI 114A (MUS 110A, section 2, University Concert Band, or MUSI 108A(MUS 108A, section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 108A (MUS 108A), section 1, University Orchestra, every semester.

	Course	**Credits**
	MUSI 108A - Orchestra: UMSO Offered autumn and spring. See MUSI 112A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.	1 Credits
	MUSI 110A - Opera Theatre I (R-8) Offered autumn and spring. Prereq., consent of instr. Study and performance of the standard opera repertoire.	1 Credits
	MUSI 112A - Choir: Chamber Chorale Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of MUSI 112A-114A, 110A/310, 131A/331, and 122A/322 toward graduation.	1 Credits
	MUSI 114A - Band: UM Concert Band Offered autumn and spring. See MUSI 112A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.	1 Credits
Minimum Required Grade: C-		4 Total Credits Required

3rd and fourth Ensemble Requirements

Rule: One course each semester

Note: MUSI 308-314,310,331,OR +362, #391 (+ guitar principals only #piano principals only) required one credit each semester for two credits third year, fourth year 1 credit Fall Semester.
All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)

Majors whose principal performance area is wind/percussion must register for:
• MUSI 314 (MUS 310), section 1, Symphonic Wind Ensemble (or MUSI 314 (MUS 310), section 2, University Concert Band, or MUSI 308 (MUS 308), section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 308 (MUS 108A/308), section 1, University Orchestra, every semester.
Ensemble requirements for piano and organ are listed separately for each curriculum.

	Course	Credits
	MUSI 308 - Orchestras II: UM Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 108A for description.	1 Credits
	MUSI 310 - Opera Theatre II (R-8) Offered autumn and spring. Prereq., consent of instr. See MUSI 131A for description.	1 Credits
	MUSI 312 - Choir III: Chamber Chorale Offered autumn and spring. Prereq., upper-division standing in voice. See MUSI 112A for description.	1 To 8 Credits
	MUSI 314 - Band III: UM Concert Band Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 114A for description.	1 Credits
	MUSI 331 - Jzz Ens II: UM (R-8) Offered autumn and spring. Prereq., consent of instr. See MUSI 131A for description.	1 Credits
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
	MUSI 391 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		3-22 Total Credits Required

Lower division Writing Expectation

Rule: All courses required

	Course	Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music General Requirement for Writing

Rule: All courses required

	Course	Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Mathematics

Rule: All courses required

Note: Math - M Couse 100 or above

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Modern & Classical Languages

Rule: All courses required

Note: Exemption from Modern and Classical Language Requirement - Symbolic Systems MUSI 105,106,140,141

Minimum Required Grade: C-

Music Requirements for Expressive Arts

Rule: All courses required

Note: Expressive Arts - A Courses - (min. 3 credits) Ensembles and Sec. Lessons taken each semester satisfies this requirement.

Minimum Required Grade: C-

Music Requirements for Literary & Artistic Studies

Rule: All courses required

Note: Literary and Artistic Studies - L Courses -(min. 3 credits) MUSI 202L taken in 1st year satisfies this requirement.

Minimum Required Grade: C-

Music Requirements for Historic & Cultural Studies

Rule: All courses required

Note: Historical and Cultural Studies and American and European Perspectives - H/Y Courses - (min. 3 credits) MUSI 301 and MUSI 302

Minimum Required Grade: C-

Music Requirements for Indigenous & Global Perspectives

Rule: All courses required

Note: Indigenous and Global Perspectives - (min. 3 credits) MUSI 207X is required

	Course	Credits
	MUSI 207H - World Music (equiv to 307) Offered autumn and spring. Introduction to the diversity of music among the world's peoples. Selected music systems throughout the world examined in their broad cultural contexts: religious, historical, and social. Introduction to ethnomusicology-a combination of musicology, anthropology and other related disciplines.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Music Requirements for Natural Sciences

Rule: All courses required

Note: Natural Science (for this perspective, 6 credits required and at least one course Must include a lab experience)

Minimum Required Grade: C-

6 Total Credits Required

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Music Education B.A.

Bachelor of Music Education - Music Education

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 72

Required Cumulative GPA: 2.75

Note: All Music Degrees require 39 upper division credits
*Keyboard principals do not take MUSI 135-136 but Must take MUSI 332 and 435 in addition to upper-division electives, +offered even - numbered years in autumn
**Keyboard/Voice - 3 credits, Orchestra principals - 2 credits
Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum and Instruction in the College of Education and Human Sciences for more information.

1st year

Rule: See commentary

Note: 1st year requirements: MUSI 195 applied studies 1 credit each semester for a total of 2 credits first year. First year must include MUSE 120-121 or MUSI 274-275 -Strings or Brass in class. *ALL BME KEYBOARD, VOICE & STRING must take 1 semester only of 155A-MARCHING BAND*

	Course	Credits

	MUSE 120 - Techs: String Inst in Class I (R-2) Offered autumn. Group instruction for beginning students on violin, viola, cello and bass, with emphasis on teaching procedures.	1 Credits
	MUSE 121 - Techs: String Inst in Class II (R-2) Offered spring. Prereq., MUSE 120. Continuation of MUSE 120.	1 Credits
	MUSE 123 - Techniques: Voice Offered autumn. This course examines vocal function and issues associated with the physical processes of singing such as alignment, breathing, creating sound, amplifying (resonating) sound. Additionally, students will learn basic information about becoming a voice teacher (or choral director). Students will also learn about singers' diction, voice classification, and the appropriate assigning of solo classical repertoire.	1 Credits
	MUSE 274 - Techniques: Upper Brass (R-2) Offered autumn. Basic instruction in trumpet and horn, with emphasis on teaching procedures.	1 Credits
	MUSE 275 - Techniques: Lower Brass Offered spring. Basic instruction in trombone, baritone, and tuba, with emphasis on teaching procedures.	1 Credits
	MUSI 105 - Music Theory I Offered autumn. Coreq., MUSI 140. Material and structure of music. Application of principles in tow-, three-, and four-part writing and the keyboard.	2 Credits
	MUSI 106 - Music Theory II Offered spring. Prereq., MUSI 105. Coreq., MUSI 141. Continuation of MUSI 105.	2 Credits
	MUSI 135A - Keyboard Skills I Offered autumn. Music reading, techniques, and harmonization skills acquired through study of solo and ensemble repertoire in a contemporary electronic piano laboratory.	1 Credits
	MUSI 136A - Keyboard Skills II Offered spring. Prereq., MUSI 135A. Continuation of MUSI 135A.	1 Credits
	MUSI 140 - Aural Perception I Offered autumn. Coreq., MUSI 105. A laboratory course in singing and dictation to supplement Theory I.	2 Credits
	MUSI 141 - Aural Perception II Offered spring. Prereq., MUSI 140; coreq., MUSI 106. Continuation of MUSI 140.	2 Credits
	MUSI 155A - Marching: Grizzly Marchng Band Offered autumn. See MUSI 112A for repeatability limitations. A musical organization of brass, woodwinds, percussion, and auxiliary units open to all University students with no audition required.	1 Credits

	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 202L - Intro to Music Literature Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUSI 101L and 202L.	3 Credits
Minimum Required Grade: C-		19-24 Total Credits Required

2nd year

Rule: See commentary

Note: 2nd year BME classes required: MUSI 295 applied studies 1 credit each semester for a total of 2 credits 2nd year. Also required for 2nd year MUSE 120-121 or MUSE 274, 275 Woodwinds in class and Strings or Brass in class for a total of 2 credits.
in the second year of classes MUSI 296-01 Upper Division Required Performance must be completed to move on to upper division classes.
Apply for admission to Teacher Education Program during second year.
String Voice, and Piano principals required to take only 1 credit of Marching Band MUSI 155.

	Course	**Credits**
	MUSE 120 - Techs: String Inst in Class I (R-2) Offered autumn. Group instruction for beginning students on violin, viola, cello and bass, with emphasis on teaching procedures.	1 Credits
	MUSE 121 - Techs: String Inst in Class II (R-2) Offered spring. Prereq., MUSE 120. Continuation of MUSE 120.	1 Credits
	MUSE 272 - Techniqus: Flute & Single Reed Composers are expected to bring new musical ideas, sketches, and eventually finished pieces to the workshop, while performers are expected to read, critique, practice, and finally perform the new works.	1 Credits
	MUSE 273 - Techniques: Double Reed (R-2) Offered autumn. Basic instruction in oboe and bassoon, with emphasis on teaching procedures.	1 Credits
	MUSE 274 - Techniques: Upper Brass (R-2) Offered autumn. Basic instruction in trumpet and horn, with emphasis on teaching procedures.	1 Credits
	MUSE 275 - Techniques: Lower Brass Offered spring. Basic instruction in trombone, baritone, and tuba, with emphasis on teaching procedures.	1 Credits

	MUSI 155A - Marching: Grizzly Marchng Band Offered autumn. See MUSI 112A for repeatability limitations. A musical organization of brass, woodwinds, percussion, and auxiliary units open to all University students with no audition required.	1 Credits
	MUSI 195 - Applied Study I (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering MUSI 195 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 205 - Music Theory III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 240. Continuation of MUSI 106.	2 Credits
	MUSI 206 - Music Theory IV Offered spring. Prereq., MUSI 205; coreq., MUSI 241. This course is a continuation of MUSI 205, concentrating on, but not limited to, music as defined by and expressed in the Western European historical traditions from the Renaissance through the common practice period to the contemporary musical world in which we live.	2 Credits
	MUSI 235 - Keyboard Skills III Offered autumn. Prereq., MUSI 136A or equiv. Continuation of MUSI 136A.	1 Credits
	MUSI 236 - Keyboard Skills IV Offered spring. Prereq., MUSI 235. Continuation of MUSI 235, culminates in piano functional examination.	1 Credits
	MUSI 240 - Aural Perception III Offered autumn. Prereq., MUSI 106 and 141; coreq., MUSI 205. A lab course in singing and dictation to supplement Theory III.	2 Credits
	MUSI 241 - Aural Perception IV Offered spring. Prereq., MUSI 240; coreq., MUSI 206. See MUSI 240.	2 Credits
	MUSI 296 - Piano Prof Assessment Repeat 8 times. All majors pursuing a B.M. or B.M.E. degree must successfully complete all sections of the Piano Proficiency Assessment in order to attain upper-division standing in music. The eight-part exam is administered at the end of each semester. Successfully completed assessments will receive a grade of CR.	
	MUSI 301H - Music History I Offered autumn. Prereq., MUSI 202L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.	3 Credits
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits
Minimum Required Grade: C-		21-27 Total Credits Required

3rd year

Rule: All courses required

Note: Required for 3rd year BME study: MUSI 395 applied studies 1 credit for Fall semester the third year. MUSI 102A for 1 credit Spring semester the third year.

	Course	Credits
	MUSE 126 - Techs: Percussn Instruments I (R-2) Offered autumn. Basic instruction in percussion instruments, with emphasis on teaching procedures.	1 Credits
	MUSE 127 - Techs: Percussn Instruments II (R-2) Offered spring. Prereq., MUSE 126. Continuation of MUSE 126. Basic instruction in percussion instruments, with emphasis on teaching procedures.	1 Credits
	MUSE 333 - Gen Music Methods & Materls I Offered autumn. Prereq., upper-division standing in music and C&I 200. Development of practical knowledge to effectively instruct and administer general music classes in the public schools, grades K-12.	2 Credits
	MUSE 334 - Gen Music Methods & Materls II Offered spring. Prereq., upper-division standing in music and EDU 202. Continuation of MUSE 333.	2 Credits
	MUSE 497 - Methods: Choral & Literature Offered Spring. Prereq., upper-division standing in music and MUSE 123. Development of strategies for directing the secondary choral ensemble. Focus on rehearsal techniques and literature selection for the developing choir.	2 Credits
	MUSI 102A - Performance Study Offered autumn and spring. Prereq., consent of instr. Individual instruction in voice, piano, organ, harpsichord, carillon, string, wind and percussion instruments. A total of 6 credits is allowed in any one performance area. All private instruction requires concurrent ensemble participation.	1 To 2 Credits
	MUSI 335 - Instrumental Conducting (R-4) Offered spring. Prereq., upper-division standing in music. Conducting methods and practice. Teaching methods and materials.	2 Credits
	MUSI 336 - Choral Conducting (R-4) Offered autumn. Prereq., upper-division standing in music. A study of the techniques of choral conducting. Emphasis on issues encountered in various ensemble settings.	2 Credits
	MUSI 395 - Applied Study III (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of MUSI 295. All private instruction requires concurrent ensemble participation.	1 To 4 Credits
	MUSI 440 - Orchestration Offered autumn. Prereq., upper-division standing in music. Orchestrating and transcribing for orchestra and band instruments.	2 Credits
Minimum Required Grade: C-		18-20 Total Credits Required

4th year

Rule: All courses required

Note: Required for 4th year BME study: MUSI 102A one credit Fall semester for the fourth year study.
All students majoring in music are required to attend in a minimum of 100 approved recitals/concerts prior to graduation. During the 4th year in an undergraduate degree program and upon completion of this requirement, students should register for MUSI 388, 0 cr.

	Course	Credits
	MUSE 425 - Technology and Materials Offered autumn semesters, as an elective. The course will provide in-depth examination of technology and print resources appropriate for use in music classrooms K-12, all areas and ensembles. Students will work independently and collaboratively to reflect upon, discuss, and practice utilizing technology and print resources for the music classroom (K-12).	2 Credits
	MUSI 102A - Performance Study Offered autumn and spring. Prereq., consent of instr. Individual instruction in voice, piano, organ, harpsichord, carillon, string, wind and percussion instruments. A total of 6 credits is allowed in any one performance area. All private instruction requires concurrent ensemble participation.	1 To 2 Credits
	MUSI 388 - Concert Attendance UM All music majors pursuing a B.M., B.M.E., or B.A. degree must attend in a minimum of 100 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.	
Minimum Required Grade: C-		3-5 Total Credits Required

3rd and 4th Year Education Department Requirements

Rule: All courses required

Note: Students must be formally admitted to the Teacher Education Program to take Education courses. See the Department of Curriculum and Instruction in the College of Education and Human Sciences for more information. EDU 494 is taken for 1 cred and EDU 495 is taken for 14 credits. These two education classes are taken the last semester of study.

	Course	Credits
	EDU 202 - Early Field Experience Offered autumn and spring. Prereq., admission to Teacher Education Program in secondary and K-12. Guided introductory field experience for students committed to teaching as a profession. Connects field experience to content of co-requisite theory classes. Seminars include professional development portfolio, developmental level of students, diversity, learning/teaching strategies, motivation, classroom management, and assessment of learning.	1 Credits

	EDU 221 - Ed Psych & Measuremnt Offered autumn and spring. Prereq., admission to Teacher Education program in secondary and K-12. Analysis of fundamental psychological concepts underlying classroom teaching and management, learning and evaluation including educational measurement. Emphasis on cognition, developmental, and motivational aspects of learning.	3 Credits
	EDU 345 - Excptnlty & Clsrm Mgmt Offered autumn and spring. Prereq., Admission to the Teacher Education Program in secondary and K-12. Focus on classroom management and the characteristics and instructional adaptations for exceptional students in the regular classroom. Addresses the Individuals with Disabilities Education Act and subsequent reauthorizations, presents practices for working with students who are at-risk and students with disabilities in inclusive settings, and includes technological considerations.	3 Credits
	EDU 395 - Clinical Experience (R-4) Offered autumn and spring. Prereq., admission to the Teacher Education Program. Arranged field experience and seminar focusing on applying content from the co-requisite courses. This course number is used for multiple clinical experiences. Check the class schedule or with your advisor regarding the appropriate section. Elementary Education Majors: EDU 395 Clinical Experience Level 1 must be taken concurrently with Level 1 courses. EDU 395 Clinical Experience Level 2 must be taken concurrently with Level 2 courses. Secondary and K-12 Licensure Students: EDU 395 Clinical Experience K-8 and EDU 395 Clinical Experience 9-12 have a prerequisite of an initial field experience and should be taken concurrently with a secondary or K-12 methods course.	1 Credits
	EDU 407E - Ethics & Policy Issues Offered every term. Prereq., admission to Teacher Education Program and EDU 202 or EDU 395. Practical application of ethical principles of the teaching profession. Analysis of the American public school and major policy issues from historical, legal, political, social as well as ethical perspectives.	3 Credits
	EDU 494 - Seminar:Refl Pract & App Rsrch (R-9) Required seminar during student teaching. Prereq., admission to the Teacher Education Program. Focuses on learning to conduct research on P-12 student performance to determine teaching effectiveness. Includes on-campus and/or on-line planning, conducting, and analyzing classroom practice.	1 To 9 Credits
	EDU 495 - Student Teaching (R-14) Offered autumn and spring. Arranged capstone clinical experience required for all professional licensure students. Prereq., admission to the Teacher Education Program, completion of all required field experiences and methods courses, an application to student teach, and the consent of the Director of Field Experiences. In addition, elementary education majors must complete all coursework in all previous levels. Secondary and K-12 licensure students must complete at least two-thirds of content coursework and receive approval by departments in their major and minor content areas.	1 To 14 Credits

Minimum Required Grade: C-	26-34 Total Credits Required

1st and 2nd year Education Requirements

Rule: Course required

Note: Apply for Admission to Teacher Education Program during second year

	Course	Credits
	HEE 233 - Health Issues Child/Adol Offered every term. Overview of current health issues affecting children and adolescents. Focus is on educational and preventive measures that can be implemented by teachers and schools through comprehensive school health education programs.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

1st and 2nd year Ensembles

Rule: All courses required

Note: Ensembles - MUSI 108A -114A, +162A, #191, + guitar principals only #piano principals only required one credit each semester for two credits each year.
All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)
Majors whose principal performance area is wind/percussion must register for:
•MUSI 114A (MUS 110A), section 1, Symphonic Wind Ensemble (or MUSI 114A (MUS 110A), section 2, University Concert Band, or MUSI 108A (MUS 108A), section 1, University Orchestra, if designated by the Director, every semester.
String majors must register for:
• MUSI 108A (MUS 108A), section 1, University Orchestra, every semester.
B.M.E. voice majors must take a minimum of:
• 6 credits in MUSI 112 (MUS 107A), section 1 (University Choir)
Ensemble requirements for piano and organ are listed separately for each curriculum.

	Course	Credits
	MUSI 108A - Orchestra: UMSO Offered autumn and spring. See MUSI 112A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.	1 Credits
	MUSI 110A - Opera Theatre I (R-8) Offered autumn and spring. Prereq., consent of instr. Study and performance of the standard opera repertoire.	1 Credits
	MUSI 112A - Choir: Chamber Chorale Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of MUSI 112A-114A, 110A/310, 131A/331, and 122A/322 toward graduation.	1 Credits

	MUSI 114A - Band: UM Concert Band Offered autumn and spring. See MUSI 112A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.	1 Credits
	MUSI 162A - Chamber Ensembles I (R-20) Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.	1 Credits
	MUSI 191 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		4-14 Total Credits Required

3rd and 4th year Ensembles

Rule: All courses required

Note: MUSI 308A -314A, + 362A, #491, (+ guitar principals only #piano principals only) 1 credit each semester for a total of two credits the third year. 4th year 1credit fall semester.

	Course	**Credits**
	MUSI 308 - Orchestras II: UM Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 108A for description.	1 Credits
	MUSI 310 - Opera Theatre II (R-8) Offered autumn and spring. Prereq., consent of instr. See MUSI 131A for description.	1 Credits
	MUSI 312 - Choir III: Chamber Chorale Offered autumn and spring. Prereq., upper-division standing in voice. See MUSI 112A for description.	1 To 8 Credits
	MUSI 314 - Band III: UM Concert Band Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUSI 114A for description.	1 Credits
	MUSI 362 - Chmbr Ens III: UM Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
	MUSI 491 - Special / Experimental Courses (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
Minimum Required Grade: C-		3-21 Total Credits Required

Musicrequired English Writing Skills

Rule: All courses required

	Course	**Credits**

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		

Upper Division Writing Expectation

Rule: One course for 3 credits required

Note: You should take a 400 level (415, 416 or 417) Music History writing class to satisfy the upper-division writing expectation for 3 credits.

	Course	**Credits**
	MUSI 415 - Music 20th Century to Present Offered intermittently. Prereq., MUSI 302H and upper-division standing in music. Detailed analysis and comparison of selected instrumental, vocal and keyboard compositions of the 20th Century.	3 Credits
	MUSI 416 - Topics in Music History (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.	3 Credits
	MUSI 417 - Cultural Studies in Music (R-3) Offered intermittently. Prereq. MUSI 302H and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.	3 Credits
Minimum Required Grade: C-		3-9 Total Credits Required

Lower division Writing Expectation

Rule: All courses required

	Course	**Credits**
	MUSI 302H - Music History II Offered spring. Prereq., MUSI 202L. The history of music in Western civilization from 1750 to modern times. See MUSI 301H.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

Music Requirements for Mathematics

Rule: All courses required

Note: M couse 100 or above

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Modern & Classical Languages

Rule: All courses required

Note: Exception to Modern and Classical Language Requirement-Symbolic Systems - MUSI 105, 106, 140,141

Minimum Required Grade: C-

Music Requirements for Symbolic Systems

Rule: All courses required

Note: The competency for Symbolic Systems is also satisfied within the music major curriculum. Music History 302H satisfies your lower-division writing requirement.

Minimum Required Grade: C-

Music Requirements for Expressive Arts

Rule: All courses required

Note: A Courses - (min. of 3 credits) Ensembles taken each semester satisfy this requirement.

Minimum Required Grade: C-

Music Requirements for Literary & Artistic Studies

Rule: All courses required

Note: Literary and Artistic Studies - L Courses - (min. of 3 credits) MUSI 202L taken in the 1st year satisfies this requirement.

Minimum Required Grade: C-

Music Requirements for Historic & Cultural Studies

Rule: All courses required

Note: Historical and Cultural Studies and American and European Perspectives - H/Y Course - (min. of 3 credits) MUSI 301H - 302H taken in the 2nd year satisfy this requirement.

Minimum Required Grade: C-

Music Requirements for Social Sciences

Rule: All courses required

Note: Social Sciences - S Courses - (min. of 3 credits)

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Ethical and Human Values

Rule: All courses required

Note: Ethical and Human Values - E Courses - (min. of 3 credits) EDU 407E taken the 3rd or 4th year satisfies this requirement.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Indigenous & Global Perspectives

Rule: All courses required

Note: Indigenous and Global Perspectives - X Courses - (min. of 3 credits) A Native American Studies Course with an X is required for Education Degree. NASX 105 is recommended.

Minimum Required Grade: C-

3 Total Credits Required

Music Requirements for Natural Sciences

Rule: All courses required

Note: Natural Science - N Courses - 6 credits, choice made from course catalog credits required and at least one course must include a lab experience

Minimum Required Grade: C-

6 Total Credits Required

Media Arts

Mark Shogren, Director

The School of Media Arts has degree programs at both undergraduate and graduate levels. The undergraduate program offers a B.A. degree that consists of a uniquely integrated curriculum centered in digital technology as a storytelling and artistic medium. The course of instruction is comprehensive and combines the areas of digital filmmaking and integrated digital media. The undergraduate program also offers a B.F.A. degree with specializations in Digital Filmmaking, Integrated Digital Media, Animation, and Sonic Arts. The graduate program offers an M.F.A., which provides an intensive, dedicated program in either Digital Filmmaking or Integrated Digital Media. The Digital Filmmaking track offers the student comprehensive training in the areas of writing, directing and editing. The Integrated Digital Media track focuses on the areas of digital compositing, digital image design, animation, and interactive digital media. In addition, the School has a comprehensive Media Arts Minor program and a substantial number of on-line courses and elective summer classes that provide students the opportunity to enhance the artistic part of their educational experience. For more information on the academic programs and to experience the creative work of Media Arts undergraduate and graduate students please visit our website at: http://www.umt.edu/mediaarts.

Department Faculty

Professors

Richard Hughes, Director, Academic Affairs
Michael Murphy, Professor
Mark Shogren, Director, School of Media Arts

Associate Professors

Andrew Smith, Associate Professor
Gregory Twigg, Associate Professor

Assistant Professors

Talena Sanders, Assistant Professor

Adjunct Faculty

Tobin Addington, Adjunct Assistant Professor - Media Arts; Film Studies
Geoff Cole, Content Manager/UI Designer
Jason Gutzmer

Media Arts-Filmmaking

Back to Top

- MAR 252 - Screenwriting

  Credits: 3. Offered autumn. Prereq., Media Arts Major. Intermediate level writing class devoted to short films, with an emphasis on writing camera-ready scripts for spring production. Feature film structure and techniques also discussed.

- MAR 335 - Experimental Animation

  Credits: 3. Offered Spring. This course focuses on the development and creation of experimental animation projects using traditional stop motion animation techniques such as hand drawn, silhouette, object and clay. Projects created in this class may have elements created using iStopmotion, Dragonframe and other digital capture platforms. Open to Media Arts majors only.

- MAR 415 - Short Form Screenwriting

  Credits: 3. Offered Autumn. Media Arts majors only. Intermediate level writing class devoted to short films, with an emphasis on writing camera-ready scripts for spring production. Feature film structure and techniques are also discussed.

- MAR 442 - Experimental Film

  Credits: 3. Offered autumn. Media Arts majors only. Surveying a wide range of experimental cinema (film/video) from the 1920's to the present with the central focus being artistic practice in the context of historic and cultural concerns. Students will also create projects focusing on exploring film/video both as a form of personal expression and as a medium, rather than as mass entertainment.

- MAR 443 - Documentary

  Credits: 3. Offered autumn. Designed to bring together Film Studies students (theorists) and Media Arts students (filmmakers) so they may draw from their respective fields to collaborate on the production of documentaries. After exposure to both documentary history and criticism, students will be required to work with a team of producers in learning the basic skills involved in documentary production.

- MAR 456 - Directing

  Credits: 3. Offered autumn. Media Arts majors only. Developing, directing and editing a five to seven minute fiction movie. In depth work on creation of shooting script, casting, work with actors and location work. Emphasis on collaborative process and diligence and preparation in all levels of production.

- MAR 470 - Adv. Acting for Film I

  Credits: 3. Offered autumn. The class is introduces the student to acting techniques needed to work competently in realistic film work. It consists of acting in several exercises and scenes shot in the studio, as well as research into different film acting styles.

- MAR 471 - Adv. Acting for Film II

  Credits: 3. Offered spring. A project-based course that combines actors and directors in the collaborative creation of a short fiction film.

Media Arts

Back to Top

- MART 101L - Intro to Media Arts

  Credits: 3. Offered every term. Overview of the media arts and their interaction, integration and development in the creation of story beginning with the early years of photography and movie-making through the introduction of radio and television up to the digital revolution. Course Attributes: Lit & Artistic Studies (L)

- MART 102 - Digital Technology in the Arts

  Credits: 3. Offered every term. An introduction to the relationship between aesthetics and the emerging capacities of digital technology. The course will explore the basic evolution of hardware, system software, and the Internet and will present a brief history of the pioneers of both traditional and digital art. It will also look at contemporary and emerging trends in the artistic application of digital technology.

- MART 111A - Intro to Photoshop

Credits: 3. Offered every term. Online Course. This project-oriented design and compositing course introduces students to the fundamentals of Adobe Photoshop while focusing on artistic expression in a digital technology environment. Course Attributes: Expressive Arts Course (A)

- MART 112A - Introduction to Film Editing

  Credits: 3. Offered every term. Study of the history, process and philosophy of narrative film/video editing and an introduction to Final Cut nonlinear editing software. Course Attributes: Expressive Arts Course (A)

- MART 230 - Introduction to Still Image

  Credits: 3. Offered every term. This course provides a thorough introduction to the practices of capturing digital still imagery through scanning, photography, internet acquisition and mobile devices. Emphasis on content, composition, and digital manipulation of images is applied through the creation of various still-image projects. Digital capture techniques, project planning, narrative, and the integration of various forms of digital design are fundamental components of this course.

- MART 235 - Fundamentals of Type

  Credits: 3. Offered every semester. This course is a study of the design and use of basic letterforms, anatomical features, hierarchy of information, major type families and characteristics, and the understanding of typographic grids. Students will learn the historical significance of letterforms and their origins to help fully understand how to use typography correctly within their works and designs. Students will gain experience in the art of typesetting and typographic layout, and learn the necessary skills for expressive typography, conceptual thinking and effective communication.

- MART 255 - Photoshop: Art and Design

  Credits: 3. Offered every term. Online Course. This project-based course explores a variety of design principles and techniques through Adobe Photoshop.

- MART 256 - Illustr: Vector and Layout Des

  Credits: 3. Offered every term. An introduction to the basic principles and techniques of still image design and manipulation using Adobe Illustrator, the industry leading application for creating vector-based content. This project-based course demystifies the powerful Illustrator toolsets and workspace and enables students to actualize their ideas by helping them to develop an efficient production process. No prerequisites required.

- MART 300 - Visions of Film

  Credits: 3. Offered spring. Media Arts majors only. Study of major film theories that led to the constitution of visual film language and their application in contemporary film narrative and direction. Course Attributes: Writing Course-Intermediate

- MART 301 - Media Arts Practices

  Credits: 1 TO 6. (R-6) Offered autumn. Prereq., Media Arts majors only. Practical application of the principles of production through work on graduate and upper level undergraduate projects, either as a crew member, production manager, designer, editor, director of photography or actor.

- MART 302 - Intro to Motion Design

  Credits: 3. Offered spring. Media Arts majors only. This project-oriented course will introduce students to the basic technical and aesthetic components of digital motion design using the industry standard software programs Photoshop and After Effects.

- MART 304 - Modern Horror Film

  Credits: 3. Offered every term. Online Course. This class explores the changing landscape of the horror film since 1960, studying the movies in filmic terms (Acting, Directing, Cinematography, Music, etc.) and sociological importance. Through online discussions, selected readings, multimedia projects, and video lectures, we will seek to understand the often-controversial genre of horror.

- MART 305 - 3D Animation I

  Credits: 3. Offered Autumn. This course is an introduction to fundamental concepts, principles, and practices of 3D digital modeling with Maya. Students will develop 3D modeling techniques, including production of geometric and organic objects. Through lectures, tutorials, in-class exercises and projects, students will be exposed to various techniques that may be used for innovative and artistic content such as filmic animation and compositing. Open to Media Arts majors only.

- MART 320 - Art of Photoshop

Credits: 3. Offered every term. Online Course. Pre-requisite MAR 230 or consent of instructor. This course provides an understanding of the use of Photoshop as an artistic tool. Exercises and projects will explore areas of customizing & combining tools, depth & perspective, and graphic elements (including text & paths), and will be based on effective production techniques, project planning, and the artistic principles of color theory, content, and layering.

- MART 323 - 3D Motion Design I

  Credits: 3. Offered autumn. Media Arts majors only. Introduction to fundamental concepts, principles and practices of digital compositing and rendering in order to establish a common aesthetic and technical language necessary to develop quality time-based art and design.

- MART 324 - Stop Motion Animation

  Credits: 3. Offered winter and summer sessions. Guides students through the active creation of several individual stop motion animation projects while developing their knowledge and expertise in traditional stop motion animation techniques using modern computing technology.

- MART 325 - Intro to Animation

  Credits: 3. Offered spring. Media Arts majors only. Introduction to two-dimensional digital animation, focusing on character and motion design animation fundamentals including: cell animation (frame by frame), motion-tweening, working with key frames and motion paths, moving elements on a 2D stage, object choreography and text animation.

- MART 327 - Intro to Cinematography

  Credits: 3. Offered spring. Media Arts majors only. Preliminary study of digital cinematography including color theory, composition, lens choice, continuity, camera movement/support, lighting for film and video, and grip in both studio and location situations.

- MART 332 - Introduction to Film Scoring

  Credits: 3. Media Arts / Music Majors only. Intro to Film Scoring focuses on the role of music in movies. It covers composition, orchestration, and dramatic techniques and how they integrate with the elements of dramatic action. Students will analyze iconic movies and scores and working with media arts film students, create two original film scores. Media Arts / Music Majors only.

- MART 333 - 3D Animation II

  Credits: 3. Offered Spring. Building on the modeling skills learned in 3D Animation I, this course teaches students how to animate, texture map, add visual effects and render. The course will also cover advanced rigging techniques. As a continuation of this series, students will be introduced to animation, dynamics (including particle and fluid systems), and MEL scripting. Open to Media Arts majors only.

- MART 335 - Experimental Animation

  Credits: 3. Offered spring. This course focuses on the development and creation of experimental animation projects using traditional stop motion animation techniques such as hand drawn, silhouette, object and clay. Projects created in this class may have elements created using iStopmotion, Dragonframe and other digital capture platforms. Open to Media Arts majors only.

- MART 336 - Directing the Fic Film

  Credits: 3. Offered autumn. Media Arts majors only. Developing, directing and editing a five to seven minute fiction movie. In depth work on creation of shooting script, casting, work with actors and location work. Emphasis on collaborative process and diligence and preparation in all levels of production.

- MART 340 - Princ of Interactive Media

  Credits: 3. Offered spring. Media Arts majors only. This course is designed to help students gain the skill sets necessary to successfully create work in the constantly evolving internet environment. It covers the fundamentals of website structure, content design and navigation and focuses on directory structure, visual design, user navigation, audio/video integration and domain management.

- MART 341 - Intro to Web Design

  Credits: 3. Offered every term. Online Course. Students will gain necessary skills in this introduction to the fundamentals of website structure, content design and navigation. Areas of focus will be directory structure, visual design, user navigation, audio/video integration and domain management. This course is open to all university students and geared to non-majors.

- MART 342 - Art & Sci of Interactive Games

Credits: 3. Offer every term. Online course. This class is an introduction to the technological achievements and artistic and social impacts involved with the development of interactive games. It will cover the evolution of the gaming profile and the advanced visual, sonic and narrative properties that make interactive games the explosive growth industry that is today.

- MART 355 - Experimental Documentary Media

  Credits: 3. In this course, students will explore the state of contemporary documentary media through investigating new approaches to integrating narrative content in documentary, interactive documentary, avant-garde documentaries, sensory filmmaking, and experiments in collaborating with documentary subjects. The focus of this course is to expand students' understanding of the possibilities of the documentary genre. Selected films, film history and theory will encourage students toward a more expansive definition of documentary practice, while considering how they might create new work in documentary arts.

- MART 391 - Special Topics

  Credits: 1 TO 12. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- MART 395 - Practicum I

  Credits: 3. Offered every term. This course offers the student the opportunity to apply their media arts skill sets and techniques to a variety of professional level projects that include movies, web site design, and still image design. Course Attributes: Internships/Practicums

- MART 416 - Production Studio I

  Credits: 3. Offered Autumn. Prereq., Media Arts major. This course offers a thorough look at storyboarding/previsuals, idea sketches and writing synopsis, as well as identity and promotion of finished works. This is also an opportunity for the student to begin production of the projects that will be continued in MART 457 Postproduction Studio.

- MART 422 - Digital Compositing II

  Credits: 3. Offered spring. Media Arts majors only. Combines the common aesthetic and technical language with solid design principles. Students immerse themselves in the making of a body of integrated-digital 3D work that explores the technical and aesthetic possibilities of multi-layered x y z plane actualizations.

- MART 425 - 3D Motion Design II

  Credits: 3. Offered autumn. Media Arts majors only. Advanced techniques of 3D motion graphics and animation.

- MART 432 - Techniques of Film Scoring

  Credits: 3. Prereq., MART 332. Focuses on the role of music in movies and expands upon the work accomplished in MART 332. It covers composition, orchestration, and harmonic techniques and integrates these with the elements of dramatic action. Students will work with media arts film students to actualize these techniques by creating original film scores of short scenes. The course will include a student project gallery, a peer review area, downloadable videos specific to the curriculum and a wide variety of online resources applicable to the subject matter.

- MART 436 - Producing

  Credits: 3. The secret history of great filmmakers is the history of great producers working behind the scenes to give the director the freedom and the resources to focus on his or her “vision.” The director’s job is everything “in” the frame; the producer’s job is everything outside the frame. This class asks: how does one produce a film? What do producers do, anyway? Why are there so many of them (what are their duties)? Why do they do it? And most importantly: HOW do they do it? This class creates structures and techniques for students to create more viable film productions; it also invites a number of guest speakers to share their experiences and advice about filmmaking. Most of these speakers are producers, or work in the world of film production and development.

- MART 440 - Tech Interactive Media Design

  Credits: 3. Offered spring. Media Arts majors only. Pre-requisite MAR 340. Advanced interactive media design class that builds on the foundation of principles taught in MAR 340.

- MART 441 - Web Technologies

  Credits: 3. Offered every term. This online advanced web technologies course will explore the latest in HTML5 and CSS3 in order to creating complex interactive functions and user experiences. Gaining an understanding of the overall environment of web design technologies will allow for a more integrated set of web design skills and a greater understanding of how the internet works.

- MART 445 - Sound for Digital Media

  Credits: 3. Offered spring. Media Arts majors only. This course is targeted at the Integrated Digital Media student and introduces fundamental concepts, principles and practices of digital sound recording and editing. This will enable students to expand their aesthetic by integrating their sonic and visual creative work.

- MART 446 - Sound for Film

  Credits: 3. Offered spring. Media Arts majors only. This course is targeted at the Digital Filmmaking student and introduces fundamental concepts, principles and practices of digital location sound recording and post-production editing to picture in order to establish a common aesthetic and technical language.

- MART 450 - Topics in Film/Media Studies

  Credits: 3. Offered spring. Media Arts majors only. Research and exploration of contemporary film, video, digital art and design. Focus on areas of student research both in commercial and non-commercial venues and styles. Course Attributes: Writing Course-Advanced

- MART 455 - Visions of Documentary Film

  Credits: 3. Offered spring. Media Arts majors only. Production of short experimental works of non-fiction. Emphasis on pre-production articulation of ideas and goals that lead to competent dramatic footage of actual events and people. Applied concepts: personal point-of-view, metaphor as organizing principle, articulation of subject/thesis, complexity of story, embedded meanings, use of visual motif.

- MART 457 - Production Studio II

  Credits: 3. Offered Spring. Prereq., Media Arts Major. This course covers the principles and techniques of finishing projects. Students will focus on advanced rendering tools, prototype testing, installation and final performances, refined editing/titles/credits, enabling students to leave with a well polished finished project.

- MART 491 - Special Topics

  Credits: 1 TO 12. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- MART 495 - Practicum II

  Credits: 3. Offered every term. This course offers the student the opportunity to apply their media arts skill sets and techniques to a variety of professional level projects that include movies, web site design, and still image design.

- MART 499 - Professional Portfolio

  Credits: 3. Offered spring. Media Arts majors only. This course is intended for senior majors in Media Arts who are ready to develop their physical and online presence, readying them for a strong exit-strategy from their university careers. Students will work on strengthening their professional image through development of digital and physical portfolios, demo reels, identity/branding and personal websites. Topics will also include but not be limited to: internships, resume development, cover letters, artist statements, interviewing process, graduate school and mentorships. Guest lectures and interviews will provide insight into current industry standards, professional workflow and entering the creative workforce. Students should leave this course with all the materials they need to enter the professional world.

- MART 500 - Core Rsrch:Digital Tech in Art

  Credits: 4. Offered autumn. This course explores the relationship between aesthetics and the emerging capabilities of digital technology. It will cover the historical relationship between science and art up to the end of the 20th century and examine the methodology of critical artistic applications. Level: Graduate

- MART 508 - Film Production

  Credits: 4. Offered every term.. Introduction to visual composition, photo and video manipulation and layering on the digital platform. Projects begin with static image composition and move to video time-based work using software-compositing programs. Level: Graduate

- MART 509 - Media Production II

  Credits: 4. Offered spring. Continuation of production and post-production practices and techniques introduced in MAR 508. Level: Graduate

- MART 510 - Core Rsrch: Narr and Expmnts

Credits: 4. Offered spring. This course expands upon the research begun in MAR 500 by exploring the development of emerging 21st century digital technologies and their impact on aesthetics in artistic production. Level: Graduate

- MART 514 - Advanced Composit Tech

  Credits: 4. Offered spring. This course continues the work begun in MAR 422 by furthering the development of artistic principles and practices and culminates in an in-house presentation of graduate level motion design techniques. Level: Graduate

- MART 515 - Digital Post-Production

  Credits: 4. Offered spring. Study and application of the principles of editing narrative. Beginning with animated storyboards created from scenes written by the student, the class edits existing footage in action and dialogue scenes. Study of history of editing as well as analysis of classic editing techniques. Level: Graduate

- MART 520 - Core Research: Peer Teaching

  Credits: 2. This graduate seminar is designed for prospective graduate teaching assistants and will cover techniques and best practices for both in-class and online delivery. Level: Graduate

- MART 522 - Intro to Inter Digi Media

  Credits: 4. Offered autumn. Based upon the research developed in MAR 500 and MAR 510, graduate students will explore and begin to develop artistic applications of interactive digital media, which will culminate in a semester end in-house presentation. Level: Graduate

- MART 523 - Tech in Inter Digi Media

  Credits: 4. Offered spring. This course expands upon the work begun in MAR 522 and will culminate in a semester end public presentation. Level: Graduate

- MART 524 - Compositing Applications I

  Credits: 4. Offered autumn. Based upon the concepts and principles developed in MAR 422 and MAR 514, graduate students will create a compositing project from pre-production through post-production, which will culminate in a semester end in-house presentation. Level: Graduate

- MART 525 - Compositing Applic. II

  Credits: 4. Offered spring. This course expands upon the work begun in MAR 524 and culminates in a semester end public presentation. Level: Graduate

- MART 530 - Core Rsrch: Prof Presentation

  Credits: 3. The purpose of this class is to develop a foundation for your professional media arts practice, to prepare you for seeking career, exhibition, and public presentation opportunities in the field. Level: Graduate

- MART 557 - Advanced Post-Production

  Credits: 4. Offered Fall. Advanced Post Production is a graduate level course designed to provide students with advanced technical and conceptual instruction in non-linear editing for narrative films. The class provides a platform for engaging in conceptual critiques with their films as they are edited as well as a base for professional certification in the Final Cut Pro Application. Level: Graduate

- MART 577 - Film Directing I

  Credits: 4. Offered autumn. Study of dramatic action, human psychology, and the patterns of story as applied to script analysis and directing for film. Level: Graduate

- MART 578 - Graduate Studio

  Credits: 1 TO 6. (R-18) Offered every semester. Each semester students work on individual projects under the supervision of a faculty mentor. Each year begins and ends with a faculty and peer review of projects in progress. Level: Graduate

- MART 579 - Film Directing III

  Credits: 4. Offered autumn. Continuation of video/film directing techniques at a more advanced level, including the creation of a short film. Level: Graduate

- MART 580 - Principals of Cinematography

  Credits: 4. Offered autumn. Intermediate study of digital cinematography including color theory, composition, lens choice, continuity, camera movement/support, lighting for film and video, and grip in both studio and location situations. Level: Graduate

- MART 586 - Screenwriting I
  Credits: 4. Offered autumn. Prereq., MAR 577. Basic development of the short screenplay from idea, through development of characters and action to final shooting script. Level: Graduate
- MART 587 - Screenwriting II
  Credits: 4. Offered spring. Prereq., MAR 586. Continued work in screenwriting at an advanced level. Level: Graduate
- MART 591 - Graduate Practicum
  Credits: 3. Offered every term. This course offers the graduate student the opportunity to expand their media arts skill sets and techniques by working on a variety of professional level projects that include movies, web site design, and still image design. Level: Graduate
- MART 595 - Special Topics
  Credits: 1 TO 6. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, and one-time offerings of current topics. Level: Graduate Course Attributes: Internships/Practicums
- MART 596 - Independent Study
  Credits: 1 TO 6. (R-12) Offered autumn and spring. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student. Level: Graduate Course Attributes: Independent Study
- MART 597 - Research
  Credits: 1 TO 12. (R-12) Offered intermittently. Directed individual research and study appropriate to the back ground and objectives of the student. Level: Graduate
- MART 601 - Final Portfolio Research
  Credits: 3. Offered every semester. Investigation into subjects relevant to the development of the student's Final Portfolio work. Application of qualitative research techniques, with a research presentation or paper due at the end of the semester. Level: Graduate
- MART 680 - Film Directing IV
  Credits: 4. Offered spring. Prereq., MAR 577, 578, 579. Continued advanced work in directing, including the completion of a short film. Level: Graduate
- MART 687 - Final Portfolio I
  Credits: 1 TO 12. Offered autumn. Ongoing production and content work relating to thesis projects. Level: Graduate
- MART 688 - Media Practicum
  Credits: 1 TO 4. (R-12) Offered every term. Pursuit of Practical Experience in Media Arts projects both personal and Professional. Level: Graduate
- MART 690 - Professional Practices
  Credits: 3. (R-6) Offered every term. Work outside of program in an area of professional interest. Level: Graduate Course Attributes: Research & Creative Schlrshp
- MART 699 - Final Portfolio II
  Credits: 1 TO 12. Offered spring. Final work on thesis portfolio. Approval by the student's thesis committee is required for graduation. Level: Graduate

Media Arts Minor

The Media Arts minor program offers an integrated curriculum, centered in digital technology as a storytelling medium. The minor is meant to supplement the work of those undergraduate students whose major area of study can be enhanced through the application of Media Arts principles and technologies and fulfills the prerequisites for those interested in pursuing the B.A. The Media Arts minor is offered both in-class and online. For more information please visit our website at http://www.umt.edu/mediaarts.

Minor - Media Arts (Minor)

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 21
Required Cumulative GPA: 2.0

Required Courses

Rule: Must complete all.

	Course	Credits
	MAR 101L - Intro to Media Arts Offered every term. Overview of the media arts and their interaction, integration and development in the creation of story beginning with the early years of photography and movie-making through the introduction of radio and television up to the digital revolution.	3 Credits
	MAR 112A - Intro to Non-Linear Editing Offered every term. Study of the history, process and philosophy of narrative film/video editing and an introduction to Final Cut nonlinear editing software.	3 Credits
	MART 102 - Digital Technology in the Arts Offered every term. An introduction to the relationship between aesthetics and the emerging capacities of digital technology. The course will explore the basic evolution of hardware, system software, and the Internet and will present a brief history of the pioneers of both traditional and digital art. It will also look at contemporary and emerging trends in the artistic application of digital technology.	3 Credits
	MART 111A - Intro to Photoshop Offered every term. Online Course. This project-oriented design and compositing course introduces students to the fundamentals of Adobe Photoshop while focusing on artistic expression in a digital technology environment.	3 Credits
Minimum Required Grade: C		12 Total Credits Required

Media Arts B.A.

The B.A. program provides a uniquely integrated curriculum that combines the areas of Digital Filmmaking and Integrated Digital Media. The courses in Digital Filmmaking focus on the three primary components of pre-production, production and post-production and include directing, writing, sound design, and editing. The courses in Integrated Digital Media focus on the relationship between digital technology and aesthetics and include still image/motion graphics, compositing, 2D animation, sound design and interactive media. History and theory courses in both areas provide students with a deeper understanding of artistic principles and practices. The undergraduate program has a large production space including a green screen area, three computer labs with 60 total stations and an audio recording room. After completion of the prerequisite courses, there is a G.P.A. gate in effect for admission into the Major. For more information on requirements, please see the B.A. program heading under academics or the Media Arts website at http://www.umt.edu/mediaarts .

Bachelor of Arts - Media Arts

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 45

Required Cumulative GPA: 2.0

Note: Prerequisite courses (MAR 101L, MAR 112A, MART 102, MART 111A) must be completed or be in the process of completion before applying to the B.A. program.

Lower Division Core

Rule: Complete all courses.

	Course	Credits
	MAR 101L - Intro to Media Arts Offered every term. Overview of the media arts and their interaction, integration and development in the creation of story beginning with the early years of photography and movie-making through the introduction of radio and television up to the digital revolution.	3 Credits
	MAR 112A - Intro to Non-Linear Editing Offered every term. Study of the history, process and philosophy of narrative film/video editing and an introduction to Final Cut nonlinear editing software.	3 Credits
	MAR 210 - Creation of Media Story Offered autumn. Media Arts majors only. An introduction to screenwriting and visualization for media story. Focus is on developing visual writing skills and effective utilization of critical story elements.	3 Credits
	MAR 251 - Dig Video Prod Tech Offered autumn. Media Arts majors only. Intermediate study of digital video cameras, lighting, sound, and their use in specific production situations.	3 Credits
	MART 102 - Digital Technology in the Arts Offered every term. An introduction to the relationship between aesthetics and the emerging capacities of digital technology. The course will explore the basic evolution of hardware, system software, and the Internet and will present a brief history of the pioneers of both traditional and digital art. It will also look at contemporary and emerging trends in the artistic application of digital technology.	3 Credits
	MART 111A - Intro to Photoshop Offered every term. Online Course. This project-oriented design and compositing course introduces students to the fundamentals of Adobe Photoshop while focusing on artistic expression in a digital technology environment.	3 Credits
	MART 221 - Fund of Digital Image Design Offered autumn. Media Arts majors only. Introduction to the fundamental concepts, principles and practices of digital still imaging in order to establish a common aesthetic and technical language necessary to develop quality designs on the computer.	3 Credits
Minimum Required Grade: C		21 Total Credits Required

Upper Division Core

Rule: Complete all courses.

	Course	Credits

	MAR 300 - Visions of Film Offered spring. Media Arts majors only. Study of major film theories that led to the constitution of visual film language and their application in contemporary film narrative and direction.	3 Credits
	MAR 456 - Directing Offered autumn. Media Arts majors only. Developing, directing and editing a five to seven minute fiction movie. In depth work on creation of shooting script, casting, work with actors and location work. Emphasis on collaborative process and diligence and preparation in all levels of production.	3 Credits
	MART 302 - Intro to Motion Design Offered spring. Media Arts majors only. This project-oriented course will introduce students to the basic technical and aesthetic components of digital motion design using the industry standard software programs Photoshop and After Effects.	3 Credits
	MART 325 - Fund of Digital Animation Offered spring. Media Arts majors only. Introduction to two-dimensional digital animation, focusing on character and motion design animation fundamentals including: cell animation (frame by frame), motion-tweening, working with key frames and motion paths, moving elements on a 2D stage, object choreography and text animation.	3 Credits
	MART 330 - Principles of Sound Design Offered autumn. Media Arts majors only. Introduction to fundamental concepts, principles and practices of digital sound recording and editing in order to establish a common aesthetic and technical language necessary to develop quality audio design.	3 Credits
	MART 340 - Princ of Interactive Media Offered spring. Media Arts majors only. This course is designed to help students gain the skill sets necessary to successfully create work in the constantly evolving internet environment. It covers the fundamentals of website structure, content design and navigation and focuses on directory structure, visual design, user navigation, audio/video integration and domain management.	3 Credits
	MART 450 - Topics in Film/Media Studies Offered spring. Media Arts majors only. Research and exploration of contemporary film, video, digital art and design. Focus on areas of student research both in commercial and non-commercial venues and styles.	3 Credits
Minimum Required Grade: C		24 Total Credits Required

Digital Filmmarking

The Digital Filmmaking curriculum offers an all-inclusive experience in the areas of pre-production, production and post-production with specific courses designed to fully integrate students into the ever-changing digital world of filmmaking.

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Fine Arts - Media Arts; Track: Digital Filmmaking

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 72

Required Cumulative GPA: 2.0

Note: B.F.A. Digital Filmmaking.

Prerequisite courses (MAR 101L, MAR 112A, MART 102, MART 111A) must be completed or be in the process of completion before applying to the B.A. program.

First year requirements of the B.A. program (MAR 210, MAR 251, MAR 300, MART 221, MART 302, MART 325) must be completed or in progress before applying to the B.F.A. Digital Filmmaking program.

Lower Division Core

Rule: Complete all courses.

	Course	Credits
	MAR 101L - Intro to Media Arts Offered every term. Overview of the media arts and their interaction, integration and development in the creation of story beginning with the early years of photography and movie-making through the introduction of radio and television up to the digital revolution.	3 Credits
	MAR 112A - Intro to Non-Linear Editing Offered every term. Study of the history, process and philosophy of narrative film/video editing and an introduction to Final Cut nonlinear editing software.	3 Credits
	MAR 210 - Creation of Media Story Offered autumn. Media Arts majors only. An introduction to screenwriting and visualization for media story. Focus is on developing visual writing skills and effective utilization of critical story elements.	3 Credits
	MAR 251 - Dig Video Prod Tech Offered autumn. Media Arts majors only. Intermediate study of digital video cameras, lighting, sound, and their use in specific production situations.	3 Credits
	MAR 252 - Screenwriting Offered autumn. Prereq., Media Arts Major. Intermediate level writing class devoted to short films, with an emphasis on writing camera-ready scripts for spring production. Feature film structure and techniques also discussed.	3 Credits
	MART 102 - Digital Technology in the Arts Offered every term. An introduction to the relationship between aesthetics and the emerging capacities of digital technology. The course will explore the basic evolution of hardware, system software, and the Internet and will present a brief history of the pioneers of both traditional and digital art. It will also look at contemporary and emerging trends in the artistic application of digital technology.	3 Credits
	MART 111A - Intro to Photoshop Offered every term. Online Course. This project-oriented design and compositing course introduces students to the fundamentals of Adobe Photoshop while focusing on artistic expression in a digital technology environment.	3 Credits

	MART 221 - Fund of Digital Image Design Offered autumn. Media Arts majors only. Introduction to the fundamental concepts, principles and practices of digital still imaging in order to establish a common aesthetic and technical language necessary to develop quality designs on the computer.	3 Credits
Minimum Required Grade: C		24 Total Credits Required

Upper Division Core

Rule: Complete all courses.

	Course	Credits
	MAR 300 - Visions of Film Offered spring. Media Arts majors only. Study of major film theories that led to the constitution of visual film language and their application in contemporary film narrative and direction.	3 Credits
	MAR 326 - Intro to Cinematography Offered spring. Media Arts majors only. Preliminary study of digital cinematography including color theory, composition, lens choice, continuity, camera movement/support, lighting for film and video, and grip in both studio and location situations.	3 Credits
	MAR 355 - Directing the Fic Film Offered autumn. Media Arts majors only. Developing, directing and editing a five to seven minute fiction movie. In depth work on creation of shooting script, casting, work with actors and location work. Emphasis on collaborative process and diligence and preparation in all levels of production.	3 Credits
	MAR 415 - Short Form Screenwriting Offered Autumn. Media Arts majors only. Intermediate level writing class devoted to short films, with an emphasis on writing camera-ready scripts for spring production. Feature film structure and techniques are also discussed.	3 Credits
	MAR 442 - Experimental Film Offered autumn. Media Arts majors only. Surveying a wide range of experimental cinema (film/video) from the 1920's to the present with the central focus being artistic practice in the context of historic and cultural concerns. Students will also create projects focusing on exploring film/video both as a form of personal expression and as a medium, rather than as mass entertainment.	3 Credits
	MAR 446 - Sound for Film Offered spring. Media Arts majors only. This course is targeted at the Digital Filmmaking student and introduces fundamental concepts, principles and practices of digital location sound recording and post-production editing to picture in order to establish a common aesthetic and technical language.	3 Credits

	MAR 455 - Visions of Documentary Film Offered spring. Media Arts majors only. Production of short experimental works of non-fiction. Emphasis on pre-production articulation of ideas and goals that lead to competent dramatic footage of actual events and people. Applied concepts: personal point-of-view, metaphor as organizing principle, articulation of subject/thesis, complexity of story, embedded meanings, use of visual motif.	3 Credits
	MART 301 - Media Arts Practices (R-6) Offered autumn. Prereq., Media Arts majors only. Practical application of the principles of production through work on graduate and upper level undergraduate projects, either as a crew member, production manager, designer, editor, director of photography or actor.	1 To 6 Credits
	MART 302 - Intro to Motion Design Offered spring. Media Arts majors only. This project-oriented course will introduce students to the basic technical and aesthetic components of digital motion design using the industry standard software programs Photoshop and After Effects.	3 Credits
	MART 325 - Fund of Digital Animation Offered spring. Media Arts majors only. Introduction to two-dimensional digital animation, focusing on character and motion design animation fundamentals including: cell animation (frame by frame), motion-tweening, working with key frames and motion paths, moving elements on a 2D stage, object choreography and text animation.	3 Credits
	MART 330 - Principles of Sound Design Offered autumn. Media Arts majors only. Introduction to fundamental concepts, principles and practices of digital sound recording and editing in order to establish a common aesthetic and technical language necessary to develop quality audio design.	3 Credits
	MART 340 - Princ of Interactive Media Offered spring. Media Arts majors only. This course is designed to help students gain the skill sets necessary to successfully create work in the constantly evolving internet environment. It covers the fundamentals of website structure, content design and navigation and focuses on directory structure, visual design, user navigation, audio/video integration and domain management.	3 Credits
	MART 436 - Producing The secret history of great filmmakers is the history of great producers working behind the scenes to give the director the freedom and the resources to focus on his or her “vision.” The director’s job is everything “in” the frame; the producer’s job is everything outside the frame. This class asks: how does one produce a film? What do producers do, anyway? Why are there so many of them (what are their duties)? Why do they do it? And most importantly: HOW do they do it? This class creates structures and techniques for students to create more viable film productions; it also invites a number of guest speakers to share their experiences and advice about filmmaking. Most of these speakers are producers, or work in the world of film production and development.	3 Credits

	MART 450 - Topics in Film/Media Studies Offered spring. Media Arts majors only. Research and exploration of contemporary film, video, digital art and design. Focus on areas of student research both in commercial and non-commercial venues and styles.	3 Credits
	MART 499 - Professional Portfolio Offered spring. Media Arts majors only. This course is intended for senior majors in Media Arts who are ready to develop their physical and online presence, readying them for a strong exit-strategy from their university careers. Students will work on strengthening their professional image through development of digital and physical portfolios, demo reels, identity/branding and personal websites. Topics will also include but not be limited to: internships, resume development, cover letters, artist statements, interviewing process, graduate school and mentorships. Guest lectures and interviews will provide insight into current industry standards, professional workflow and entering the creative workforce. Students should leave this course with all the materials they need to enter the professional world.	3 Credits
Minimum Required Grade: C		48 Total Credits Required

Animation & Interactive Media

The Animation & Interactive Media curriculum focuses 3D modeling, character animation, motion capture, character rigging, texture and lighting, compositing, etc. Finishing classes in surface texturing, rendering, dynamics, particles and MEL scripting will combine all that students have learned into an animation & Interactive Media portfolio that will demonstrate their ability to create professional quality assets for film, television, video games, and more.

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Fine Arts - Media Arts; Track: Digital Arts & Technology

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 72

Required Cumulative GPA: 2.0

Note: B.F.A. Digital Arts & Technology

Prerequisite courses (MAR 101L, MAR 112A, MART 102, MART 111A) must be completed or be in the process of completion before applying to the B.F.A. program.

Lower Division Core

Rule: Complete all courses.

	Course	**Credits**

	MAR 101L - Intro to Media Arts Offered every term. Overview of the media arts and their interaction, integration and development in the creation of story beginning with the early years of photography and movie-making through the introduction of radio and television up to the digital revolution.	3 Credits
	MAR 112A - Intro to Non-Linear Editing Offered every term. Study of the history, process and philosophy of narrative film/video editing and an introduction to Final Cut nonlinear editing software.	3 Credits
	MAR 210 - Creation of Media Story Offered autumn. Media Arts majors only. An introduction to screenwriting and visualization for media story. Focus is on developing visual writing skills and effective utilization of critical story elements.	3 Credits
	MAR 251 - Dig Video Prod Tech Offered autumn. Media Arts majors only. Intermediate study of digital video cameras, lighting, sound, and their use in specific production situations.	3 Credits
	MART 102 - Digital Technology in the Arts Offered every term. An introduction to the relationship between aesthetics and the emerging capacities of digital technology. The course will explore the basic evolution of hardware, system software, and the Internet and will present a brief history of the pioneers of both traditional and digital art. It will also look at contemporary and emerging trends in the artistic application of digital technology.	3 Credits
	MART 111A - Intro to Photoshop Offered every term. Online Course. This project-oriented design and compositing course introduces students to the fundamentals of Adobe Photoshop while focusing on artistic expression in a digital technology environment.	3 Credits
	MART 255 - Photoshop: Art and Design Offered every term. Online Course. This project-based course explores a variety of design principles and techniques through Adobe Photoshop.	3 Credits
	MART 256 - Illustr: Vector and Layout Des Offered every term. An introduction to the basic principles and techniques of still image design and manipulation using Adobe Illustrator, the industry leading application for creating vector-based content. This project-based course demystifies the powerful Illustrator toolsets and workspace and enables students to actualize their ideas by helping them to develop an efficient production process. No prerequisites required.	3 Credits
Minimum Required Grade: C		21 Total Credits Required

Upper Division Core

Rule: Complete all courses.

Note: Elective: 6 cr.

	Course	**Credits**

	MART 300 - Visions of Film Offered spring. Media Arts majors only. Study of major film theories that led to the constitution of visual film language and their application in contemporary film narrative and direction.	3 Credits
	MART 302 - Intro to Motion Design Offered spring. Media Arts majors only. This project-oriented course will introduce students to the basic technical and aesthetic components of digital motion design using the industry standard software programs Photoshop and After Effects.	3 Credits
	MART 305 - 3D Animation I Offered Autumn. This course is an introduction to fundamental concepts, principles, and practices of 3D digital modeling with Maya. Students will develop 3D modeling techniques, including production of geometric and organic objects. Through lectures, tutorials, in-class exercises and projects, students will be exposed to various techniques that may be used for innovative and artistic content such as filmic animation and compositing. Open to Media Arts majors only.	3 Credits
	MART 325 - Fund of Digital Animation Offered spring. Media Arts majors only. Introduction to two-dimensional digital animation, focusing on character and motion design animation fundamentals including: cell animation (frame by frame), motion-tweening, working with key frames and motion paths, moving elements on a 2D stage, object choreography and text animation.	3 Credits
	MART 330 - Principles of Sound Design Offered autumn. Media Arts majors only. Introduction to fundamental concepts, principles and practices of digital sound recording and editing in order to establish a common aesthetic and technical language necessary to develop quality audio design.	3 Credits
	MART 335 - Experimental Animation Offered spring. This course focuses on the development and creation of experimental animation projects using traditional stop motion animation techniques such as hand drawn, silhouette, object and clay. Projects created in this class may have elements created using iStopmotion, Dragonframe and other digital capture platforms. Open to Media Arts majors only.	3 Credits
	MART 336 - Directing the Fic Film Offered autumn. Media Arts majors only. Developing, directing and editing a five to seven minute fiction movie. In depth work on creation of shooting script, casting, work with actors and location work. Emphasis on collaborative process and diligence and preparation in all levels of production.	3 Credits
	MART 340 - Princ of Interactive Media Offered spring. Media Arts majors only. This course is designed to help students gain the skill sets necessary to successfully create work in the constantly evolving internet environment. It covers the fundamentals of website structure, content design and navigation and focuses on directory structure, visual design, user navigation, audio/video integration and domain management.	3 Credits

	MART 341 - Intro to Web Design Offered every term. Online Course. Students will gain necessary skills in this introduction to the fundamentals of website structure, content design and navigation. Areas of focus will be directory structure, visual design, user navigation, audio/video integration and domain management. This course is open to all university students and geared to non-majors.	3 Credits
	MART 416 - Production Studio I Offered Autumn. Prereq., Media Arts major. This course offers a thorough look at storyboarding/previsuals, idea sketches and writing synopsis, as well as identity and promotion of finished works. This is also an opportunity for the student to begin production of the projects that will be continued in MART 457 Postproduction Studio.	3 Credits
	MART 425 - Tech of Digital Animation Offered autumn. Media Arts majors only. Advanced techniques of 3D motion graphics and animation.	3 Credits
	MART 440 - Tech Interactive Media Design Offered spring. Media Arts majors only. Pre-requisite MAR 340. Advanced interactive media design class that builds on the foundation of principles taught in MAR 340.	3 Credits
	MART 441 - Web Technologies Offered every term. This online advanced web technologies course will explore the latest in HTML5 and CSS3 in order to creating complex interactive functions and user experiences. Gaining an understanding of the overall environment of web design technologies will allow for a more integrated set of web design skills and a greater understanding of how the internet works.	3 Credits
	MART 450 - Topics in Film/Media Studies Offered spring. Media Arts majors only. Research and exploration of contemporary film, video, digital art and design. Focus on areas of student research both in commercial and non-commercial venues and styles.	3 Credits
	MART 457 - Production Studio II Offered Spring. Prereq., Media Arts Major. This course covers the principles and techniques of finishing projects. Students will focus on advanced rendering tools, prototype testing, installation and final performances, refined editing/titles/credits, enabling students to leave with a well polished finished project.	3 Credits
Minimum Required Grade: C		42 Total Credits Required

Sonic Arts

The Sonic Arts curriculum offers an in-depth experience in the design, development and production of sonic artwork and provides a platform for students to integrate their work with both filmmaking and integrated digital media.

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Bachelor of Fine Arts - Media Arts; Track: Sonic Arts

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 72

Required Cumulative GPA: 2.0

Note: B.F.A. Sonic Arts.

Prerequisite courses (MAR 101L, MAR 112A, MART 102, MART 111A) must be completed or be in the process of completion before applying to the B.A. program.

The first year requirements of the B.A. program (MAR 210, MAR 251, MAR 300, MART 221, MART 302, MART 325) and MUST 110 and MUST 210 must be completed or in progress before applying to the B.F.A. Sonic Arts program.

Rule: Complete all courses.

	Course	Credits
	MAR 101L - Intro to Media Arts Offered every term. Overview of the media arts and their interaction, integration and development in the creation of story beginning with the early years of photography and movie-making through the introduction of radio and television up to the digital revolution.	3 Credits
	MAR 112A - Intro to Non-Linear Editing Offered every term. Study of the history, process and philosophy of narrative film/video editing and an introduction to Final Cut nonlinear editing software.	3 Credits
	MAR 210 - Creation of Media Story Offered autumn. Media Arts majors only. An introduction to screenwriting and visualization for media story. Focus is on developing visual writing skills and effective utilization of critical story elements.	3 Credits
	MAR 251 - Dig Video Prod Tech Offered autumn. Media Arts majors only. Intermediate study of digital video cameras, lighting, sound, and their use in specific production situations.	3 Credits
	MART 102 - Digital Technology in the Arts Offered every term. An introduction to the relationship between aesthetics and the emerging capacities of digital technology. The course will explore the basic evolution of hardware, system software, and the Internet and will present a brief history of the pioneers of both traditional and digital art. It will also look at contemporary and emerging trends in the artistic application of digital technology.	3 Credits
	MART 111A - Intro to Photoshop Offered every term. Online Course. This project-oriented design and compositing course introduces students to the fundamentals of Adobe Photoshop while focusing on artistic expression in a digital technology environment.	3 Credits
	MART 221 - Fund of Digital Image Design Offered autumn. Media Arts majors only. Introduction to the fundamental concepts, principles and practices of digital still imaging in order to establish a common aesthetic and technical language necessary to develop quality designs on the computer.	3 Credits

	MUST 110 - Digital Audio & Multitracking Offered autumn and spring. Composition of computer music through recording, editing, and processing sound with digital audio software. Study of the theory and application of digital audio recording, multitracking, and digital signal processing, and electroacoustic music history. Survey of historical and current electronic and computer music composers, pieces, and practices.	2 Credits
	MUST 210 - Sequencng, Synthesis, Sampling Offered autumn. Prereq., MUST 110. Composition of computer music using MIDI sequencing, sampling, and synthesis software, and score preparation using music notation software. Study of the theory and application of MIDI, synthesis algorithms, and effects processing, and the practice of music engraving.	2 Credits
Minimum Required Grade: C		25 Total Credits Required

Rule: Complete all courses.

Note: Also required: MAR 342: Intro to Film Scoring (offered spring, 3 credits) and MAR 442: Film Scoring Techniques (offered spring, 3 credits)

	Course	**Credits**
	MAR 300 - Visions of Film Offered spring. Media Arts majors only. Study of major film theories that led to the constitution of visual film language and their application in contemporary film narrative and direction.	3 Credits
	MAR 446 - Sound for Film Offered spring. Media Arts majors only. This course is targeted at the Digital Filmmaking student and introduces fundamental concepts, principles and practices of digital location sound recording and post-production editing to picture in order to establish a common aesthetic and technical language.	3 Credits
	MAR 465 - Special Projects Offered autumn. Media Arts majors only. Focus on the production of short commercial works, including advertisements, industrial work, “how to” videos, as well as paper projects with potential clients. Students develop a DVD/Web portfolio for entry into the profession upon graduation. The class serves as a synthesis point for analysis and presentation of techniques and principles learned throughout the program.	3 Credits
	MART 301 - Media Arts Practices (R-6) Offered autumn. Prereq., Media Arts majors only. Practical application of the principles of production through work on graduate and upper level undergraduate projects, either as a crew member, production manager, designer, editor, director of photography or actor.	1 To 6 Credits
	MART 302 - Intro to Motion Design Offered spring. Media Arts majors only. This project-oriented course will introduce students to the basic technical and aesthetic components of digital motion design using the industry standard software programs Photoshop and After Effects.	3 Credits

	MART 325 - Fund of Digital Animation Offered spring. Media Arts majors only. Introduction to two-dimensional digital animation, focusing on character and motion design animation fundamentals including: cell animation (frame by frame), motion-tweening, working with key frames and motion paths, moving elements on a 2D stage, object choreography and text animation.	3 Credits
	MART 330 - Principles of Sound Design Offered autumn. Media Arts majors only. Introduction to fundamental concepts, principles and practices of digital sound recording and editing in order to establish a common aesthetic and technical language necessary to develop quality audio design.	3 Credits
	MART 340 - Princ of Interactive Media Offered spring. Media Arts majors only. This course is designed to help students gain the skill sets necessary to successfully create work in the constantly evolving internet environment. It covers the fundamentals of website structure, content design and navigation and focuses on directory structure, visual design, user navigation, audio/video integration and domain management.	3 Credits
	MART 440 - Tech Interactive Media Design Offered spring. Media Arts majors only. Pre-requisite MAR 340. Advanced interactive media design class that builds on the foundation of principles taught in MAR 340.	3 Credits
	MART 445 - Sound for Digital Media Offered spring. Media Arts majors only. This course is targeted at the Integrated Digital Media student and introduces fundamental concepts, principles and practices of digital sound recording and editing. This will enable students to expand their aesthetic by integrating their sonic and visual creative work.	3 Credits
	MART 450 - Topics in Film/Media Studies Offered spring. Media Arts majors only. Research and exploration of contemporary film, video, digital art and design. Focus on areas of student research both in commercial and non-commercial venues and styles.	3 Credits
	MART 499 - Professional Portfolio Offered spring. Media Arts majors only. This course is intended for senior majors in Media Arts who are ready to develop their physical and online presence, readying them for a strong exit-strategy from their university careers. Students will work on strengthening their professional image through development of digital and physical portfolios, demo reels, identity/branding and personal websites. Topics will also include but not be limited to: internships, resume development, cover letters, artist statements, interviewing process, graduate school and mentorships. Guest lectures and interviews will provide insight into current industry standards, professional workflow and entering the creative workforce. Students should leave this course with all the materials they need to enter the professional world.	3 Credits

	MUST 310 - Interactivity Digitl Sgnl Proc Offered spring. Prereq., MUST 210 and upper-division standing in music. Composition of interactive computer music using a graphical programming environment for MIDI, synthesis, and digital signal processing. Study of graphical programming, interactive composition and performance, generating and processing MIDI data, synthesizing computer-generated sound, and processing digital audio in real-time.	2 Credits
	MUST 410 - Computer Music Programming Offered autumn. Upper-division standing in music. Composition of computer music through programming. Study of object oriented programming, synthesis and digital signal processing techniques, music-generating algorithms, sound spatialization, graphical user interface design, and external control.	2 Credits
	MUST 427 - Mtn Electroacoustc Lptp Ens II Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
Minimum Required Grade: C		47 Total Credits Required

Integrated Digital Media

Bachelor of Arts - Media Arts; Track: Integrated Digital Media (online)

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 48
Required Cumulative GPA: 2.0

Lower Division Core Courses

Rule: Complete all courses.

Note: Mar 101L, MAR 112A, MART 102, and MART 111A must be completed prior to registering for the higher level courses listed for this degree.

	Course	**Credits**
	MAR 101L - Intro to Media Arts Offered every term. Overview of the media arts and their interaction, integration and development in the creation of story beginning with the early years of photography and movie-making through the introduction of radio and television up to the digital revolution.	3 Credits
	MAR 112A - Intro to Non-Linear Editing Offered every term. Study of the history, process and philosophy of narrative film/video editing and an introduction to Final Cut nonlinear editing software.	3 Credits

	MART 102 - Digital Technology in the Arts Offered every term. An introduction to the relationship between aesthetics and the emerging capacities of digital technology. The course will explore the basic evolution of hardware, system software, and the Internet and will present a brief history of the pioneers of both traditional and digital art. It will also look at contemporary and emerging trends in the artistic application of digital technology.	3 Credits
	MART 111A - Intro to Photoshop Offered every term. Online Course. This project-oriented design and compositing course introduces students to the fundamentals of Adobe Photoshop while focusing on artistic expression in a digital technology environment.	3 Credits
	MART 255 - Photoshop: Art and Design Offered every term. Online Course. This project-based course explores a variety of design principles and techniques through Adobe Photoshop.	3 Credits
	MART 256 - Intro Illustr for Media Arts Offered every term. An introduction to the basic principles and techniques of still image design and manipulation using Adobe Illustrator, the industry leading application for creating vector-based content. This project-based course demystifies the powerful Illustrator toolsets and workspace and enables students to actualize their ideas by helping them to develop an efficient production process. No prerequisites required.	3 Credits
Minimum Required Grade: C		18 Total Credits Required

Upper Division Core

Rule: Must complete all of the following:courses

Note: MART 340 must be taken prior to registering for MART 440.

	Course	**Credits**
	MART 302 - Intro to Motion Design Offered spring. Media Arts majors only. This project-oriented course will introduce students to the basic technical and aesthetic components of digital motion design using the industry standard software programs Photoshop and After Effects.	3 Credits
	MART 330 - Principles of Sound Design Offered autumn. Media Arts majors only. Introduction to fundamental concepts, principles and practices of digital sound recording and editing in order to establish a common aesthetic and technical language necessary to develop quality audio design.	3 Credits
	MART 340 - Princ of Interactive Media Offered spring. Media Arts majors only. This course is designed to help students gain the skill sets necessary to successfully create work in the constantly evolving internet environment. It covers the fundamentals of website structure, content design and navigation and focuses on directory structure, visual design, user navigation, audio/video integration and domain management.	3 Credits

	MART 341 - Intro to Web Design Offered every term. Online Course. Students will gain necessary skills in this introduction to the fundamentals of website structure, content design and navigation. Areas of focus will be directory structure, visual design, user navigation, audio/video integration and domain management. This course is open to all university students and geared to non-majors.	3 Credits
	MART 342 - Art & Sci of Interactive Games Offer every term. Online course. This class is an introduction to the technological achievements and artistic and social impacts involved with the development of interactive games. It will cover the evolution of the gaming profile and the advanced visual, sonic and narrative properties that make interactive games the explosive growth industry that is today.	3 Credits
	MART 440 - Tech Interactive Media Design Offered spring. Media Arts majors only. Pre-requisite MAR 340. Advanced interactive media design class that builds on the foundation of principles taught in MAR 340.	3 Credits
	MART 450 - Topics in Film/Media Studies Offered spring. Media Arts majors only. Research and exploration of contemporary film, video, digital art and design. Focus on areas of student research both in commercial and non-commercial venues and styles.	3 Credits
	MART 499 - Professional Portfolio Offered spring. Media Arts majors only. This course is intended for senior majors in Media Arts who are ready to develop their physical and online presence, readying them for a strong exit-strategy from their university careers. Students will work on strengthening their professional image through development of digital and physical portfolios, demo reels, identity/branding and personal websites. Topics will also include but not be limited to: internships, resume development, cover letters, artist statements, interviewing process, graduate school and mentorships. Guest lectures and interviews will provide insight into current industry standards, professional workflow and entering the creative workforce. Students should leave this course with all the materials they need to enter the professional world.	3 Credits
Minimum Required Grade: C		24 Total Credits Required

Degree Electives

Rule: Must complete 6 credits from the following courses

Note: Other courses within CVPA or other areas may be taken for elective credit upon approval of the director.

	Course	**Credits**
	MAR 210 - Creation of Media Story Offered autumn. Media Arts majors only. An introduction to screenwriting and visualization for media story. Focus is on developing visual writing skills and effective utilization of critical story elements.	3 Credits
	MAR 251 - Dig Video Prod Tech Offered autumn. Media Arts majors only. Intermediate study of digital video cameras, lighting, sound, and their use in specific production situations.	3 Credits

	MAR 300 - Visions of Film Offered spring. Media Arts majors only. Study of major film theories that led to the constitution of visual film language and their application in contemporary film narrative and direction.	3 Credits
	MART 221 - Fund of Digital Image Design Offered autumn. Media Arts majors only. Introduction to the fundamental concepts, principles and practices of digital still imaging in order to establish a common aesthetic and technical language necessary to develop quality designs on the computer.	3 Credits
	MART 305 - 3D Animation I Offered Autumn. This course is an introduction to fundamental concepts, principles, and practices of 3D digital modeling with Maya. Students will develop 3D modeling techniques, including production of geometric and organic objects. Through lectures, tutorials, in-class exercises and projects, students will be exposed to various techniques that may be used for innovative and artistic content such as filmic animation and compositing. Open to Media Arts majors only.	3 Credits
	MART 325 - Fund of Digital Animation Offered spring. Media Arts majors only. Introduction to two-dimensional digital animation, focusing on character and motion design animation fundamentals including: cell animation (frame by frame), motion-tweening, working with key frames and motion paths, moving elements on a 2D stage, object choreography and text animation.	3 Credits
	MART 332 - Introduction to Film Scoring Media Arts / Music Majors only. Intro to Film Scoring focuses on the role of music in movies. It covers composition, orchestration, and dramatic techniques and how they integrate with the elements of dramatic action. Students will analyze iconic movies and scores and working with media arts film students, create two original film scores. Media Arts / Music Majors only.	3 Credits
	MART 333 - 3D Animation II Offered Spring. Building on the modeling skills learned in 3D Animation I, this course teaches students how to animate, texture map, add visual effects and render. The course will also cover advanced rigging techniques. As a continuation of this series, students will be introduced to animation, dynamics (including particle and fluid systems), and MEL scripting. Open to Media Arts majors only.	3 Credits
	MART 432 - Techniques of Film Scoring Prereq., MART 332. Focuses on the role of music in movies and expands upon the work accomplished in MART 332. It covers composition, orchestration, and harmonic techniques and integrates these with the elements of dramatic action. Students will work with media arts film students to actualize these techniques by creating original film scores of short scenes. The course will include a student project gallery, a peer review area, downloadable videos specific to the curriculum and a wide variety of online resources applicable to the subject matter.	3 Credits
	MUST 110 - Digital Audio & Multitracking Offered autumn and spring. Composition of computer music through recording, editing, and processing sound with digital audio software. Study of the theory and application of digital audio recording, multitracking, and digital signal processing, and electroacoustic music history. Survey of historical and current electronic and computer music composers, pieces, and practices.	2 Credits

	MUST 210 - Sequencng, Synthesis, Sampling Offered autumn. Prereq., MUST 110. Composition of computer music using MIDI sequencing, sampling, and synthesis software, and score preparation using music notation software. Study of the theory and application of MIDI, synthesis algorithms, and effects processing, and the practice of music engraving.	2 Credits
	MUST 310 - Interactivity Digitl Sgnl Proc Offered spring. Prereq., MUST 210 and upper-division standing in music. Composition of interactive computer music using a graphical programming environment for MIDI, synthesis, and digital signal processing. Study of graphical programming, interactive composition and performance, generating and processing MIDI data, synthesizing computer-generated sound, and processing digital audio in real-time.	2 Credits
	MUST 410 - Computer Music Programming Offered autumn. Upper-division standing in music. Composition of computer music through programming. Study of object oriented programming, synthesis and digital signal processing techniques, music-generating algorithms, sound spatialization, graphical user interface design, and external control.	2 Credits
	MUST 427 - Mtn Electroacoustc Lptp Ens II Offered autumn and spring. Prereq., consent of instructor. See MUSI 122A.	1 Credits
Minimum Required Grade: C		6 Total Credits Required

Art

Julia Galloway, Director

The School of Art provides a comprehensive education in studio art, including intensive hands-on studio practice, art history, criticism, and theory. Programs provide thorough professional training for students interested in careers in the field of art.
Degree offerings include the B.A., B.F.A., M.A., and M.F.A. in Art. Areas of specialization are Ceramics, Drawing, Painting, Photography, Printmaking and Sculpture. An M.A. degree in Art with concentrations in Studio Art and/or Art History is also offered, as well as courses that prepare students for licensure for teaching art.

Advanced Placement Policy

All students, including those who have taken AP examinations, must submit a portfolio to challenge art classes. Undergraduate students may challenge foundations courses only (ARTZ 105A (Art 101A), Visual Language-Drawing; ARTZ 106A (ART 102A), Visual Language-2-D Fndtns; and ARTZ 108A (ART 103A), Visual Language-3-D Fndtns).

Portfolios are reviewed at the beginning of each semester. The challenge process waives the requirement to take a specific class, but does not provide any credits. The process of portfolio reviews is as follows: students submit a portfolio of ten .jpeg files or pieces of actual work to the school office two weeks prior to the beginning of the semester. If challenging more than one course, students submit examples of work for each course, for example: ten drawing samples for ARTZ 105A (ART 101A), ten color works for ARTZ 106A (ART 102A), and/or ten 3-D pieces for ARTZ 108A (ART 103A).

Transfer Students

Students with transfer credits from another institution must contact the school director for review of transfer transcripts to assess course equivalents.

Department Faculty

Professors

James Bailey, Professor; Printmaking & Painting/Drawing
Maryann Bonjorni, Professor; Drawing

Katy Cannon, Adjunct Professor
H. Rafael Chacon, Professor; Art History and Criticism
Elizabeth Dove, Professor; Printmaking and Photography
Julia Galloway, Professor
Valerie Hedquist, Professor; Art History and Criticism
Elizabeth Lo, Professor; Ceramics and Drawing
Cathryn Mallory, Professor and Gallery Director

Associate Professors

Bradley Allen, Director of the School of Art; Associate Professor of Sculpture
Kevin Bell, Associate Professor; Painting
Matthew Hamon, Associate Professor; Photography
Trey Hill, Associate Professor; Ceramics

Assistant Professors

Jennifer Combe, Assistant Professor; Art Education

Adjunct Faculty

Steven Krutek, Adjunct Assistant Professor; Foundations and Art Education
Jack Metcalf, Adjunct; Foundations

Art History

Back to Top

- ARTH 160L - Global Visual Culture
  Credits: 3. Offered autumn and spring. An introduction to the visual arts exploring various approaches to understanding art, art history and terminology, techniques and media, motivating factors behind the creative act. Course Attributes: Lit & Artistic Studies (L)
- ARTH 200H - Art of World Civilization I
  Credits: 3. Offered autumn. Survey of the history of visual art from prehistory to 1400. Course Attributes: Hist & Cultural Studies (H) Cultural Intl Diversity (X)
- ARTH 201H - Art of World Civilization II
  Credits: 3. Offered spring. Survey of the history of visual art from 1400 to the present. Course Attributes: Hist & Cultural Studies (H) Democracy and Citizenship (Y)
- ARTH 250L - Introduction to Art Criticism
  Credits: 3. Offered autumn and spring. Prereqs., ARTH 200H, ARTH 201H. Study of the description, interpretation, and evaluation of visual art as practiced in art criticism. Course Attributes: Lit & Artistic Studies (L) Writing Course-Intermediate
- ARTH 333H - Architectural History I
  Credits: 3. Offered autumn. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of architectural styles, designs, and choices of the built environment from prehistory to the modern age. Course Attributes: Hist & Cultural Studies (H)
- ARTH 334H - Architectural History II
  Credits: 3. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of architectural styles, designs, and choices of the built environment from 1850 to the present. Course Attributes: Hist & Cultural Studies (H)
- ARTH 350 - Contemp Art and Art Criticism
  Credits: 3. Offered autumn and spring. Prereq., ARTH 250L or consent of instructor. Exploration of artists, art works, critics, and theories from 1960 to the present. Course Attributes: Writing Course-Advanced
- ARTH 391 - Special Topics

Credits: 1 TO 6. (R-12) Offered intermittently. Experimental offerings by visiting professors, new courses, and/or one-time investigations of current topics.

- ARTH 400 - Art & Architecture of Egypt
  Credits: 3. Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Egyptian art and architecture from prehistory to the present.
- ARTH 407 - Roman and Early Christian Art
  Credits: 3. Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Roman art and architecture from prehistory to the Early Christian period.
- ARTH 410 - Medieval Art
  Credits: 3. Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Medieval art and architecture from 250 to 1400.
- ARTH 425 - Art of the Renaissance
  Credits: 3. Offered intermittently. Prereqs., ARTH 200H or 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1450 to 1600. Course Attributes: Writing Course-Approved
- ARTH 428 - Baroque Art
  Credits: 3. Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1600 to 1700.
- ARTH 430 - 19th Century Art
  Credits: 3. Offered intermittently. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1800 to 1900.
- ARTH 433H - Ancient American Art
  Credits: 3. Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of ancient American art and architecture from prehistory to 1492. Course Attributes: Hist & Cultural Studies (H)
- ARTH 434 - Latin American Art
  Credits: 3. Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of Latin American art and architecture from 1492 to the present. Course Attributes: Writing Course-Advanced
- ARTH 436 - The History of Women in Art
  Credits: 3. Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH250L or consent of instructor. Exploration of women and art from prehistory to the present.
- ARTH 440 - 20th Century Art
  Credits: 3. Offered intermittently. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of art and architecture of the 20th century.
- ARTH 450 - Renaissance Theory & Criticism
  Credits: 3. Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of the writings on art from the 14th-16th centuries.
- ARTH 458 - Adv Research in Art History
  Credits: 2 TO 6. (R-9) Offered autumn and spring. Prereqs., a 300-level art history course and consent of instructor. Further exploration of art history topics including student proposals.
- ARTH 459 - Advanced Research Art Crit
  Credits: 3 TO 6. (R-9) Offered intermittently. Prereqs., ARTH 350 and consent of instructor. Further exploration of art criticism topics including student proposals.
- ARTH 464 - African Art
  Credits: 3. Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of African art and architecture from prehistory to the present.
- ARTH 465 - Spanish Art
  Credits: 3. Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of Spanish art and architecture from prehistory to the present.

- ARTH 491 - Special Topics
  Credits: 1 TO 6. (R-9) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time investigation of current topics.
- ARTH 494 - Sem Art Hist & Crit
  Credits: 3. (R-9) Offered intermittently. Prereq., ARTH 200H or 201H, a 300-level art history course and consent of instructor. Upper-division seminar in varying topics of art history and criticism.
- ARTH 498 - Internship
  Credits: 1 TO 6. (R-12) Offered intermittently. Prereqs., ARTH 250L and/or consent of instructor. Special internship under instructor supervision offering practical experience. Course Attributes: Internships/Practicums
- ARTH 503 - Crit Theories I
  Credits: 3. Prereq., consent of instructor. Seminar on the history of art criticism. Level: Graduate
- ARTH 509 - Crit Theories II
  Credits: 3. Prereq., ARTH 503 or consent of instructor. Continuation of ARTH 503 with an emphasis on contemporary theories and topics. Level: Graduate
- ARTH 550 - Graduate Studies/Art History
  Credits: 2 TO 6. (R-24) Offered autumn and spring. Prereq., consent of instructor. Further research for graduate students in art history. Level: Graduate
- ARTH 597 - Research in Art History
  Credits: 3 TO 9. (R-24) Offered intermittently. Prereq., consent of instructor. Research for graduate students in art history and/or studio. Level: Graduate
- ARTH 698 - Methodologies in Art History
  Credits: 3 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. Investigation of the historiography and practitioners of art history. Level: Graduate

Art

Back to Top

- ARTZ 103A - Art for Non-Majors
  Credits: 3. This course introduces students to visual art and culture from both contemporary and historical perspectives through lectures, readings, writing, and studio projects. It explores visual literacy including terminology, techniques, aesthetics, studio practice, and cultural context. Course Attributes: Expressive Arts Course (A)
- ARTZ 105A - Visual Language - Drawing
  Credits: 3. Offered autumn and spring. Introduction to basic drawing skills and concept integration. Studio practice with research in historical and contemporary approaches. Course Attributes: Expressive Arts Course (A)
- ARTZ 106A - Visual Language - 2-D Fndtns
  Credits: 3. Offered autumn and spring. Prereq. or coreq., ARTZ 105A. Introduction to the formal elements and principles of design, color theory, and predominant western and non-western historical styles. Course Attributes: Expressive Arts Course (A)
- ARTZ 108A - Visual Language - 3-D Fndtns
  Credits: 3. Offered autumn and spring. Introduction to the formal elements and principles of design in 3-D. Course Attributes: Expressive Arts Course (A)
- ARTZ 131A - Ceramics for Non-majors
  Credits: 3. Offered intermittently. A general introduction to art using ceramics. Less specialized than Ceramics I for art majors. Credit not allowed toward a B.A., B.F.A., or minor in art. Course Attributes: Expressive Arts Course (A)
- ARTZ 191 - Special Topics
  Credits: 1 TO 6. (R-12) Offered intermittently. Experimental offerings by visiting professors, experimental offerings of new courses, and/or one-time offerings of current topics.

- ARTZ 211A - Drawing I

  Credits: 3. Offered autumn and spring. Prereq., ARTZ 105A, ARTZ 106A, and ARTH 200H or 201H. Study of human anatomy through drawing, in-class skills development, homework portfolio, and research in historical and contemporary figuration required. Course Attributes: Expressive Arts Course (A)

- ARTZ 221A - Painting I

  Credits: 3. Offered autumn and spring. Prereq., ARTZ 105A and 106A. Introduction to acrylic and oil painting. Emphasis on color theory, composition, concept development, and research in historical and contemporary strategies. Course Attributes: Expressive Arts Course (A)

- ARTZ 231A - Ceramics I

  Credits: 3. Offered autumn and spring. Prereq., ARTZ 108A. Introduction to clay as a historical and contemporary medium. Emphasis on handbuilding, wheel throwing, and concept development. Course Attributes: Expressive Arts Course (A)

- ARTZ 251A - Sculpture I

  Credits: 3. Offered autumn and spring. Prereq., ARTZ 108A. Introduction to fundamental technical skills and new processes in various materials. Emphasis on formal concerns and concept development. Course Attributes: Expressive Arts Course (A)

- ARTZ 271A - Printmaking I

  Credits: 3. (R-9) Offered autumn and spring. Prereq., ARTZ 105A. Introduction to printmaking techniques. Emphasis on multiples, layering color, and collaboration. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Consideration of historical and contemporary approaches. Course Attributes: Expressive Arts Course (A)

- ARTZ 284A - Photo I-Techs and Processes

  Credits: 3. Offered autumn and spring. Prereq., ARTZ 105A. Introduction to photography. Emphasis on exposure, digital camera basics, composition, digital photography processing, and print finishing techniques. Consideration of historical and contemporary approaches. Course Attributes: Expressive Arts Course (A)

- ARTZ 291 - Special Topics

  Credits: 1 TO 9. (R-12) Offered intermittently. Experimental offerings by visiting professors, experimental offerings of new courses, and/or one-time offerings of current topics.

- ARTZ 302A - Elementary School Art

  Credits: 2. Offered autumn and spring. Visual art teaching methods for future elementary school teachers in a variety of media, methods of critique, and curricular components. Course Attributes: Expressive Arts Course (A)

- ARTZ 311 - Drawing II

  Credits: 3. (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 211A. Focus on integrating content and form in drawings and research in historical and contemporary ideas.

- ARTZ 321 - Painting II

  Credits: 3. (R-12) Offered autumn and spring. Prereq., ARTZ 221A and ARTH 250L. Continued development of painting skills and concepts with an emphasis on contemporary ideas and approaches. Topics may include: figuration, place, process, abstraction, and other contemporary themes.

- ARTZ 331 - Ceramics II

  Credits: 3. (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 231A. Continued development of ceramic process with emphasis on handbuilding sculpture and wheel throwing. Focus on integrating content and form through study of historical and contemporary approaches.

- ARTZ 335 - Clay and Glaze

  Credits: 3. Offered autumn. Prereq., ARTZ 250L and ARTZ 231A. In-depth study of the physical and chemical properties of clays and glazes. Hands-on testing of clay and glaze formulas and introduction to kiln firing.

- ARTZ 351 - Sculpture II

  Credits: 3. (R-12) Offered autumn and spring. Prereqs or coreqs., ARTH 250L and ARTZ 251A. Continued development of sculptural processes. Emphasis on clear sculptural responses to material-based and topic-based assignments and contemporary approaches.

- ARTZ 371 - Printmaking II

  Credits: 3. (R-12) Offered autumn and spring. Prereq., ARTZ 271A and prereq. or coreq., ARTH 250L. Continued development of printmaking processes. Emphasis on integration of content. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Focus on layering of color, increased scale, styles of format and presentation, and research in historical and contemporary approaches.

- ARTZ 384 - Photo II-Theory, Crit, Prctice

  Credits: 3. (R-12) Offered autumn and spring. Prereqs., ARTH 250L and prereq. or coreq. ARTZ 284A. Further exploration of photography. Emphasis on traditional film and darkroom-based processes, expansion of technical knowledge in small and medium format cameras, film and chemical process, presentation options, and research in historical and contemporary approaches.

- ARTZ 385 - The Art of Digital Photography

  Credits: 3. (R-12) Offered autumn or spring. Prereq. or co-req., ARTH 250L and ARTZ 284A. Further exploration of photography. Emphasis on effective use of color, advanced editing techniques, studio and strobe lighting, varied approaches to format and presentation, introduction to video capture and editing, and research in historical and contemporary approaches.

- ARTZ 388 - Alternative Process Photog

  Credits: 3. Offered intermittently. Prereq. or coreq., ARTH 250L and ARTZ 284A. Exploration of historic and alternative photography techniques such as cyanotype, pinhole, and wet-plate. Focus on digital negative, historic optics, and varied approaches to format, presentation, and research in historical and contemporary approaches.

- ARTZ 391 - Special Topics

  Credits: 1 TO 9. (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, experimental offerings of new courses, and/or one-time offerings of current topics.

- ARTZ 394A - Seminar- Environmental Drawing

  Credits: 3. Offered intermittently. Seminar designed for the Wilderness and Civilization program based on WCP curriculum. Investigation of individual ideas through a variety of media. Course Attributes: Expressive Arts Course (A)

- ARTZ 398 - Internship

  Credits: 1 TO 12. (R-12) Offered autumn and spring. Prereqs., ARTH 250L and/or consent of instructor. Special internships under instructor supervision offering practical experience. Course Attributes: Internships/Practicums

- ARTZ 402 - Teaching Art I-- K-12

  Credits: 3. Offered autumn. Prereqs., ARTH 250L and junior standing. Preparation for art specialists including historical and contemporary trends in curriculum development, teaching procedures, child growth and development in art, resources, evaluation, democratic teaching practices, and directed teaching experiences in school setting. Course Attributes: Service Learning

- ARTZ 403 - Teaching Art II-- K-12

  Credits: 3. Offered spring. Prereq., ARTZ 402. Continuation and practical application of ARTZ 402.

- ARTZ 410 - Advanced Research- Drawing

  Credits: 3. (R-9) Offered intermitently. Prereq. ARTH 350 and ARTZ 211A or consent of instructor. Further exploration of drawing-related studio practice including installation, performance, and research in historical and contemporary approaches, including student proposals.

- ARTZ 420 - Advanced Research- Painting

  Credits: 3. (R-9) Offered intermittently. Prereqs. or co-reqs., ARTH 350 and ARTZ 321 or consent of instructor. Further exploration of painting-related studio practice including technical and conceptual student proposals.

- ARTZ 430 - Advanced Research- Ceramics

  Credits: 3. (R-9) Offered intermittently. Further exploration of contemporary ceramics including student proposals. Specific conceptual and technical aspects in individual and group critiques.

- ARTZ 451 - Advanced Research- Sculpture

Credits: 3. (R-9) Offered intermittingly. Prereq., ARTZ 351 or consent of instructor. Further exploration of sculpture-related studio practice including technical and student proposals.

- ARTZ 470 - Advanced Research- Printmaking

  Credits: 3. (R-9) Offered intermittently. Prereqs., ARTH 250L and ARTZ 271A or consent of instructor. Further exploration of printmaking techniques including student proposals.

- ARTZ 486 - Advanced Research- Photography

  Credits: 3. (R-9) Offered intermittently. Prereqs., ARTZ 384 or 385 or 388 or consent of instructor. Further exploration of photography-related studio practice including technical and conceptual student proposals.

- ARTZ 491 - Special Topics

  Credits: 1 TO 6. (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time offerings of current topics.

- ARTZ 492 - Independent Study

  Credits: 2 TO 6. (R-12) Offered intermittently. Prereqs., ARTH 250L or consent of instructor. Further exploration of studio practice including technical and conceptual student proposals.

- ARTZ 494 - Seminar- Professional Prctices

  Credits: 3. Offered autumn. Prereqs., senior status and prereq. or coreq., ARTH 250L. Required of all graduating B.F.A. students. Introduction to professional practices and standards in the visual arts, including: presentation, portfolio development, career and exhibition opportunities, arts advocacy, and graduate school application.

- ARTZ 498 - Internship

  Credits: 1 TO 12. (R-12) Offered intermittently. Prereqs., ARTH 250L and consent of instructor. Special internship under instructor supervision offering practical experience. Course Attributes: Internships/Practicums

- ARTZ 499 - Senior Thesis/Capstone

  Credits: 3. Offered spring. Prereqs., senior status, ARTZ 494, and successful passage of B.F.A. review. Required of B.F.A. students. Focus on completion of artwork and preparation for required spring B.F.A. exhibition. Further exploration of professional practices topics and career opportunities.

- ARTZ 501 - Graduate Critique Seminar

  Credits: 2. (R-4) Offered autumn and spring. Prereqs., graduate student status and consent of instructor. Weekly meetings to critique graduate student work. Level: Graduate

- ARTZ 504 - Pre-Candidacy

  Credits: 1. Offered autumn and spring. Prereqs., graduate student status and consent of instructor. Taken concurrently with 500-level Graduate Research/Studio Processes. Emphasis on one-on-one instruction with faculty in preparation for review prior to thesis work. Level: Graduate

- ARTZ 505 - Grad Studio Res: Art

  Credits: 1 TO 3. (R-24) Offered spring. Prereqs., graduate student status and consent of instructor. Regular meetings with faculty to discuss development of individual work. Level: Graduate

- ARTZ 506 - Graduate Pedagogy

  Credits: 3. Offered autumn. Prereqs., first semester graduate student status and consent of instructor. Focus on current pedagogical practices in college-level art education. Emphasis on: syllabus, teaching philosophy, assignments preparation, public-speaking skills development, TA application and course shadowing. Level: Graduate

- ARTZ 507 - Beyond Art School

  Credits: 2. Prereqs., graduate student status and consent of instructor. Introduction to professional practices and standards in the visual arts. Emphasis on: portfolio, resume, and web development, exhibition opportunities, grant writing, and artist residencies. Level: Graduate

- ARTZ 508 - Expanded Studio Practice

  Credits: 3 TO 6. Offered autumn and spring. Prereqs., graduate student status and consent of instructor. Studio-based course with emphasis on collaborative practices across media. May include: topic-based studio assignments, thematic inquiry, responses to readings, and/or specific studio processes. Level: Graduate

- ARTZ 511 - Grad Res/Studio Pr:Drawing
  Credits: 2 TO 6. (R-24) Offered autumn and spring. Prereq., consent of instructor. Graduate research in drawing, based on student's direction. Level: Graduate
- ARTZ 521 - Grad Res/Studio Pr: Painting
  Credits: 3 TO 6. (R-24) Offered autumn and spring. Prereq., consent of instructor. Advanced research in painting. Level: Graduate
- ARTZ 531 - Grad Res/Studio Pr: Ceramics
  Credits: 3 TO 6. (R-24) Offered autumn and spring. Prereq. consent of instructor. Advanced research in ceramics. Level: Graduate
- ARTZ 551 - Grad Res/Studio Pr: Sculp
  Credits: 2 TO 6. (R-24) Offered autumn and spring. Prereq., consent of instructor. Advanced research in sculpture. Level: Graduate
- ARTZ 571 - Grad Res/Studio Pr: Print
  Credits: 2 TO 12. (R-24) Offered autumn and spring. Prereq., consent of instr. Advanced research in printmaking. Level: Graduate
- ARTZ 594 - Seminar
  Credits: 1 TO 6. (R-6) Offered intermittently. Level: Graduate
- ARTZ 595 - Special Topics
  Credits: 1 TO 9. (R-12) Offered intermittently. Prereqs., graduate student status and consent of instructor. Experimental offerings by visiting professors, experimental offerings of new courses, and/or one-time offerings of current topics. Level: Graduate
- ARTZ 596 - Independent Study
  Credits: 2 TO 6. (R-18) Prereq., consent of instructor. Offered intermittently. Level: Graduate
  Course Attributes: Service Learning/Volunteer
- ARTZ 597 - Research in Art History
  Credits: 2 TO 6. (R-18) Offered intermittently. Prereq., consent of instr. Level: Graduate
- ARTZ 598 - Internship
  Credits: 2 TO 6. (R-12) Offered intermittently. Prereqs., graduate student status and Fine Arts Major and consent of instructor. Special internship under instructor supervision offering practical experience. Level: Graduate Course Attributes: Internships/Practicums
- ARTZ 697 - Thesis Paper
  Credits: 1 TO 3. Offered intermittently. Prereqs., ARTZ 699 and consent of instructor. One-on-one instruction with thesis committee chair. Level: Graduate
- ARTZ 699 - Thesis Exhibition
  Credits: 1 TO 12. (R-12) Offered intermittently. Prereqs., graduate student status and consent of instructor. Thesis exhibition preparation. Level: Graduate

Art Studio Minor

Minor - Art Studio (Minor)

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 27

Required Cumulative GPA: 3.0

Note: A Minor In Studio Art-27 Credits

Studio Art Fundamentals

Rule: Must complete the following subcategories

24 Total Credits Required

Visual Language

Rule: All courses are required

	Course	Credits
	ARTZ 105A - Visual Language - Drawing Offered autumn and spring. Introduction to basic drawing skills and concept integration. Studio practice with research in historical and contemporary approaches.	3 Credits
	ARTZ 106A - Visual Language - 2-D Fndtns Offered autumn and spring. Prereq. or coreq., ARTZ 105A. Introduction to the formal elements and principles of design, color theory, and predominant western and non-western historical styles.	3 Credits
	ARTZ 108A - Visual Language - 3-D Fndtns Offered autumn and spring. Introduction to the formal elements and principles of design in 3-D.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Beginning Art History

Rule: All courses are required

	Course	Credits
	ARTH 200H - Art of World Civilization I Offered autumn. Survey of the history of visual art from prehistory to 1400.	3 Credits
	ARTH 201H - Art of World Civilization II Offered spring. Survey of the history of visual art from 1400 to the present.	3 Credits
Minimum Required Grade: C+		6 Total Credits Required

Studio I Courses

Rule: 3 courses are required

	Course	Credits
	ARTZ 211A - Drawing I Offered autumn and spring. Prereq., ARTZ 105A, ARTZ 106A, and ARTH 200H or 201H. Study of human anatomy through drawing, in-class skills development, homework portfolio, and research in historical and contemporary figuration required.	3 Credits

	ARTZ 221A - Painting I Offered autumn and spring. Prereq., ARTZ 105A and 106A. Introduction to acrylic and oil painting. Emphasis on color theory, composition, concept development, and research in historical and contemporary strategies.	3 Credits
	ARTZ 231A - Ceramics I Offered autumn and spring. Prereq., ARTZ 108A. Introduction to clay as a historical and contemporary medium. Emphasis on handbuilding, wheel throwing, and concept development.	3 Credits
	ARTZ 251A - Sculpture I Offered autumn and spring. Prereq., ARTZ 108A. Introduction to fundamental technical skills and new processes in various materials. Emphasis on formal concerns and concept development.	3 Credits
	ARTZ 271A - Printmaking I (R-9) Offered autumn and spring. Prereq., ARTZ 105A. Introduction to printmaking techniques. Emphasis on multiples, layering color, and collaboration. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Consideration of historical and contemporary approaches.	3 Credits
	ARTZ 284A - Photo I-Techs and Processes Offered autumn and spring. Prereq., ARTZ 105A. Introduction to photography. Emphasis on exposure, digital camera basics, composition, digital photography processing, and print finishing techniques. Consideration of historical and contemporary approaches.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Upper Division Studio Course

Rule: 1 300-400 Level Studio Course Required

	Course	Credits
	ARTZ 311 - Drawing II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 211A. Focus on integrating content and form in drawings and research in historical and contemporary ideas.	3 Credits
	ARTZ 321 - Painting II (R-12) Offered autumn and spring. Prereq., ARTZ 221A and ARTH 250L. Continued development of painting skills and concepts with an emphasis on contemporary ideas and approaches. Topics may include: figuration, place, process, abstraction, and other contemporary themes.	3 Credits
	ARTZ 331 - Ceramics II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 231A. Continued development of ceramic process with emphasis on handbuilding sculpture and wheel throwing. Focus on integrating content and form through study of historical and contemporary approaches.	3 Credits

	ARTZ 335 - Clay and Glaze Offered autumn. Prereq., ARTZ 250L and ARTZ 231A. In-depth study of the physical and chemical properties of clays and glazes. Hands-on testing of clay and glaze formulas and introduction to kiln firing.	3 Credits
	ARTZ 351 - Sculpture II (R-12) Offered autumn and spring. Prereqs or coreqs., ARTH 250L and ARTZ 251A. Continued development of sculptural processes. Emphasis on clear sculptural responses to material-based and topic-based assignments and contemporary approaches.	3 Credits
	ARTZ 371 - Printmaking II (R-12) Offered autumn and spring. Prereq., ARTZ 271A and prereq. or coreq., ARTH 250L. Continued development of printmaking processes. Emphasis on integration of content. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Focus on layering of color, increased scale, styles of format and presentation, and research in historical and contemporary approaches.	3 Credits
	ARTZ 372 - Printmaking II- Lithography (R-12) Offered autumn and spring. Prereq., ART 233A. Continued work in various printmaking media.	3 Credits
	ARTZ 385 - The Art of Digital Photography (R-12) Offered autumn or spring. Prereq. or co-req., ARTH 250L and ARTZ 284A. Further exploration of photography. Emphasis on effective use of color, advanced editing techniques, studio and strobe lighting, varied approaches to format and presentation, introduction to video capture and editing, and research in historical and contemporary approaches.	3 Credits
	ARTZ 388 - Alternative Process Photog Offered intermittently. Prereq. or coreq., ARTH 250L and ARTZ 284A. Exploration of historic and alternative photography techniques such as cyanotype, pinhole, and wet-plate. Focus on digital negative, historic optics, and varied approaches to format, presentation, and research in historical and contemporary approaches.	3 Credits
	ARTZ 391 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, experimental offerings of new courses, and/or one-time offerings of current topics.	1 To 9 Credits
	ARTZ 398 - Internship (R-12) Offered autumn and spring. Prereqs., ARTH 250L and/or consent of instructor. Special internships under instructor supervision offering practical experience.	1 To 12 Credits
	ARTZ 430 - Advanced Research- Ceramics (R-9) Offered intermittently. Further exploration of contemporary ceramics including student proposals. Specific conceptual and technical aspects in individual and group critiques.	3 Credits
	ARTZ 451 - Advanced Research- Sculpture (R-9) Offered intermittingly. Prereq., ARTZ 351 or consent of instructor. Further exploration of sculpture-related studio practice including technical and student proposals.	3 Credits

	ARTZ 470 - Advanced Research- Printmaking (R-9) Offered intermittently. Prereqs., ARTH 250L and ARTZ 271A or consent of instructor. Further exploration of printmaking techniques including student proposals.	3 Credits
	ARTZ 486 - Advanced Research- Photography (R-9) Offered intermittently. Prereqs., ARTZ 384 or 385 or 388 or consent of instructor. Further exploration of photography-related studio practice including technical and conceptual student proposals.	3 Credits
	ARTZ 492 - Independent Study (R-12) Offered intermittently. Prereqs., ARTH 250L or consent of instructor. Further exploration of studio practice including technical and conceptual student proposals.	2 To 6 Credits
	ARTZ 498 - Internship (R-12) Offered intermittently. Prereqs., ARTH 250L and consent of instructor. Special internship under instructor supervision offering practical experience.	1 To 12 Credits
Minimum Required Grade: C		3 Total Credits Required

Art History and Criticism Minor

Minor - Art History/Criticism (Minor)

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 24
Required Cumulative GPA: 2.5
Note: Minor in Art History For Those Not Majoring In Art

Studio Art Fundamentals

Rule: Must complete the following subcategories

12 Total Credits Required

Visual Language

Rule: The following course is required

	Course	**Credits**
	ARTZ 105A - Visual Language - Drawing Offered autumn and spring. Introduction to basic drawing skills and concept integration. Studio practice with research in historical and contemporary approaches.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Beginning Art History

Rule: All courses are required

	Course	Credits
	ARTH 200H - Art of World Civilization I Offered autumn. Survey of the history of visual art from prehistory to 1400.	3 Credits
	ARTH 201H - Art of World Civilization II Offered spring. Survey of the history of visual art from 1400 to the present.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Beginning Art Criticism

Rule: The following course is required

	Course	Credits
	ARTH 250L - Introduction to Art Criticism Offered autumn and spring. Prereqs., ARTH 200H, ARTH 201H. Study of the description, interpretation, and evaluation of visual art as practiced in art criticism.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Upper Division Art History And Criticism

Rule: 12 Credits Of 300-400 Level Art History And/Or Criticism Courses Required

	Course	Credits
	ARTH 333H - Architectural History I Offered autumn. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of architectural styles, designs, and choices of the built environment from prehistory to the modern age.	3 Credits
	ARTH 350 - Contemp Art and Art Criticism Offered autumn and spring. Prereq., ARTH 250L or consent of instructor. Exploration of artists, art works, critics, and theories from 1960 to the present.	3 Credits
	ARTH 391 - Special Topics (R-12) Offered intermittently. Experimental offerings by visiting professors, new courses, and/or one-time investigations of current topics.	1 To 6 Credits
	ARTH 407 - Roman and Early Christian Art Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Roman art and architecture from prehistory to the Early Christian period.	3 Credits

	ARTH 425 - Art of the Renaissance Offered intermittently. Prereqs., ARTH 200H or 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1450 to 1600.	3 Credits
	ARTH 430 - 19th Century Art Offered intermittently. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1800 to 1900.	3 Credits
	ARTH 433H - Acient American Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of ancient American art and architecture from prehistory to 1492.	3 Credits
	ARTH 434H - Latin American Art Offered intermittently. Prereq., ARTH 200H or 201H or consent of instructor. Same as NAS 368H. Exploration of themes in the development of Latin American art from the colonial period to the present including Renaissance ideals in the "New World", syncretism of European, African, and indigenous roots, the Black Legend, and the advent of such movements as Academism, Modernism, Social Realism, Magic Realism and Post-Modernism.	3 Credits
	ARTH 436 - The History of Women in Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH250L or consent of instructor. Exploration of women and art from prehistory to the present.	3 Credits
	ARTH 440 - 20th Century Art Offered intermittently. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of art and architecture of the 20th century.	3 Credits
	ARTH 450 - Renaissance Theory & Criticism Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of the writings on art from the 14th-16th centuries.	3 Credits
	ARTH 458 - Adv Research in Art History (R-9) Offered autumn and spring. Prereqs., a 300-level art history course and consent of instructor. Further exploration of art history topics including student proposals.	2 To 6 Credits
	ARTH 459 - Advanced Research Art Crit (R-9) Offered intermittently. Prereqs., ARTH 350 and consent of instructor. Further exploration of art criticism topics including student proposals.	3 To 6 Credits
	ARTH 464 - African Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of African art and architecture from prehistory to the present.	3 Credits
	ARTH 465 - Spanish Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of Spanish art and architecture from prehistory to the present.	3 Credits

	ARTH 491 - Special Topics (R-9) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time investigation of current topics.	1 To 6 Credits
	ARTH 494 - Sem Art Hist & Crit (R-9) Offered intermittently. Prereq., ARTH 200H or 201H, a 300-level art history course and consent of instructor. Upper-division seminar in varying topics of art history and criticism.	3 Credits
	ARTH 498 - Internship (R-12) Offered intermittently. Prereqs., ARTH 250L and/or consent of instructor. Special internship under instructor supervision offering practical experience.	1 To 6 Credits
Minimum Required Grade: C		12 Total Credits Required

Art B.A.

Bachelor of Arts - Art

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 57
Required Cumulative GPA: 3.0

Lower Division Requirements

Rule: All Courses Are Required Unless Waived Via Departmental Advanced Placement Policy

Note: Students seeking the Bachelor of Arts degree with a major in Art must complete 36 credits of lower division art courses: Studio Art Fundamentals, 9; Beginning Art History, 6; Introductory Art Criticism, 3; Photography, 3; Ceramics, 3; Printmaking 3; Sculpture, 3; Painting, 3; Drawing, 3;

Minimum Required Grade: C

36 Total Credits Required

Studio Art Fundamentals

Rule: All Courses Required Unless Waived Via Deaprtmental Advanced Placement Policy

	Course	**Credits**
	ARTZ 105A - Visual Language - Drawing Offered autumn and spring. Introduction to basic drawing skills and concept integration. Studio practice with research in historical and contemporary approaches.	3 Credits
	ARTZ 106A - Visual Language - 2-D Fndtns Offered autumn and spring. Prereq. or coreq., ARTZ 105A. Introduction to the formal elements and principles of design, color theory, and predominant western and non-western historical styles.	3 Credits

	ARTZ 108A - Visual Language - 3-D Fndtns Offered autumn and spring. Introduction to the formal elements and principles of design in 3-D.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Studio I Courses

Rule: All Courses Reqired

	Course	Credits
	ARTZ 211A - Drawing I Offered autumn and spring. Prereq., ARTZ 105A, ARTZ 106A, and ARTH 200H or 201H. Study of human anatomy through drawing, in-class skills development, homework portfolio, and research in historical and contemporary figuration required.	3 Credits
	ARTZ 221A - Painting I Offered autumn and spring. Prereq., ARTZ 105A and 106A. Introduction to acrylic and oil painting. Emphasis on color theory, composition, concept development, and research in historical and contemporary strategies.	3 Credits
	ARTZ 231A - Ceramics I Offered autumn and spring. Prereq., ARTZ 108A. Introduction to clay as a historical and contemporary medium. Emphasis on handbuilding, wheel throwing, and concept development.	3 Credits
	ARTZ 251A - Sculpture I Offered autumn and spring. Prereq., ARTZ 108A. Introduction to fundamental technical skills and new processes in various materials. Emphasis on formal concerns and concept development.	3 Credits
	ARTZ 271A - Printmaking I (R-9) Offered autumn and spring. Prereq., ARTZ 105A. Introduction to printmaking techniques. Emphasis on multiples, layering color, and collaboration. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Consideration of historical and contemporary approaches.	3 Credits
	ARTZ 284A - Photo I-Techs and Processes Offered autumn and spring. Prereq., ARTZ 105A. Introduction to photography. Emphasis on exposure, digital camera basics, composition, digital photography processing, and print finishing techniques. Consideration of historical and contemporary approaches.	3 Credits
Minimum Required Grade: C		18 Total Credits Required

Begining Art History And Criticism

Rule: All Courses Required

	Course	Credits
	ARTH 200H - Art of World Civilization I Offered autumn. Survey of the history of visual art from prehistory to 1400.	3 Credits
	ARTH 201H - Art of World Civilization II Offered spring. Survey of the history of visual art from 1400 to the present.	3 Credits
	ARTH 250L - Introduction to Art Criticism Offered autumn and spring. Prereqs., ARTH 200H, ARTH 201H. Study of the description, interpretation, and evaluation of visual art as practiced in art criticism.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Upper Division Studio Courses

Rule: 12 Credits of Upper Division (300-400 Level) Courses Are Required

	Course	Credits
	ARTZ 311 - Drawing II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 211A. Focus on integrating content and form in drawings and research in historical and contemporary ideas.	3 Credits
	ARTZ 321 - Painting II (R-12) Offered autumn and spring. Prereq., ARTZ 221A and ARTH 250L. Continued development of painting skills and concepts with an emphasis on contemporary ideas and approaches. Topics may include: figuration, place, process, abstraction, and other contemporary themes.	3 Credits
	ARTZ 331 - Ceramics II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 231A. Continued development of ceramic process with emphasis on handbuilding sculpture and wheel throwing. Focus on integrating content and form through study of historical and contemporary approaches.	3 Credits
	ARTZ 335 - Clay and Glaze Offered autumn. Prereq., ARTZ 250L and ARTZ 231A. In-depth study of the physical and chemical properties of clays and glazes. Hands-on testing of clay and glaze formulas and introduction to kiln firing.	3 Credits
	ARTZ 351 - Sculpture II (R-12) Offered autumn and spring. Prereqs or coreqs., ARTH 250L and ARTZ 251A. Continued development of sculptural processes. Emphasis on clear sculptural responses to material-based and topic-based assignments and contemporary approaches.	3 Credits

	ARTZ 371 - Printmaking II (R-12) Offered autumn and spring. Prereq., ARTZ 271A and prereq. or coreq., ARTH 250L. Continued development of printmaking processes. Emphasis on integration of content. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Focus on layering of color, increased scale, styles of format and presentation, and research in historical and contemporary approaches.	3 Credits
	ARTZ 372 - Printmaking II- Lithography (R-12) Offered autumn and spring. Prereq., ART 233A. Continued work in various printmaking media.	3 Credits
	ARTZ 384 - Photo II-Theory, Crit, Prctice (R-12) Offered autumn and spring. Prereqs., ARTH 250L and prereq. or coreq. ARTZ 284A. Further exploration of photography. Emphasis on traditional film and darkroom-based processes, expansion of technical knowledge in small and medium format cameras, film and chemical process, presentation options, and research in historical and contemporary approaches.	3 Credits
	ARTZ 385 - The Art of Digital Photography (R-12) Offered autumn or spring. Prereq. or co-req., ARTH 250L and ARTZ 284A. Further exploration of photography. Emphasis on effective use of color, advanced editing techniques, studio and strobe lighting, varied approaches to format and presentation, introduction to video capture and editing, and research in historical and contemporary approaches.	3 Credits
	ARTZ 391 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, experimental offerings of new courses, and/or one-time offerings of current topics.	1 To 9 Credits
	ARTZ 398 - Internship (R-12) Offered autumn and spring. Prereqs., ARTH 250L and/or consent of instructor. Special internships under instructor supervision offering practical experience.	1 To 12 Credits
	ARTZ 410 - Advanced Research- Drawing (R-9) Offered intermitently. Prereq. ARTH 350 and ARTZ 211A or consent of instructor. Further exploration of drawing-related studio practice including installation, performance, and research in historical and contemporary approaches, including student proposals.	3 Credits
	ARTZ 420 - Advanced Research- Painting (R-9) Offered intermittently. Prereqs. or co-reqs., ARTH 350 and ARTZ 321 or consent of instructor. Further exploration of painting-related studio practice including technical and conceptual student proposals.	3 Credits
	ARTZ 430 - Advanced Research- Ceramics (R-9) Offered intermittently. Further exploration of contemporary ceramics including student proposals. Specific conceptual and technical aspects in individual and group critiques.	3 Credits
	ARTZ 451 - Advanced Research- Sculpture (R-9) Offered intermittingly. Prereq., ARTZ 351 or consent of instructor. Further exploration of sculpture-related studio practice including technical and student proposals.	3 Credits

	ARTZ 470 - Advanced Research- Printmaking (R-9) Offered intermittently. Prereqs., ARTH 250L and ARTZ 271A or consent of instructor. Further exploration of printmaking techniques including student proposals.	3 Credits
	ARTZ 486 - Advanced Research- Photography (R-9) Offered intermittently. Prereqs., ARTZ 384 or 385 or 388 or consent of instructor. Further exploration of photography-related studio practice including technical and conceptual student proposals.	3 Credits
	ARTZ 491 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time offerings of current topics.	1 To 6 Credits
	ARTZ 492 - Independent Study (R-12) Offered intermittently. Prereqs., ARTH 250L or consent of instructor. Further exploration of studio practice including technical and conceptual student proposals.	2 To 6 Credits
	ARTZ 494 - Seminar- Professional Prctices Offered autumn. Prereqs., senior status and prereq. or coreq., ARTH 250L. Required of all graduating B.F.A. students. Introduction to professional practices and standards in the visual arts, including: presentation, portfolio development, career and exhibition opportunities, arts advocacy, and graduate school application.	3 Credits
Minimum Required Grade: C		12 Total Credits Required

Upper Division Art History

Rule: 6 credits in Upper Division (300-400 Level) Courses are Required

	Course	Credits
	ARTH 333H - Architectural History I Offered autumn. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of architectural styles, designs, and choices of the built environment from prehistory to the modern age.	3 Credits
	ARTH 391 - Special Topics (R-12) Offered intermittently. Experimental offerings by visiting professors, new courses, and/or one-time investigations of current topics.	1 To 6 Credits
	ARTH 407 - Roman and Early Christian Art Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Roman art and architecture from prehistory to the Early Christian period.	3 Credits
	ARTH 425 - Art of the Renaissance Offered intermittently. Prereqs., ARTH 200H or 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1450 to 1600.	3 Credits

	ARTH 430 - 19th Century Art Offered intermittently. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1800 to 1900.	3 Credits
	ARTH 433H - Acient American Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of ancient American art and architecture from prehistory to 1492.	3 Credits
	ARTH 434H - Latin American Art Offered intermittently. Prereq., ARTH 200H or 201H or consent of instructor. Same as NAS 368H. Exploration of themes in the development of Latin American art from the colonial period to the present including Renaissance ideals in the "New World", syncretism of European, African, and indigenous roots, the Black Legend, and the advent of such movements as Academism, Modernism, Social Realism, Magic Realism and Post-Modernism.	3 Credits
	ARTH 436 - The History of Women in Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH250L or consent of instructor. Exploration of women and art from prehistory to the present.	3 Credits
	ARTH 440 - 20th Century Art Offered intermittently. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of art and architecture of the 20th century.	3 Credits
	ARTH 450 - Renaissance Theory & Criticism Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of the writings on art from the 14th-16th centuries.	3 Credits
	ARTH 458 - Adv Research in Art History (R-9) Offered autumn and spring. Prereqs., a 300-level art history course and consent of instructor. Further exploration of art history topics including student proposals.	2 To 6 Credits
	ARTH 459 - Advanced Research Art Crit (R-9) Offered intermittently. Prereqs., ARTH 350 and consent of instructor. Further exploration of art criticism topics including student proposals.	3 To 6 Credits
	ARTH 464 - African Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of African art and architecture from prehistory to the present.	3 Credits
	ARTH 465 - Spanish Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of Spanish art and architecture from prehistory to the present.	3 Credits
	ARTH 491 - Special Topics (R-9) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time investigation of current topics.	1 To 6 Credits

	ARTH 494 - Sem Art Hist & Crit (R-9) Offered intermittently. Prereq., ARTH 200H or 201H, a 300-level art history course and consent of instructor. Upper-division seminar in varying topics of art history and criticism.	3 Credits
	ARTH 498 - Internship (R-12) Offered intermittently. Prereqs., ARTH 250L and/or consent of instructor. Special internship under instructor supervision offering practical experience.	1 To 6 Credits
Minimum Required Grade: C		6 Total Credits Required

Upper Division Art Criticism

Rule: The following course is required

	Course	Credits
	ARTH 350 - Contemp Art and Art Criticism Offered autumn and spring. Prereq., ARTH 250L or consent of instructor. Exploration of artists, art works, critics, and theories from 1960 to the present.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

18 Additional Upper Division (300-400 Level) Credits

Rule: May Be In Any Subject- Student's Choice Of Courses

Note: Any 300-400 level courses may be used to satisfy this requirement.

Minimum Required Grade: C

18 Total Credits Required

Art Education Licensure Requirements

Rule: The Art Education Licensure is earned through taking classes in both the School of Art and the Phyllis J. Washingon College of Education and Human Sciences. Students complete their BA or BFA in Art in conjunction with courses required from the College of Education. A student must be accepted into the College of Education.

Note: Montana Teaching Certification in Art K-12 requires a BA or BFA in Art with a specialization in Art Education, which extends beyond the 120-credit limit, or an MA in Curriculum and Instruction with the required undergraduate credits for teacher certification in art. Students earning a BA or a BFA in Art must also take ARTZ 402 Teaching Art 1 -- K-12 , ARTZ 403 Teaching Art II -- K-12 as well as THTR 239 or DANC 497. In addition student are required to take 35 credits of EDU classes as well as HHP 233 Health Issues for Children & Adolescents, and a Native American Studies Course. Please see the College of Education and Human Sciences degree builder for more details.

	Course	Credits
	ARTZ 402 - Teaching Art I-- K-12 Offered autumn. Prereqs., ARTH 250L and junior standing. Preparation for art specialists including historical and contemporary trends in curriculum development, teaching procedures, child growth and development in art, resources, evaluation, democratic teaching practices, and directed teaching experiences in school setting.	3 Credits

	ARTZ 403 - Teaching Art II-- K-12 Offered spring. Prereq., ARTZ 402. Continuation and practical application of ARTZ 402.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Fine Arts B.F.A.

Bachelor of Fine Arts - Art

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 75
Required Cumulative GPA: 3.0

Lower Division Requirements

Rule: All Courses Are Required Unless Waived Via Departmental Advanced Placement Policy

Note: Students seeking the Bachelor of Fine Arts degree with a major in Art must complete 36 credits of lower division art courses: Studio Art Fundamentals, 9; Beginning Art History, 6; Introductory Art Criticism, 3; Photography, 3; Ceramics, 3; Printmaking 3; Sculpture, 3; Painting, 3; Drawing, 3;

Minimum Required Grade: C

36 Total Credits Required

Studio Art Fundamentals

Rule: All Courses Required Unless Waived Via Deaprtmental Advanced Placement Policy

	Course	**Credits**
	ARTZ 105A - Visual Language - Drawing Offered autumn and spring. Introduction to basic drawing skills and concept integration. Studio practice with research in historical and contemporary approaches.	3 Credits
	ARTZ 106A - Visual Language - 2-D Fndtns Offered autumn and spring. Prereq. or coreq., ARTZ 105A. Introduction to the formal elements and principles of design, color theory, and predominant western and non-western historical styles.	3 Credits
	ARTZ 108A - Visual Language - 3-D Fndtns Offered autumn and spring. Introduction to the formal elements and principles of design in 3-D.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Studio I Courses

Rule: All Courses Reqired

	Course	Credits
	ARTZ 211A - Drawing I Offered autumn and spring. Prereq., ARTZ 105A, ARTZ 106A, and ARTH 200H or 201H. Study of human anatomy through drawing, in-class skills development, homework portfolio, and research in historical and contemporary figuration required.	3 Credits
	ARTZ 221A - Painting I Offered autumn and spring. Prereq., ARTZ 105A and 106A. Introduction to acrylic and oil painting. Emphasis on color theory, composition, concept development, and research in historical and contemporary strategies.	3 Credits
	ARTZ 231A - Ceramics I Offered autumn and spring. Prereq., ARTZ 108A. Introduction to clay as a historical and contemporary medium. Emphasis on handbuilding, wheel throwing, and concept development.	3 Credits
	ARTZ 251A - Sculpture I Offered autumn and spring. Prereq., ARTZ 108A. Introduction to fundamental technical skills and new processes in various materials. Emphasis on formal concerns and concept development.	3 Credits
	ARTZ 271A - Printmaking I (R-9) Offered autumn and spring. Prereq., ARTZ 105A. Introduction to printmaking techniques. Emphasis on multiples, layering color, and collaboration. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Consideration of historical and contemporary approaches.	3 Credits
	ARTZ 284A - Photo I-Techs and Processes Offered autumn and spring. Prereq., ARTZ 105A. Introduction to photography. Emphasis on exposure, digital camera basics, composition, digital photography processing, and print finishing techniques. Consideration of historical and contemporary approaches.	3 Credits
Minimum Required Grade: C		18 Total Credits Required

Begining Art History And Criticism

Rule: All Courses Required

	Course	Credits
	ARTH 200H - Art of World Civilization I Offered autumn. Survey of the history of visual art from prehistory to 1400.	3 Credits
	ARTH 201H - Art of World Civilization II Offered spring. Survey of the history of visual art from 1400 to the present.	3 Credits

	ARTH 250L - Introduction to Art Criticism Offered autumn and spring. Prereqs., ARTH 200H, ARTH 201H. Study of the description, interpretation, and evaluation of visual art as practiced in art criticism.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Upper Division Studio Courses I

Rule: 12 Credits of Upper Division (300-400 Level) Courses Inside Area Of Concentration Are Required

	Course	Credits
	ARTZ 311 - Drawing II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 211A. Focus on integrating content and form in drawings and research in historical and contemporary ideas.	3 Credits
	ARTZ 321 - Painting II (R-12) Offered autumn and spring. Prereq., ARTZ 221A and ARTH 250L. Continued development of painting skills and concepts with an emphasis on contemporary ideas and approaches. Topics may include: figuration, place, process, abstraction, and other contemporary themes.	3 Credits
	ARTZ 331 - Ceramics II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 231A. Continued development of ceramic process with emphasis on handbuilding sculpture and wheel throwing. Focus on integrating content and form through study of historical and contemporary approaches.	3 Credits
	ARTZ 335 - Clay and Glaze Offered autumn. Prereq., ARTZ 250L and ARTZ 231A. In-depth study of the physical and chemical properties of clays and glazes. Hands-on testing of clay and glaze formulas and introduction to kiln firing.	3 Credits
	ARTZ 351 - Sculpture II (R-12) Offered autumn and spring. Prereqs or coreqs., ARTH 250L and ARTZ 251A. Continued development of sculptural processes. Emphasis on clear sculptural responses to material-based and topic-based assignments and contemporary approaches.	3 Credits
	ARTZ 371 - Printmaking II (R-12) Offered autumn and spring. Prereq., ARTZ 271A and prereq. or coreq., ARTH 250L. Continued development of printmaking processes. Emphasis on integration of content. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Focus on layering of color, increased scale, styles of format and presentation, and research in historical and contemporary approaches.	3 Credits
	ARTZ 372 - Printmaking II- Lithography (R-12) Offered autumn and spring. Prereq., ART 233A. Continued work in various printmaking media.	3 Credits

	ARTZ 384 - Photo II-Theory, Crit, Prctice (R-12) Offered autumn and spring. Prereqs., ARTH 250L and prereq. or coreq. ARTZ 284A. Further exploration of photography. Emphasis on traditional film and darkroom-based processes, expansion of technical knowledge in small and medium format cameras, film and chemical process, presentation options, and research in historical and contemporary approaches.	3 Credits
	ARTZ 385 - The Art of Digital Photography (R-12) Offered autumn or spring. Prereq. or co-req., ARTH 250L and ARTZ 284A. Further exploration of photography. Emphasis on effective use of color, advanced editing techniques, studio and strobe lighting, varied approaches to format and presentation, introduction to video capture and editing, and research in historical and contemporary approaches.	3 Credits
	ARTZ 391 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, experimental offerings of new courses, and/or one-time offerings of current topics.	1 To 9 Credits
	ARTZ 398 - Internship (R-12) Offered autumn and spring. Prereqs., ARTH 250L and/or consent of instructor. Special internships under instructor supervision offering practical experience.	1 To 12 Credits
	ARTZ 410 - Advanced Research- Drawing (R-9) Offered intermitently. Prereq. ARTH 350 and ARTZ 211A or consent of instructor. Further exploration of drawing-related studio practice including installation, performance, and research in historical and contemporary approaches, including student proposals.	3 Credits
	ARTZ 420 - Advanced Research- Painting (R-9) Offered intermittently. Prereqs. or co-reqs., ARTH 350 and ARTZ 321 or consent of instructor. Further exploration of painting-related studio practice including technical and conceptual student proposals.	3 Credits
	ARTZ 430 - Advanced Research- Ceramics (R-9) Offered intermittently. Further exploration of contemporary ceramics including student proposals. Specific conceptual and technical aspects in individual and group critiques.	3 Credits
	ARTZ 451 - Advanced Research- Sculpture (R-9) Offered intermittingly. Prereq., ARTZ 351 or consent of instructor. Further exploration of sculpture-related studio practice including technical and student proposals.	3 Credits
	ARTZ 470 - Advanced Research- Printmaking (R-9) Offered intermittently. Prereqs., ARTH 250L and ARTZ 271A or consent of instructor. Further exploration of printmaking techniques including student proposals.	3 Credits
	ARTZ 486 - Advanced Research- Photography (R-9) Offered intermittently. Prereqs., ARTZ 384 or 385 or 388 or consent of instructor. Further exploration of photography-related studio practice including technical and conceptual student proposals.	3 Credits

	ARTZ 491 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time offerings of current topics.	1 To 6 Credits
	ARTZ 492 - Independent Study (R-12) Offered intermittently. Prereqs., ARTH 250L or consent of instructor. Further exploration of studio practice including technical and conceptual student proposals.	2 To 6 Credits
	ARTZ 498 - Internship (R-12) Offered intermittently. Prereqs., ARTH 250L and consent of instructor. Special internship under instructor supervision offering practical experience.	1 To 12 Credits
Minimum Required Grade: C		12 Total Credits Required

Upper Division Studio Courses

Rule: 12 Credits of Upper Division (300-400 Level) Courses Outside Area Of Concentration Are Required

	Course	Credits
	ARTZ 311 - Drawing II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 211A. Focus on integrating content and form in drawings and research in historical and contemporary ideas.	3 Credits
	ARTZ 321 - Painting II (R-12) Offered autumn and spring. Prereq., ARTZ 221A and ARTH 250L. Continued development of painting skills and concepts with an emphasis on contemporary ideas and approaches. Topics may include: figuration, place, process, abstraction, and other contemporary themes.	3 Credits
	ARTZ 331 - Ceramics II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 231A. Continued development of ceramic process with emphasis on handbuilding sculpture and wheel throwing. Focus on integrating content and form through study of historical and contemporary approaches.	3 Credits
	ARTZ 335 - Clay and Glaze Offered autumn. Prereq., ARTZ 250L and ARTZ 231A. In-depth study of the physical and chemical properties of clays and glazes. Hands-on testing of clay and glaze formulas and introduction to kiln firing.	3 Credits
	ARTZ 351 - Sculpture II (R-12) Offered autumn and spring. Prereqs or coreqs., ARTH 250L and ARTZ 251A. Continued development of sculptural processes. Emphasis on clear sculptural responses to material-based and topic-based assignments and contemporary approaches.	3 Credits

	ARTZ 371 - Printmaking II (R-12) Offered autumn and spring. Prereq., ARTZ 271A and prereq. or coreq., ARTH 250L. Continued development of printmaking processes. Emphasis on integration of content. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Focus on layering of color, increased scale, styles of format and presentation, and research in historical and contemporary approaches.	3 Credits
	ARTZ 372 - Printmaking II- Lithography (R-12) Offered autumn and spring. Prereq., ART 233A. Continued work in various printmaking media.	3 Credits
	ARTZ 384 - Photo II-Theory, Crit, Prctice (R-12) Offered autumn and spring. Prereqs., ARTH 250L and prereq. or coreq. ARTZ 284A. Further exploration of photography. Emphasis on traditional film and darkroom-based processes, expansion of technical knowledge in small and medium format cameras, film and chemical process, presentation options, and research in historical and contemporary approaches.	3 Credits
	ARTZ 385 - The Art of Digital Photography (R-12) Offered autumn or spring. Prereq. or co-req., ARTH 250L and ARTZ 284A. Further exploration of photography. Emphasis on effective use of color, advanced editing techniques, studio and strobe lighting, varied approaches to format and presentation, introduction to video capture and editing, and research in historical and contemporary approaches.	3 Credits
	ARTZ 388 - Alternative Process Photog Offered intermittently. Prereq. or coreq., ARTH 250L and ARTZ 284A. Exploration of historic and alternative photography techniques such as cyanotype, pinhole, and wet-plate. Focus on digital negative, historic optics, and varied approaches to format, presentation, and research in historical and contemporary approaches.	3 Credits
	ARTZ 391 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, experimental offerings of new courses, and/or one-time offerings of current topics.	1 To 9 Credits
	ARTZ 398 - Internship (R-12) Offered autumn and spring. Prereqs., ARTH 250L and/or consent of instructor. Special internships under instructor supervision offering practical experience.	1 To 12 Credits
	ARTZ 410 - Advanced Research- Drawing (R-9) Offered intermitently. Prereq. ARTH 350 and ARTZ 211A or consent of instructor. Further exploration of drawing-related studio practice including installation, performance, and research in historical and contemporary approaches, including student proposals.	3 Credits
	ARTZ 420 - Advanced Research- Painting (R-9) Offered intermittently. Prereqs. or co-reqs., ARTH 350 and ARTZ 321 or consent of instructor. Further exploration of painting-related studio practice including technical and conceptual student proposals.	3 Credits

	ARTZ 430 - Advanced Research- Ceramics (R-9) Offered intermittently. Further exploration of contemporary ceramics including student proposals. Specific conceptual and technical aspects in individual and group critiques.	3 Credits
	ARTZ 451 - Advanced Research- Sculpture (R-9) Offered intermittingly. Prereq., ARTZ 351 or consent of instructor. Further exploration of sculpture-related studio practice including technical and student proposals.	3 Credits
	ARTZ 470 - Advanced Research- Printmaking (R-9) Offered intermittently. Prereqs., ARTH 250L and ARTZ 271A or consent of instructor. Further exploration of printmaking techniques including student proposals.	3 Credits
	ARTZ 484 - Photo III- Studio Projects (R-9) Offered autumn or spring. Prereqs., ARTZ 384 and 385. Concentrated exploration of techniques, portfolio development, and research in historical and contemporary approaches.	3 Credits
	ARTZ 486 - Advanced Research- Photography (R-9) Offered intermittently. Prereqs., ARTZ 384 or 385 or 388 or consent of instructor. Further exploration of photography-related studio practice including technical and conceptual student proposals.	3 Credits
	ARTZ 491 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time offerings of current topics.	1 To 6 Credits
	ARTZ 492 - Independent Study (R-12) Offered intermittently. Prereqs., ARTH 250L or consent of instructor. Further exploration of studio practice including technical and conceptual student proposals.	2 To 6 Credits
	ARTZ 498 - Internship (R-12) Offered intermittently. Prereqs., ARTH 250L and consent of instructor. Special internship under instructor supervision offering practical experience.	1 To 12 Credits
Minimum Required Grade: C		12 Total Credits Required

Upper Division Art History

Rule: 6 Credits in Upper Division (300-400 Level) Courses are Required

	Course	Credits
	ARTH 333H - Architectural History I Offered autumn. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of architectural styles, designs, and choices of the built environment from prehistory to the modern age.	3 Credits
	ARTH 391 - Special Topics (R-12) Offered intermittently. Experimental offerings by visiting professors, new courses, and/or one-time investigations of current topics.	1 To 6 Credits

	ARTH 407 - Roman and Early Christian Art Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Roman art and architecture from prehistory to the Early Christian period.	3 Credits
	ARTH 425 - Art of the Renaissance Offered intermittently. Prereqs., ARTH 200H or 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1450 to 1600.	3 Credits
	ARTH 430 - 19th Century Art Offered intermittently. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1800 to 1900.	3 Credits
	ARTH 433H - Acient American Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of ancient American art and architecture from prehistory to 1492.	3 Credits
	ARTH 434H - Latin American Art Offered intermittently. Prereq., ARTH 200H or 201H or consent of instructor. Same as NAS 368H. Exploration of themes in the development of Latin American art from the colonial period to the present including Renaissance ideals in the "New World", syncretism of European, African, and indigenous roots, the Black Legend, and the advent of such movements as Academism, Modernism, Social Realism, Magic Realism and Post-Modernism.	3 Credits
	ARTH 436 - The History of Women in Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH250L or consent of instructor. Exploration of women and art from prehistory to the present.	3 Credits
	ARTH 440 - 20th Century Art Offered intermittently. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of art and architecture of the 20th century.	3 Credits
	ARTH 450 - Renaissance Theory & Criticism Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of the writings on art from the 14th-16th centuries.	3 Credits
	ARTH 458 - Adv Research in Art History (R-9) Offered autumn and spring. Prereqs., a 300-level art history course and consent of instructor. Further exploration of art history topics including student proposals.	2 To 6 Credits
	ARTH 459 - Advanced Research Art Crit (R-9) Offered intermittently. Prereqs., ARTH 350 and consent of instructor. Further exploration of art criticism topics including student proposals.	3 To 6 Credits
	ARTH 464 - African Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of African art and architecture from prehistory to the present.	3 Credits

	ARTH 465 - Spanish Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of Spanish art and architecture from prehistory to the present.	3 Credits
	ARTH 491 - Special Topics (R-9) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time investigation of current topics.	1 To 6 Credits
	ARTH 494 - Sem Art Hist & Crit (R-9) Offered intermittently. Prereq., ARTH 200H or 201H, a 300-level art history course and consent of instructor. Upper-division seminar in varying topics of art history and criticism.	3 Credits
	ARTH 498 - Internship (R-12) Offered intermittently. Prereqs., ARTH 250L and/or consent of instructor. Special internship under instructor supervision offering practical experience.	1 To 6 Credits
Minimum Required Grade: C		6 Total Credits Required

Upper Division Art Criticism

Rule: The following course is required

	Course	Credits
	ARTH 350 - Contemp Art and Art Criticism Offered autumn and spring. Prereq., ARTH 250L or consent of instructor. Exploration of artists, art works, critics, and theories from 1960 to the present.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

18 Additional Upper Division (300-400 Level) Credits

Rule: May Be In Any Subject- Student's Choice Of Courses

Note: Any 300-400 level courses may be used to satisfy this requirement.

Minimum Required Grade: C

18 Total Credits Required

Art Education Licensure Requirements

Rule: The Art Education Licensure is earned through taking classes in both the School of Art and the Phyllis J. Washingon College of Education and Human Sciences. Students complete their BA or BFA in Art in conjunction with courses required from the College of Education. A student must be accepted into the College of Education.

Note: Montana Teaching Certification in Art K-12 requires a BA or BFA in Art with a specialization in Art Education, which extends beyond the 120-credit limit, or an MA in Curriculum and Instruction with the required undergraduate credits for teacher certification in art. Students earning a BA or a BFA in Art must also take ARTZ 402 Teaching Art 1 -- K-12 , ARTZ 403 Teaching Art II -- K-12 as well as THTR 239 or DANC 497. In addition student are required to take 35 credits of EDU classes as well as HHP 233 Health Issues for Children & Adolescents, and a Native American Studies Course. Please see the College of Education and Human Sciences degree builder for more details.

	Course	Credits
	ARTZ 402 - Teaching Art I-- K-12 Offered autumn. Prereqs., ARTH 250L and junior standing. Preparation for art specialists including historical and contemporary trends in curriculum development, teaching procedures, child growth and development in art, resources, evaluation, democratic teaching practices, and directed teaching experiences in school setting.	3 Credits
	ARTZ 403 - Teaching Art II-- K-12 Offered spring. Prereq., ARTZ 402. Continuation and practical application of ARTZ 402.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Senior Thesis Capstone

Rule: All courses are required

	Course	Credits
	ARTZ 494 - Seminar- Professional Prctices Offered autumn. Prereqs., senior status and prereq. or coreq., ARTH 250L. Required of all graduating B.F.A. students. Introduction to professional practices and standards in the visual arts, including: presentation, portfolio development, career and exhibition opportunities, arts advocacy, and graduate school application.	3 Credits
	ARTZ 499 - Senior Thesis/Capstone Offered spring. Prereqs., senior status, ARTZ 494, and successful passage of B.F.A. review. Required of B.F.A. students. Focus on completion of artwork and preparation for required spring B.F.A. exhibition. Further exploration of professional practices topics and career opportunities.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Teaching Art B.A.

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Bachelor of Arts - Art; Track: Teaching Art

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 66

Required Cumulative GPA: 3.0

Lower Division Requirements

Rule: All Courses Are Required Unless Waived Via Departmental Advanced Placement Policy

Note: Students seeking the Bachelor of Arts degree with a major in Art must complete 36 credits of lower division art courses: Studio Art Fundamentals, 9; Beginning Art History, 6; Introductory Art Criticism, 3; Photography, 3; Ceramics, 3; Printmaking 3; Sculpture, 3; Painting, 3; Drawing, 3;

Minimum Required Grade: C

36 Total Credits Required

Studio Art Fundamentals

Rule: All Courses Required Unless Waived Via Deaprtmental Advanced Placement Policy

	Course	Credits
	ARTZ 105A - Visual Language - Drawing Offered autumn and spring. Introduction to basic drawing skills and concept integration. Studio practice with research in historical and contemporary approaches.	3 Credits
	ARTZ 106A - Visual Language - 2-D Fndtns Offered autumn and spring. Prereq. or coreq., ARTZ 105A. Introduction to the formal elements and principles of design, color theory, and predominant western and non-western historical styles.	3 Credits
	ARTZ 108A - Visual Language - 3-D Fndtns Offered autumn and spring. Introduction to the formal elements and principles of design in 3-D.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Studio I Courses

Rule: All Courses Reqired

	Course	Credits
	ARTZ 211A - Drawing I Offered autumn and spring. Prereq., ARTZ 105A, ARTZ 106A, and ARTH 200H or 201H. Study of human anatomy through drawing, in-class skills development, homework portfolio, and research in historical and contemporary figuration required.	3 Credits
	ARTZ 221A - Painting I Offered autumn and spring. Prereq., ARTZ 105A and 106A. Introduction to acrylic and oil painting. Emphasis on color theory, composition, concept development, and research in historical and contemporary strategies.	3 Credits

	ARTZ 231A - Ceramics I Offered autumn and spring. Prereq., ARTZ 108A. Introduction to clay as a historical and contemporary medium. Emphasis on handbuilding, wheel throwing, and concept development.	3 Credits
	ARTZ 251A - Sculpture I Offered autumn and spring. Prereq., ARTZ 108A. Introduction to fundamental technical skills and new processes in various materials. Emphasis on formal concerns and concept development.	3 Credits
	ARTZ 271A - Printmaking I (R-9) Offered autumn and spring. Prereq., ARTZ 105A. Introduction to printmaking techniques. Emphasis on multiples, layering color, and collaboration. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Consideration of historical and contemporary approaches.	3 Credits
	ARTZ 284A - Photo I-Techs and Processes Offered autumn and spring. Prereq., ARTZ 105A. Introduction to photography. Emphasis on exposure, digital camera basics, composition, digital photography processing, and print finishing techniques. Consideration of historical and contemporary approaches.	3 Credits
Minimum Required Grade: C		18 Total Credits Required

Begining Art History And Criticism

Rule: All Courses Required

	Course	Credits
	ARTH 200H - Art of World Civilization I Offered autumn. Survey of the history of visual art from prehistory to 1400.	3 Credits
	ARTH 201H - Art of World Civilization II Offered spring. Survey of the history of visual art from 1400 to the present.	3 Credits
	ARTH 250L - Introduction to Art Criticism Offered autumn and spring. Prereqs., ARTH 200H, ARTH 201H. Study of the description, interpretation, and evaluation of visual art as practiced in art criticism.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Upper Division Studio Courses

Rule: 12 Credits of Upper Division (300-400 Level) Courses Are Required

	Course	Credits

	ARTZ 311 - Drawing II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 211A. Focus on integrating content and form in drawings and research in historical and contemporary ideas.	3 Credits
	ARTZ 321 - Painting II (R-12) Offered autumn and spring. Prereq., ARTZ 221A and ARTH 250L. Continued development of painting skills and concepts with an emphasis on contemporary ideas and approaches. Topics may include: figuration, place, process, abstraction, and other contemporary themes.	3 Credits
	ARTZ 331 - Ceramics II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 231A. Continued development of ceramic process with emphasis on handbuilding sculpture and wheel throwing. Focus on integrating content and form through study of historical and contemporary approaches.	3 Credits
	ARTZ 335 - Clay and Glaze Offered autumn. Prereq., ARTZ 250L and ARTZ 231A. In-depth study of the physical and chemical properties of clays and glazes. Hands-on testing of clay and glaze formulas and introduction to kiln firing.	3 Credits
	ARTZ 351 - Sculpture II (R-12) Offered autumn and spring. Prereqs or coreqs., ARTH 250L and ARTZ 251A. Continued development of sculptural processes. Emphasis on clear sculptural responses to material-based and topic-based assignments and contemporary approaches.	3 Credits
	ARTZ 371 - Printmaking II (R-12) Offered autumn and spring. Prereq., ARTZ 271A and prereq. or coreq., ARTH 250L. Continued development of printmaking processes. Emphasis on integration of content. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Focus on layering of color, increased scale, styles of format and presentation, and research in historical and contemporary approaches.	3 Credits
	ARTZ 372 - Printmaking II- Lithography (R-12) Offered autumn and spring. Prereq., ART 233A. Continued work in various printmaking media.	3 Credits
	ARTZ 384 - Photo II-Theory, Crit, Prctice (R-12) Offered autumn and spring. Prereqs., ARTH 250L and prereq. or coreq. ARTZ 284A. Further exploration of photography. Emphasis on traditional film and darkroom-based processes, expansion of technical knowledge in small and medium format cameras, film and chemical process, presentation options, and research in historical and contemporary approaches.	3 Credits
	ARTZ 385 - The Art of Digital Photography (R-12) Offered autumn or spring. Prereq. or co-req., ARTH 250L and ARTZ 284A. Further exploration of photography. Emphasis on effective use of color, advanced editing techniques, studio and strobe lighting, varied approaches to format and presentation, introduction to video capture and editing, and research in historical and contemporary approaches.	3 Credits

	ARTZ 391 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, experimental offerings of new courses, and/or one-time offerings of current topics.	1 To 9 Credits
	ARTZ 398 - Internship (R-12) Offered autumn and spring. Prereqs., ARTH 250L and/or consent of instructor. Special internships under instructor supervision offering practical experience.	1 To 12 Credits
	ARTZ 410 - Advanced Research- Drawing (R-9) Offered intermitently. Prereq. ARTH 350 and ARTZ 211A or consent of instructor. Further exploration of drawing-related studio practice including installation, performance, and research in historical and contemporary approaches, including student proposals.	3 Credits
	ARTZ 420 - Advanced Research- Painting (R-9) Offered intermittently. Prereqs. or co-reqs., ARTH 350 and ARTZ 321 or consent of instructor. Further exploration of painting-related studio practice including technical and conceptual student proposals.	3 Credits
	ARTZ 430 - Advanced Research- Ceramics (R-9) Offered intermittently. Further exploration of contemporary ceramics including student proposals. Specific conceptual and technical aspects in individual and group critiques.	3 Credits
	ARTZ 451 - Advanced Research- Sculpture (R-9) Offered intermittingly. Prereq., ARTZ 351 or consent of instructor. Further exploration of sculpture-related studio practice including technical and student proposals.	3 Credits
	ARTZ 470 - Advanced Research- Printmaking (R-9) Offered intermittently. Prereqs., ARTH 250L and ARTZ 271A or consent of instructor. Further exploration of printmaking techniques including student proposals.	3 Credits
	ARTZ 486 - Advanced Research- Photography (R-9) Offered intermittently. Prereqs., ARTZ 384 or 385 or 388 or consent of instructor. Further exploration of photography-related studio practice including technical and conceptual student proposals.	3 Credits
	ARTZ 491 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time offerings of current topics.	1 To 6 Credits
	ARTZ 492 - Independent Study (R-12) Offered intermittently. Prereqs., ARTH 250L or consent of instructor. Further exploration of studio practice including technical and conceptual student proposals.	2 To 6 Credits
	ARTZ 494 - Seminar- Professional Prctices Offered autumn. Prereqs., senior status and prereq. or coreq., ARTH 250L. Required of all graduating B.F.A. students. Introduction to professional practices and standards in the visual arts, including: presentation, portfolio development, career and exhibition opportunities, arts advocacy, and graduate school application.	3 Credits

Minimum Required Grade: C	12 Total Credits Required

Upper Division Art History

Rule: 6 Credits in Upper Division (300-400 Level) Courses are Required

	Course	Credits
	ARTH 333H - Architectural History I Offered autumn. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of architectural styles, designs, and choices of the built environment from prehistory to the modern age.	3 Credits
	ARTH 391 - Special Topics (R-12) Offered intermittently. Experimental offerings by visiting professors, new courses, and/or one-time investigations of current topics.	1 To 6 Credits
	ARTH 407 - Roman and Early Christian Art Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Roman art and architecture from prehistory to the Early Christian period.	3 Credits
	ARTH 425 - Art of the Renaissance Offered intermittently. Prereqs., ARTH 200H or 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1450 to 1600.	3 Credits
	ARTH 430 - 19th Century Art Offered intermittently. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1800 to 1900.	3 Credits
	ARTH 433H - Acient American Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of ancient American art and architecture from prehistory to 1492.	3 Credits
	ARTH 434H - Latin American Art Offered intermittently. Prereq., ARTH 200H or 201H or consent of instructor. Same as NAS 368H. Exploration of themes in the development of Latin American art from the colonial period to the present including Renaissance ideals in the “New World”, syncretism of European, African, and indigenous roots, the Black Legend, and the advent of such movements as Academism, Modernism, Social Realism, Magic Realism and Post-Modernism.	3 Credits
	ARTH 436 - The History of Women in Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH250L or consent of instructor. Exploration of women and art from prehistory to the present.	3 Credits
	ARTH 440 - 20th Century Art Offered intermittently. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of art and architecture of the 20th century.	3 Credits

	ARTH 450 - Renaissance Theory & Criticism Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of the writings on art from the 14th-16th centuries.	3 Credits
	ARTH 458 - Adv Research in Art History (R-9) Offered autumn and spring. Prereqs., a 300-level art history course and consent of instructor. Further exploration of art history topics including student proposals.	2 To 6 Credits
	ARTH 459 - Advanced Research Art Crit (R-9) Offered intermittently. Prereqs., ARTH 350 and consent of instructor. Further exploration of art criticism topics including student proposals.	3 To 6 Credits
	ARTH 464 - African Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of African art and architecture from prehistory to the present.	3 Credits
	ARTH 465 - Spanish Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of Spanish art and architecture from prehistory to the present.	3 Credits
	ARTH 491 - Special Topics (R-9) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time investigation of current topics.	1 To 6 Credits
	ARTH 494 - Sem Art Hist & Crit (R-9) Offered intermittently. Prereq., ARTH 200H or 201H, a 300-level art history course and consent of instructor. Upper-division seminar in varying topics of art history and criticism.	3 Credits
	ARTH 498 - Internship (R-12) Offered intermittently. Prereqs., ARTH 250L and/or consent of instructor. Special internship under instructor supervision offering practical experience.	1 To 6 Credits
Minimum Required Grade: C		6 Total Credits Required

Upper Division Art Criticism

Rule: The Following Course is Required

	Course	**Credits**
	ARTH 350 - Contemp Art and Art Criticism Offered autumn and spring. Prereq., ARTH 250L or consent of instructor. Exploration of artists, art works, critics, and theories from 1960 to the present.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Art Education Courses

Rule: All courses are required

Note: ARTZ 402 must be taken prior to ARTZ 403. Students can choose to take either DANC 497 or THTR 239A

	Course	Credits
	ARTZ 402 - Teaching Art I-- K-12 Offered autumn. Prereqs., ARTH 250L and junior standing. Preparation for art specialists including historical and contemporary trends in curriculum development, teaching procedures, child growth and development in art, resources, evaluation, democratic teaching practices, and directed teaching experiences in school setting.	3 Credits
	ARTZ 403 - Teaching Art II-- K-12 Offered spring. Prereq., ARTZ 402. Continuation and practical application of ARTZ 402.	3 Credits
	DANC 497 - Methods: Tchng Movmnt in Schls Offered autumn odd-numbered years. Prereq., consent of instr. Experience in planning, observing and directing creative movement as a teaching tool in K-5.	3 Credits
	THTR 239A - Creative Drama/Dance: K-8 Offered autumn and spring. Restricted to majors in Elementary Education and Early Childhood Education: P-3. Focus on the use of creative drama and dance as types of educational tools. Students will explore, experience, and implement creative teaching methods in order to promote scholarship through kinesthetic teaching in elementary education.	2 Credits
Minimum Required Grade: C		9 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major or minor GPA of 2.75 is required to be eligible for student teaching.

Teaching Art B.F.A.

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program
- Licensure Degree Requirements

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publication and are used for advising purposes only. You do not fill out a major change for a track.

Bachelor of Fine Arts - Art; Track: Teaching Art

College of Visual & Perf Arts

Catalog Year: 2016-2017

Degree Specific Credits: 75

Required Cumulative GPA: 3.0

Lower Division Requirements

Rule: All Courses Are Required Unless Waived Via Departmental Advanced Placement Policy

Note: Students seeking the Bachelor of Fine Arts degree with a major in Art must complete 36 credits of lower division art courses: Studio Art Fundamentals, 9; Beginning Art History, 6; Introductory Art Criticism, 3; Photography, 3; Ceramics, 3; Printmaking 3; Sculpture, 3; Painting, 3; Drawing, 3;

Minimum Required Grade: C

36 Total Credits Required

Studio Art Fundamentals

Rule: All Courses Required Unless Waived Via Departmental Advanced Placement Policy

	Course	Credits
	ARTZ 105A - Visual Language - Drawing Offered autumn and spring. Introduction to basic drawing skills and concept integration. Studio practice with research in historical and contemporary approaches.	3 Credits
	ARTZ 106A - Visual Language - 2-D Fndtns Offered autumn and spring. Prereq. or coreq., ARTZ 105A. Introduction to the formal elements and principles of design, color theory, and predominant western and non-western historical styles.	3 Credits
	ARTZ 108A - Visual Language - 3-D Fndtns Offered autumn and spring. Introduction to the formal elements and principles of design in 3-D.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Studio I Courses

Rule: All Courses Required

	Course	Credits
	ARTZ 211A - Drawing I Offered autumn and spring. Prereq., ARTZ 105A, ARTZ 106A, and ARTH 200H or 201H. Study of human anatomy through drawing, in-class skills development, homework portfolio, and research in historical and contemporary figuration required.	3 Credits
	ARTZ 221A - Painting I Offered autumn and spring. Prereq., ARTZ 105A and 106A. Introduction to acrylic and oil painting. Emphasis on color theory, composition, concept development, and research in historical and contemporary strategies.	3 Credits

	ARTZ 231A - Ceramics I Offered autumn and spring. Prereq., ARTZ 108A. Introduction to clay as a historical and contemporary medium. Emphasis on handbuilding, wheel throwing, and concept development.	3 Credits
	ARTZ 251A - Sculpture I Offered autumn and spring. Prereq., ARTZ 108A. Introduction to fundamental technical skills and new processes in various materials. Emphasis on formal concerns and concept development.	3 Credits
	ARTZ 271A - Printmaking I (R-9) Offered autumn and spring. Prereq., ARTZ 105A. Introduction to printmaking techniques. Emphasis on multiples, layering color, and collaboration. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Consideration of historical and contemporary approaches.	3 Credits
	ARTZ 284A - Photo I-Techs and Processes Offered autumn and spring. Prereq., ARTZ 105A. Introduction to photography. Emphasis on exposure, digital camera basics, composition, digital photography processing, and print finishing techniques. Consideration of historical and contemporary approaches.	3 Credits
Minimum Required Grade: C		18 Total Credits Required

Beginning Art History And Criticism

Rule: All Courses Required

	Course	Credits
	ARTH 200H - Art of World Civilization I Offered autumn. Survey of the history of visual art from prehistory to 1400.	3 Credits
	ARTH 201H - Art of World Civilization II Offered spring. Survey of the history of visual art from 1400 to the present.	3 Credits
	ARTH 250L - Introduction to Art Criticism Offered autumn and spring. Prereqs., ARTH 200H, ARTH 201H. Study of the description, interpretation, and evaluation of visual art as practiced in art criticism.	3 Credits
Minimum Required Grade: C		9 Total Credits Required

Upper Division Studio Courses I

Rule: 12 Credits of Upper Division (300-400 Level) Courses Inside Area Of Concentration Are Required

	Course	Credits

	ARTZ 311 - Drawing II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 211A. Focus on integrating content and form in drawings and research in historical and contemporary ideas.	3 Credits
	ARTZ 321 - Painting II (R-12) Offered autumn and spring. Prereq., ARTZ 221A and ARTH 250L. Continued development of painting skills and concepts with an emphasis on contemporary ideas and approaches. Topics may include: figuration, place, process, abstraction, and other contemporary themes.	3 Credits
	ARTZ 331 - Ceramics II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 231A. Continued development of ceramic process with emphasis on handbuilding sculpture and wheel throwing. Focus on integrating content and form through study of historical and contemporary approaches.	3 Credits
	ARTZ 335 - Clay and Glaze Offered autumn. Prereq., ARTZ 250L and ARTZ 231A. In-depth study of the physical and chemical properties of clays and glazes. Hands-on testing of clay and glaze formulas and introduction to kiln firing.	3 Credits
	ARTZ 351 - Sculpture II (R-12) Offered autumn and spring. Prereqs or coreqs., ARTH 250L and ARTZ 251A. Continued development of sculptural processes. Emphasis on clear sculptural responses to material-based and topic-based assignments and contemporary approaches.	3 Credits
	ARTZ 371 - Printmaking II (R-12) Offered autumn and spring. Prereq., ARTZ 271A and prereq. or coreq., ARTH 250L. Continued development of printmaking processes. Emphasis on integration of content. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Focus on layering of color, increased scale, styles of format and presentation, and research in historical and contemporary approaches.	3 Credits
	ARTZ 372 - Printmaking II- Lithography (R-12) Offered autumn and spring. Prereq., ART 233A. Continued work in various printmaking media.	3 Credits
	ARTZ 384 - Photo II-Theory, Crit, Prctice (R-12) Offered autumn and spring. Prereqs., ARTH 250L and prereq. or coreq. ARTZ 284A. Further exploration of photography. Emphasis on traditional film and darkroom-based processes, expansion of technical knowledge in small and medium format cameras, film and chemical process, presentation options, and research in historical and contemporary approaches.	3 Credits
	ARTZ 385 - The Art of Digital Photography (R-12) Offered autumn or spring. Prereq. or co-req., ARTH 250L and ARTZ 284A. Further exploration of photography. Emphasis on effective use of color, advanced editing techniques, studio and strobe lighting, varied approaches to format and presentation, introduction to video capture and editing, and research in historical and contemporary approaches.	3 Credits

	ARTZ 391 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, experimental offerings of new courses, and/or one-time offerings of current topics.	1 To 9 Credits
	ARTZ 398 - Internship (R-12) Offered autumn and spring. Prereqs., ARTH 250L and/or consent of instructor. Special internships under instructor supervision offering practical experience.	1 To 12 Credits
	ARTZ 410 - Advanced Research- Drawing (R-9) Offered intermitently. Prereq. ARTH 350 and ARTZ 211A or consent of instructor. Further exploration of drawing-related studio practice including installation, performance, and research in historical and contemporary approaches, including student proposals.	3 Credits
	ARTZ 420 - Advanced Research- Painting (R-9) Offered intermittently. Prereqs. or co-reqs., ARTH 350 and ARTZ 321 or consent of instructor. Further exploration of painting-related studio practice including technical and conceptual student proposals.	3 Credits
	ARTZ 430 - Advanced Research- Ceramics (R-9) Offered intermittently. Further exploration of contemporary ceramics including student proposals. Specific conceptual and technical aspects in individual and group critiques.	3 Credits
	ARTZ 451 - Advanced Research- Sculpture (R-9) Offered intermittingly. Prereq., ARTZ 351 or consent of instructor. Further exploration of sculpture-related studio practice including technical and student proposals.	3 Credits
	ARTZ 470 - Advanced Research- Printmaking (R-9) Offered intermittently. Prereqs., ARTH 250L and ARTZ 271A or consent of instructor. Further exploration of printmaking techniques including student proposals.	3 Credits
	ARTZ 484 - Photo III- Studio Projects (R-9) Offered autumn or spring. Prereqs., ARTZ 384 and 385. Concentrated exploration of techniques, portfolio development, and research in historical and contemporary approaches.	3 Credits
	ARTZ 486 - Advanced Research- Photography (R-9) Offered intermittently. Prereqs., ARTZ 384 or 385 or 388 or consent of instructor. Further exploration of photography-related studio practice including technical and conceptual student proposals.	3 Credits
	ARTZ 491 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time offerings of current topics.	1 To 6 Credits
	ARTZ 492 - Independent Study (R-12) Offered intermittently. Prereqs., ARTH 250L or consent of instructor. Further exploration of studio practice including technical and conceptual student proposals.	2 To 6 Credits

	ARTZ 498 - Internship (R-12) Offered intermittently. Prereqs., ARTH 250L and consent of instructor. Special internship under instructor supervision offering practical experience.	1 To 12 Credits
Minimum Required Grade: C		12 Total Credits Required

Upper Division Studio Courses

Rule: 12 Credits of Upper Division (300-400 Level) Courses Outside Area Of Concentration Are Required

	Course	Credits
	ARTZ 311 - Drawing II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 211A. Focus on integrating content and form in drawings and research in historical and contemporary ideas.	3 Credits
	ARTZ 321 - Painting II (R-12) Offered autumn and spring. Prereq., ARTZ 221A and ARTH 250L. Continued development of painting skills and concepts with an emphasis on contemporary ideas and approaches. Topics may include: figuration, place, process, abstraction, and other contemporary themes.	3 Credits
	ARTZ 331 - Ceramics II (R-12) Offered autumn and spring. Prereq., ARTH 250L and ARTZ 231A. Continued development of ceramic process with emphasis on handbuilding sculpture and wheel throwing. Focus on integrating content and form through study of historical and contemporary approaches.	3 Credits
	ARTZ 335 - Clay and Glaze Offered autumn. Prereq., ARTZ 250L and ARTZ 231A. In-depth study of the physical and chemical properties of clays and glazes. Hands-on testing of clay and glaze formulas and introduction to kiln firing.	3 Credits
	ARTZ 351 - Sculpture II (R-12) Offered autumn and spring. Prereqs or coreqs., ARTH 250L and ARTZ 251A. Continued development of sculptural processes. Emphasis on clear sculptural responses to material-based and topic-based assignments and contemporary approaches.	3 Credits
	ARTZ 371 - Printmaking II (R-12) Offered autumn and spring. Prereq., ARTZ 271A and prereq. or coreq., ARTH 250L. Continued development of printmaking processes. Emphasis on integration of content. Topics may include: relief, intaglio, lithography, screenprinting, artist books, mixed media, or photo-processes. Focus on layering of color, increased scale, styles of format and presentation, and research in historical and contemporary approaches.	3 Credits
	ARTZ 372 - Printmaking II- Lithography (R-12) Offered autumn and spring. Prereq., ART 233A. Continued work in various printmaking media.	3 Credits

	ARTZ 384 - Photo II-Theory, Crit, Prctice (R-12) Offered autumn and spring. Prereqs., ARTH 250L and prereq. or coreq. ARTZ 284A. Further exploration of photography. Emphasis on traditional film and darkroom-based processes, expansion of technical knowledge in small and medium format cameras, film and chemical process, presentation options, and research in historical and contemporary approaches.	3 Credits
	ARTZ 385 - The Art of Digital Photography (R-12) Offered autumn or spring. Prereq. or co-req., ARTH 250L and ARTZ 284A. Further exploration of photography. Emphasis on effective use of color, advanced editing techniques, studio and strobe lighting, varied approaches to format and presentation, introduction to video capture and editing, and research in historical and contemporary approaches.	3 Credits
	ARTZ 388 - Alternative Process Photog Offered intermittently. Prereq. or coreq., ARTH 250L and ARTZ 284A. Exploration of historic and alternative photography techniques such as cyanotype, pinhole, and wet-plate. Focus on digital negative, historic optics, and varied approaches to format, presentation, and research in historical and contemporary approaches.	3 Credits
	ARTZ 391 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, experimental offerings of new courses, and/or one-time offerings of current topics.	1 To 9 Credits
	ARTZ 398 - Internship (R-12) Offered autumn and spring. Prereqs., ARTH 250L and/or consent of instructor. Special internships under instructor supervision offering practical experience.	1 To 12 Credits
	ARTZ 410 - Advanced Research- Drawing (R-9) Offered intermitently. Prereq. ARTH 350 and ARTZ 211A or consent of instructor. Further exploration of drawing-related studio practice including installation, performance, and research in historical and contemporary approaches, including student proposals.	3 Credits
	ARTZ 420 - Advanced Research- Painting (R-9) Offered intermittently. Prereqs. or co-reqs., ARTH 350 and ARTZ 321 or consent of instructor. Further exploration of painting-related studio practice including technical and conceptual student proposals.	3 Credits
	ARTZ 430 - Advanced Research- Ceramics (R-9) Offered intermittently. Further exploration of contemporary ceramics including student proposals. Specific conceptual and technical aspects in individual and group critiques.	3 Credits
	ARTZ 451 - Advanced Research- Sculpture (R-9) Offered intermittingly. Prereq., ARTZ 351 or consent of instructor. Further exploration of sculpture-related studio practice including technical and student proposals.	3 Credits
	ARTZ 470 - Advanced Research- Printmaking (R-9) Offered intermittently. Prereqs., ARTH 250L and ARTZ 271A or consent of instructor. Further exploration of printmaking techniques including student proposals.	3 Credits

	ARTZ 486 - Advanced Research- Photography (R-9) Offered intermittently. Prereqs., ARTZ 384 or 385 or 388 or consent of instructor. Further exploration of photography-related studio practice including technical and conceptual student proposals.	3 Credits
	ARTZ 491 - Special Topics (R-12) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time offerings of current topics.	1 To 6 Credits
	ARTZ 492 - Independent Study (R-12) Offered intermittently. Prereqs., ARTH 250L or consent of instructor. Further exploration of studio practice including technical and conceptual student proposals.	2 To 6 Credits
	ARTZ 498 - Internship (R-12) Offered intermittently. Prereqs., ARTH 250L and consent of instructor. Special internship under instructor supervision offering practical experience.	1 To 12 Credits
Minimum Required Grade: C		12 Total Credits Required

Upper Division Art History

Rule: 6 Credits in Upper Division (300-400 Level) Courses are Required

	Course	Credits
	ARTH 333H - Architectural History I Offered autumn. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of architectural styles, designs, and choices of the built environment from prehistory to the modern age.	3 Credits
	ARTH 391 - Special Topics (R-12) Offered intermittently. Experimental offerings by visiting professors, new courses, and/or one-time investigations of current topics.	1 To 6 Credits
	ARTH 407 - Roman and Early Christian Art Offered intermittently. Prereqs., ARTH 200H and ARTH 250L or consent of instructor. Exploration of Roman art and architecture from prehistory to the Early Christian period.	3 Credits
	ARTH 425 - Art of the Renaissance Offered intermittently. Prereqs., ARTH 200H or 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1450 to 1600.	3 Credits
	ARTH 430 - 19th Century Art Offered intermittently. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of European art and architecture from 1800 to 1900.	3 Credits
	ARTH 433H - Acient American Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of ancient American art and architecture from prehistory to 1492.	3 Credits

	ARTH 434H - Latin American Art Offered intermittently. Prereq., ARTH 200H or 201H or consent of instructor. Same as NAS 368H. Exploration of themes in the development of Latin American art from the colonial period to the present including Renaissance ideals in the "New World", syncretism of European, African, and indigenous roots, the Black Legend, and the advent of such movements as Academism, Modernism, Social Realism, Magic Realism and Post-Modernism.	3 Credits
	ARTH 436 - The History of Women in Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH250L or consent of instructor. Exploration of women and art from prehistory to the present.	3 Credits
	ARTH 440 - 20th Century Art Offered intermittently. Prereqs., ARTH 201H and ARTH 250L or consent of instructor. Exploration of art and architecture of the 20th century.	3 Credits
	ARTH 450 - Renaissance Theory & Criticism Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of the writings on art from the 14th-16th centuries.	3 Credits
	ARTH 458 - Adv Research in Art History (R-9) Offered autumn and spring. Prereqs., a 300-level art history course and consent of instructor. Further exploration of art history topics including student proposals.	2 To 6 Credits
	ARTH 459 - Advanced Research Art Crit (R-9) Offered intermittently. Prereqs., ARTH 350 and consent of instructor. Further exploration of art criticism topics including student proposals.	3 To 6 Credits
	ARTH 464 - African Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of African art and architecture from prehistory to the present.	3 Credits
	ARTH 465 - Spanish Art Offered intermittently. Prereqs., ARTH 200H or ARTH 201H and ARTH 250L or consent of instructor. Exploration of Spanish art and architecture from prehistory to the present.	3 Credits
	ARTH 491 - Special Topics (R-9) Offered intermittently. Prereq., ARTH 250L. Experimental offerings by visiting professors, new courses, and/or one-time investigation of current topics.	1 To 6 Credits
	ARTH 494 - Sem Art Hist & Crit (R-9) Offered intermittently. Prereq., ARTH 200H or 201H, a 300-level art history course and consent of instructor. Upper-division seminar in varying topics of art history and criticism.	3 Credits
	ARTH 498 - Internship (R-12) Offered intermittently. Prereqs., ARTH 250L and/or consent of instructor. Special internship under instructor supervision offering practical experience.	1 To 6 Credits

Minimum Required Grade: C	6 Total Credits Required

Upper Division Art Criticism

Rule: The following course is required

	Course	Credits
	ARTH 350 - Contemp Art and Art Criticism Offered autumn and spring. Prereq., ARTH 250L or consent of instructor. Exploration of artists, art works, critics, and theories from 1960 to the present.	3 Credits
Minimum Required Grade: C		3 Total Credits Required

Art Education Courses

Rule: All courses are required.

Note: ARTZ 402 must be taken prior to ARTZ 403. Students can choose to take either DANC 497 or THTR 239A.

	Course	Credits
	ARTZ 402 - Teaching Art I-- K-12 Offered autumn. Prereqs., ARTH 250L and junior standing. Preparation for art specialists including historical and contemporary trends in curriculum development, teaching procedures, child growth and development in art, resources, evaluation, democratic teaching practices, and directed teaching experiences in school setting.	3 Credits
	ARTZ 403 - Teaching Art II-- K-12 Offered spring. Prereq., ARTZ 402. Continuation and practical application of ARTZ 402.	3 Credits
	DANC 497 - Methods: Tchng Movmnt in Schls Offered autumn odd-numbered years. Prereq., consent of instr. Experience in planning, observing and directing creative movement as a teaching tool in K-5.	3 Credits
	THTR 239A - Creative Drama/Dance: K-8 Offered autumn and spring. Restricted to majors in Elementary Education and Early Childhood Education: P-3. Focus on the use of creative drama and dance as types of educational tools. Students will explore, experience, and implement creative teaching methods in order to promote scholarship through kinesthetic teaching in elementary education.	2 Credits
Minimum Required Grade: C		9 Total Credits Required

Senior Thesis Capstone

Rule: All courses are required

	Course	Credits

	ARTZ 494 - Seminar- Professional Prctices Offered autumn. Prereqs., senior status and prereq. or coreq., ARTH 250L. Required of all graduating B.F.A. students. Introduction to professional practices and standards in the visual arts, including: presentation, portfolio development, career and exhibition opportunities, arts advocacy, and graduate school application.	3 Credits
	ARTZ 499 - Senior Thesis/Capstone Offered spring. Prereqs., senior status, ARTZ 494, and successful passage of B.F.A. review. Required of B.F.A. students. Focus on completion of artwork and preparation for required spring B.F.A. exhibition. Further exploration of professional practices topics and career opportunities.	3 Credits
Minimum Required Grade: C		6 Total Credits Required

Teaching Licensure Requirements

Note: Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A major or minor GPA of 2.75 is required to be eligible for student teaching.

School of Business Administration

Christopher Shook, Dean

Terri L. Herron, Associate Dean

Homepage:http://www.business.umt.edu/

The School of Business Administration, founded in 1918, is the largest professional school at the University. All programs are accredited by AACSB International–The Association to Advance Collegiate Schools of Business, and accounting programs also hold separate AACSB accreditation.

Mission

The University of Montana's School of Business Administration enhances lives and benefits society by providing a world-class business education in a supportive, collegial environment. We accomplish this mission by acting on our shared core values of creating significant experiences, building relationships, teaching and researching relevant topics, behaving ethically, and inspiring individuals to thrive.

The goal of the School of Business Administration's programs is to provide a broad foundation in business practice and theory, supplemented by deep expertise within one or more specific business disciplines through majors and certificates. The complexity of contemporary society has increased the need for responsible, ethical leadership in organizations with local and global reach. A professional business education combined with solid grounding in the liberal arts and sciences prepares men and women to meet difficult challenges and to contribute to society in meaningful ways. School of Business Administration graduates work in business, nonprofit, and government sectors all over the world.

Students may pursue programs of study leading to the B.S. in Business Administration with a major in any of the following areas: accounting, finance, international business, management, management information systems, and marketing. Students pursuing other undergraduate degrees can complete a minor in Business Administration. The School of Business Administration also offers various certificates to both business majors and non-business major.

High School Preparation:

High school students who are planning to major or minor in business administration at the University of Montana-Missoula should take their school's college preparatory curriculum. Additional courses to improve quantitative, writing, verbal communication, analytical, and computer skills will be beneficial. Students should take as much mathematics as possible, including two years of algebra.

Credit/No Credit Option:

Most business administration courses are offered for traditional letter grade only.

All courses required for the major, the minor, certificates, and all general education courses must be taken for a traditional letter grade. Business courses taken as electives may be taken on a credit/no credit basis only if not identified as traditional letter grade only in the registration system and if approved by the instructor and the department chair. For additional information see the Academic Policies and Procedures section of the catalog.

Graduate Programs

Opportunity for further study at the graduate level is offered through programs leading to the degrees of Master of Accountancy (M-Acct.), Master of Science in Business Analytics (M.S.-B.A), Master of Business Administration (M.B.A.), joint J.D./M.B.A., joint M.B.A./D.P.T. and joint M.B.A./Pharm.D. The graduate programs are suited to all students regardless of undergraduate training. Further details may be obtained from the Graduate School or by specific inquiries directed to: Director of M.B.A. Program, School of Business Administration, Director of M.S.-B.A. Program, School of Business Administration,or Director of M-Acct. Program, School of Business Administration.

Foundation Program for M.B.A and M-Acct Programs

The M.B.A. and M-Acct. programs are open to graduates of non-business undergraduate programs (prerequisites strictly enforced). Students in the arts and sciences or other professional schools are encouraged to consider the M.B.A. and M-Acct programs. Completion of all of the foundation courses listed below (or equivalents) prior to starting the program will reduce the time required for the M.B.A. or M-Acct. at the University of Montana-Missoula by one year; however, many of the courses listed below have prerequisites that are strictly enforced (including, without limitation, a general prerequisite that all upper-division business courses require the completion of each lower-core business course with a grade of C or better).

- ACTG 201 Principles of Financial Accounting
- ACTG 202 Principles of Managerial Accounting
- BGEN 361 Principles of Business Law
- BFIN 322 Business Finance
- BMIS 270 MIS Foundations for Business
- BMGT 322 Operations Management
- BMGT 340 Management and Organizational Behavior
- BMKT 325 Principles of Marketing
- ECNS 201S Principles of Microeconomics
- STAT 216 Introduction to Statistics

Nine of the 10 courses in the Foundation Program are included in the undergraduate Minor in Business Administration, which is open to any undergraduate student. The School of Business Administration also offers a series of five graduate-level courses that can substitute for the above undergraduate courses. These courses are only open to students who have already earned an undergraduate degree. For more information, please visit the University of Montana School of Business Administration M.B.A website (http://www.business.umt.edu/programs/graduate/mba-program/default.php) or M-Acct website (http://www.business.umt.edu/programs/graduate/macct-program/default.php).

Foundation Program for M.S.-B.A. Program

The M.S.-B.A. program is open to graduates of non-business undergraduate programs. The program can be completed in one year for students who have completed the following foundation courses, or the equivalent:

- BMIS 326 Introduction to Data Analytics
- BMKT 560 Marketing & Stats (or STAT 216 Introduction to Statistics and BMKT 325 Marketing Principles)
- STAT 451 Statistical Methods I
- Business analytics internship or work experience

For more information, please visit the University of Montana School of Business Administration M.S.-B.A. website (http://www.business.umt.edu/programs/graduate/msba-program/default.php).

Name	Minor	Certificate	Associate	Bachelor
Accounting				Requirements
Accounting Information Systems		Requirements		
Big Data Analytics		Requirements		
Business Administration	Requirements			
Digital Marketing		Requirements		

Name	Minor	Certificate	Associate	Bachelor
Entertainment Management		Requirements		
Entrepreneurship		Requirements		
Finance				Requirements
International Business				Requirements
Management				Requirements
Management Information Systems				Requirements
Marketing				Requirements
Sustainable Business Strategy		Requirements		

Management and Marketing Department

Klaus Uhlenbruck, Chair

The Department of Management and Marketing offers three majors within the Bachelor of Science in Business Administration: International Business, Management, and Marketing.

Business: General

Back to Top

- BGEN 220E - Business Ethics and Social Responsibility
  Credits: 3. Offered autumn and spring. Focuses on moral judgments, responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values. Addresses organizations and their relationship to the external environment, the law, and various stakeholders. Course Attributes: Ethical & Human Values Course
- BGEN 360 - International Business
  Credits: 3. Offered autumn and spring. Prereq., junior standing in Business. Analysis of business in diverse parts of the globe. Examines the impact of socio-economic, political, legal, educational, and cultural factors on management.
- BGEN 492 - Independent Study
  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.
- BGEN 499 - Strategic Management
  Credits: 3. Prereq., senior standing in Business, COMX 111A, ECNS 202S, BGEN 220E and all business core. Analysis of external and internal firm environment and strategy formulation. Integration of cumulative business knowledge. Case orientation and class discussion. Course Attributes: Writing Course-Advanced

Business: Management

Back to Top

- BMGT 191 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- BMGT 192 - Independent Study

Credits: 1 TO 3. (R-3) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- BMGT 205 - Professional Business Comm

  Credits: 3. Offered intermittently. Prereq., WRIT 101, COMX 111A. Focuses on understanding the scope and nature of business communication and becoming more fluent and effective writers and speakers in a variety of business situations. Students practice choosing and applying the best communication vehicle and strategy for multiple purposes, audiences, and situations. The course asks students to spend significant time on their own professional writing and presentation skills, and will also survey various contemporary issues in business communication. Course Attributes: Writing Course-Intermediate

- BMGT 275 - Venue Management

  Credits: 3. Offered Autumn. Open to non-business majors. This course is designed to provide some of the basic tools for better understanding the processes involved in the conceptualization, development and production of live-events and successfully managing various types of venues.

- BMGT 291 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BMGT 292 - Independent Study

  Credits: 1 TO 3. (R-3) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- BMGT 298 - Management Internship

  Credits: 1 TO 3. (R-3) Offered every term. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums Internship graduation limit 6

- BMGT 340 - Mgmt & Organization Behavior

  Credits: 3. Offered autumn and spring. Prereq., junior standing in Business. An intensive examination of the fundamentals of management and organization supported by the application of behavioral science principles to the management of people in organizations.

- BMGT 375 - Business of Film & Television

  Credits: 3. Offered intermittently. Open to non-business majors. The purpose of this class is to gain a basic understanding of the business elements of film and television production. This is done through a semester long project and lectures by visiting television and film professionals.

- BMGT 391 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BMGT 392 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq. junior standing in Business and consent of instr.

- BMGT 394 - Seminar/Workshop

  Credits: 1 TO 3. (R-3) Offered intermittently. Prereq., junior standing in Business and consent of instr.

- BMGT 401 - Event Management

  Credits: 3. Offered autumn. Prereq., junior standing; open to non-business majors. Students are introduced to skills that are necessary for managing entertainment events. Topics include: market research; artist research; negotiating events; producing live events; and working with community and non-profit organizations. Students will develop and participate in several live events throughout the semester.

- BMGT 402 - Prin of Entertainment Mgmt I

  Credits: 3. Offered autumn and spring. Prereq., junior standing and consent of instructor; open to non-business majors. Students are introduced to the fundamental aspects of the entertainment business. Topics include: artist development and management; productions; promotions; and venue management and marketing. Students will produce an artist development plan.

- BMGT 403 - Prin of Entertainment Mgmt II

  Credits: 3. Offered spring. Prereq., junior standing; open to non-business majors. Topics include: tour development and marketing; agency relations and responsibilities; and new forms of entertainment media and distribution. Students will produce an event management plan.

- BMGT 410 - Sustainable Business Practices

  Credits: 3. Offered autumn. Prereq., junior standing. This course explores how changing perceptions around environmental and social issues influence current business practices. Through this exploration, we discuss the impact these influences have on business and how adept firms can gain competitive advantage through embracing and integrating them into their core strategies.

- BMGT 420 - Leadership and Motivation

  Credits: 3. Offered autumn and spring. Prereq., junior standing in Business and BMGT 340. Study of fundamental concepts, theories, and models of leadership and motivation. Selected topics include: trait and behavioral theories of leadership, charismatic and transformational leadership, power and influence, emotions and justice perceptions in motivation, expectancy and equity theories. Course Attributes: Service Learning/Volunteer Service Learning

- BMGT 444 - Management Communications

  Credits: 3. Offered autumn and spring. Prereq., junior standing in Business; BMGT 340. This course focuses on four modules managing external and internal communications: Communication of Innovations; Communications with Company Leadership; PR Crisis Communications; and Business Negotiations. Course projects include team research, team oral presentations, individual written executive reports, case studies and analysis, and competitive negotiations.

- BMGT 448 - Entrepreneurship

  Credits: 3. Offered autumn and spring. Prereq., junior standing in Business, BMGT 340, BMKT 325; prereq or coreq., BFIN 322. Focuses on starting and managing a growing business. Topics include recognizing business opportunities, setting strategy for the firm, raising capital, marketing new products, and organizing the managerial team. Students develop a business model canvas and/or write a business plan for themselves or for a local entrepreneur.

- BMGT 458 - Advanced Entrepreneurship

  Credits: 1. (R-3) Offered spring. Prereq., BMGT 448. Focus on managing and marketing a growing business, legal and technology issues for entrepreneurs, and financing new ventures. Students refine an existing or write a new business plan and participate in a business plan competition or write case analyses. UM instructors supervise course content delivered by local and regional experts in entrepreneurship. Four separate one credit weekend seminars are offered.

- BMGT 467 - Global Operations and Supply Chain Management

  Credits: 3. Offered Spring. Prereq., BMGT 322 and BMKT 325, or consent of instructor. The course introduces students to the challenges and opportunities companies face and how they manage the risk associated with the global supply chain. It provides an overview of global supply chain operations management as a field and describes the strategic role it has in today’s intensely competitive business environment.

- BMGT 474 - Entertainment Rsrch & Planning

  Credits: 3. Offered intermittently. Prereq., junior standing and consent of instructor; open to non-business majors. This course will provide students with a better understanding of the processes involved in the conceptualization, development, production and or marketing for businesses, particularly entertainment related entities. This is done through a variety of real world projects.

- BMGT 480 - Cross-Cultural Mgmt

  Credits: 3. Offered autumn. Prereq., junior standing in Business. Study of issues related to cultural diversity within the work force and the problems inherent in the management of a firm's activities on an international scale.

- BMGT 491 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BMGT 492 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

- BMGT 493 - International Experience

Credits: 1 TO 6. (R-6) offered intermittently. Prereq., junior standing in business. Field-based, experiential courses that focus on international business topics, incl. the culture and business environment of important U.S. trading partners, such as China, Germany, or Italy.

- BMGT 494 - Seminar/Workshop

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

- BMGT 498 - Internship

  Credits: 1 TO 6. Offered every term. Prereq., junior standing in Business and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums Internship graduation limit 6

- BMGT 595 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate
  Course Attributes: Internships/Practicums

- BMGT 604 - Competitive Strategy

  Credits: 1. Offered autumn. Prereq., admission to the M.B.A. or M.Acct. program. An introduction to strategic managment with a focus on the analysis of the firm and its environment as the basis for strategic decision making. Level: Graduate

- BMGT 640 - Organizational Behavior

  Credits: 2. Offered autumn. Prereq., admission to the M.B.A. or M-Acct. programs. Professionally oriented strategic overview of intrapersonal, interpersonal, and leadership skills for employees, management, and organizational designers. Topics include diversity, communication, motivation, groups/teams, culture and structure. Level: Graduate

- BMGT 665 - Strategic Mgmt Seminar

  Credits: 1 TO 12. Offered spring. Prereq., admission to the M.B.A. or M-Acct. program and ACTG 605, BFIN 681, BMIS 574, BMGT 604, and BMGT 640; coreq., MBA 603. Analysis of the firm within its industry and the structure of the industry; competitive positioning and competitor analysis; decision-making under conditions of uncertainty; developing a competitive advantage in international markets. Level: Graduate

- BMGT 685 - International Business

  Credits: 2. Offered spring. Prereq., admission to the M.B.A. or M-Acct. programs. Review and analysis of international trade theories and institutions, the role of the multinational enterprise (MNE) in global trade and how the MNEs operate in a global setting. Level: Graduate

Business: Marketing

Back to Top

- BMKT 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BMKT 192 - Independent Study

  Credits: 1 TO 3. (R-3) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- BMKT 291 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BMKT 292 - Independent Study

  Credits: 1 TO 3. (R-3) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- BMKT 298 - Internship

Credits: 1 TO 3. (R-3) Offered every term. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums Internship graduation limit 6

- BMKT 325 - Principles of Marketing

  Credits: 3. Offered autumn and spring. Prereq., junior standing in Business. The marketing environment, product, price, distribution, and promotion strategies including government regulation and marketing ethics.

- BMKT 337 - Consumer Behavior

  Credits: 3. Offered autumn and spring. Prereq., junior standing in Business and BMKT 325; PSYX 100S and 230S recommended. A behavioral analysis of consumer decision making and of the factors influencing consumer decisions, i.e., those decisions directly involved with the obtaining of economic goods and services.

- BMKT 342 - Marketing Research

  Credits: 3. Offered autumn or spring. Prereq., junior standing in Business, BMKT 325. Emphasis on data acquisition and analysis for improved decision making in marketing. Topics include problem definition; secondary data; primary data via observation, interrogation and experimentation; data analysis; written and oral reports. May include field project.

- BMKT 343 - Integrated Marketing Comm

  Credits: 3. Offered autumn or spring. Prereq., junior standing in Business, BMKT 325. An integrated course in promotion strategy. Topics include advertising message design, media selection, promotions, public relations, personal selling, and other selected topics.

- BMKT 391 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BMKT 392 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

- BMKT 412 - Non Profit Marketing

  Credits: 3. Offered intermittently. Prereq., junior standing in Business and BMKT 325. Integration of core concepts of marketing into philanthropic and other nonprofit organizations. Includes strategies for large-scale enterprises such as unions, educational and religious institutions to small organizations that provide local support such as cultural services, human and environmental services. Student work with nonprofit organizations creating marketing communications plans in an experiential learning environment.

- BMKT 413 - Sports Marketing

  Credits: 3. Offered intermittently. prereq., junior standing in Business, BMKT 325. Examines the marketing of sports products and non-sports products using sports as a platform. Topics include the use of traditional marketing strategies as well as the use of sponsorship strategies including endorsements, venue naming rights, and licensing.

- BMKT 420 - Integrated Online Marketing

  Credits: 3. Offered autumn or spring. Prereq., junior standing in business, BMKT 325. Exploration and application of marketing communications principles to the internet environment. Students develop individual WordPress websites/blogs, learn about online marketing techniques, and complete online marketing and social media projects.

- BMKT 440 - Marketing Analytics

  Credits: 3. Offered autumn or spring. Prereq., BMKT 325; junior standing in Business or consent of instr. The purpose of this course is to learn about the importance and value of using new measurement tools in marketing and using related research and data to create compelling content. Students in this course are also challenged to bring actual ideas to life.

- BMKT 450 - Marketing Connections

  Credits: 3. Offered intermittently, prerequisites: Marketing major, BMKT 325 and 343 and consent of instructor. This is an experiential course offering designed to allow students to apply marketing concepts and strategy to their career/job aspirations. Principles addressed in previous courses are integrated in this class. The concept of marketing strategy will be applied to real-world career

development. Students also spend several days meeting business professionals in the region. Upon successful completion of this course each student will have an immediate, actionable plan that will help achieve career aspirations.

- BMKT 460 - Mktg Hi-Tech Prod & Innov

  Credits: 3. Offered autumn or spring. Prereq., BMKT 325; junior standing in Business or consent of instr. Exploration of concepts and practices related to marketing in fast-paced environment; draws from a range and diversity of industries and contexts including the Internet.

- BMKT 480 - Marketing Management

  Credits: 3. Offered intermittenly. Prereq., senior standing in Business; BMKT 325, 337, 342, 343. Case analysis in marketing management.

- BMKT 490 - Undergraduate Research

  Credits: 3. (R-6) Offered intermittently. Prereq., junior standing in Business, BMKT 325. An experiential course in the strategy, research, and execution of an integrated marketing communications plan. Students' work culminates in the American Association of Advertising's National Student Advertising Competition. Course Attributes: Research & Creative Schlrshp

- BMKT 491 - Special Topics

  Credits: 1 TO 6. (R-9) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BMKT 492 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

- BMKT 493 - International Experience

  Credits: 1 TO 6. (R-6) offered intermittently. Prereq., junior standing in business. Field-based, experiential courses that focus on international business topics, incl. the culture and business environment of important U.S. trading partners, such as China, Germany, or Italy.

- BMKT 494 - Seminar

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

- BMKT 498 - Internship

  Credits: 1 TO 6. Offered every term. Prereq., junior standing and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums Internship graduation limit 6

- BMKT 560 - Marketing & Stats

  Credits: 3. Online course. Offered autumn. Prereq., admission to the M.B.A. or M-Acct. programs or graduate standing with consent of graduate business program director. Introduction to marketing principles to create long-term competitive advantage for an organization. Topics include environmental analysis, marketing planning, segmentation analysis, target marketing, and planning for product, price, promotion and distribution. Business statistics covered including t-tests, analysis of variance, regression and correlation analysis; statistics applications in context of marketing research and marketing problems. Level: Graduate

- BMKT 591 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BMKT 642 - Advanced Marketing Research

  Credits: 3. Prereq., admission to the MS BA program or instructor consent. The purpose of the course is to learn how to provide information for better business decision making. Students study the different aspects of marketing research as it relates to business problems and develop a mindset that continually relies on information-based decisions. Level: Graduate

- BMKT 660 - Marketing Management

  Credits: 2. Offered spring. Prereq., admission to the M.B.A. or M-Acct. programs. Marketing decisions faced by managers in a variety of business settings including large corporations, small businesses and not-for-profit organizations. Level: Graduate

- BMKT 670 - Applied Data Analytics

  Credits: 3. Prereq., admission to the MS BA program or instructor consent. This course applies statistical skills and technical expertise to real-world big-data business applications. Students will work with the tools of data science and hone their ability to answer business questions through the analysis of data. Level: Graduate

- BMKT 680 - Big Data and Innovation

  Credits: 3. Prereq., admission to the MS BA program or instructor consent. The course provides an integrative, capstone experience for students to reflect on and apply the data science tools they have learned in the program. In addition, this course will focus on the innovation and creativity aspects of big data, or how big data can unleash new insights and innovations that solve customer and societal problems. The course will train future managers to think strategically and innovatively —about data, about opportunity, about value. It will ensure that students are proficient in strategy, customer value and insights. Level: Graduate

MBA

Back to Top

- MBA 601 - Career & Leadership Skills

  Credits: 1. Offered autumn during orientation week. Prereq., admission to the M.B.A. program. Provides an intensive orientation and introduction to behavioral skills required to excel in the M.B.A. program and one's business career; structured to create a sense of community among students and faculty and set expectations for future class involvement. Graded only credit/no credit. Level: Graduate

- MBA 603 - Integrated Project

  Credits: 1. Offered spring. Prereq., admission to the M.B.A. or M-Acct. program; coreq., BMGT 665. This is the capstone course of the MBA program and is offered during the last five weeks of spring semester. Students develop a business plan that requires the incorporation of knowledge from all other core MBA courses. Level: Graduate

- MBA 645 - Interpersonal Perspectives

  Credits: 1 TO 12. (R- 12) Offered every term. Prereq., admission to the M.B.A. or M-Acct. program. Some classes are open to pre-MBA and pre-M-Acct. students. Selected topics cover leadership theory and practice, ethics in the workplace, and managerial processes such as motivation, communication, conflict resolution, negotiations, team building, critical thinking, goal setting, and building workforce commitment. MBA students must complete at least 2 credits of interpersonal perspective coursework for the MBA degree. Level: Graduate

- MBA 655 - Technology Seminar

  Credits: 1 TO 12. (R-12) Offered every term. Prereq., admission to the M.B.A. or MAcct. programs. Contemporary issues in information technology with emphasis on how technology is used in business organizations. Topics vary each term and may include electronic commerce on the internet, decision support technology, electronic media support, advanced spreadsheet applications, accounting applications and quality control systems. Level: Graduate

- MBA 692 - Independent Study

  Credits: 1 TO 9. (R-9) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Directed study of individual or small groups of students in topics not available in scheduled classes. Level: Graduate

- MBA 695 - Practicum

  Credits: 1 TO 6. Practical hands-on experience with area organizations. Provides application of classroom learning. Level: Graduate

- MBA 696 - Independent Study

  Credits: 1 TO 9. (R 9) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Directed study of individual or small groups of students in topics not available in scheduled classes. Level: Graduate

- MBA 698 - Internship

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Placements with private or governmental organizations for practical training in business. Written reports required. Level: Graduate

- MBA 699 - Thesis
  Credits: 1 TO 6. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director. Level: Graduate

Management

Back to Top

- MGMT 395 - Special Topics
  Credits: 1 TO 9. (R 9) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one time offerings of current topics.

Marketing

Back to Top

- MKTG 394 - Undergraduate Seminar
  Credits: 1 TO 3. (R-3) Offered intermittently. Prereq., junior standing in Business and consent of instr.

Marketing B.S.

The marketing major provides students with knowledge and skills required for the process of marketing products, services, or ideas. The contemporary role of marketing in society is treated from various perspectives, including functional and institutional analysis, as well as the application of decision-making tools.

Bachelor of Science - Marketing

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 76

Required Cumulative GPA: 2.0

Note: At least 54 credits must be earned in Business classes (ECNS, SoBA internship courses, and SoBA faculty-led study abroad courses may be counted in OR out of Business). A minimum GPA of 2.0 is required for these courses.
At least 60 credits must be earned outside of SoBA (excluding HHP/ACT activities courses).
At least 28 credits in business must be taken at UM.
All business credits transferred in after matriculating to UM must be preapproved by the department chair in your major.

SoBA - Primary Lower Core Courses

Rule: All courses are required

Note: All primary lower core courses must be completed with a C- or better and a 2.0 GPA must be earned in the seven (7) listed courses prior to admission into an upper-division Business Major

Note: A math course and a statistics course are also required in the primary lower core. See Math Requirements and Symbolic Systems Requirements below. Math 3-4 Credits
Symbolic Systems 3-4 Credits

	Course	Credits
	ACTG 201 - Principles of Fin Acct Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.	3 Credits

	ACTG 202 - Principles of Mang Acct Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.	3 Credits
	BMIS 270 - MIS Foundations for Business Offered every term. Prereq., WRIT 101. Introduces the development, use, and management of computer-based information systems.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

SoBA Math Requirement

Rule: Students choose one course from the list below to fulfill their Math Requirement

Note: SoBA requires that credit be earned for one of the math course below (with a C- or better) before enrolling in ACTG 202.

A student's result on the ALEKS Math Placement Exam does not waive this math requirment

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits

	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA – Secondary Lower Core Courses

Rule: All courses are required

Note: All courses must be completed with a C- or better to satisfy prerequisites for certain major, upper major core, or capstone courses. Students are advised to complete these courses prior to being admitted to an upper-division Business Major. Prerequisites are strictly enforced.

	Course	**Credits**
	BGEN 220E - Bus Ethics & Soc Responsiblty Offered autumn and spring. Focuses on moral judgments, responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values. Addresses organizations and their relationship to the external environment, the law, and various stakeholders.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

SoBA - Upper Major Core

Rule: All courses are required

Note: All upper major core courses must be completed before the capstone can be taken.
Take BMKT 325 in the first semester in the upper-division major as it is a prerequisite course for the Marketing Major.
A student must be listed as a major or minor in business to take these courses. Major or minor in business is defined as junior standing with all primary lower core courses completed, a 2.0 cumulative GPA, and formally admitted to the major or minor.

	Course	Credits
	BFIN 322 - Business Finance Offered every term. Prereq., junior standing in Business. The methodology and practice of business financial decisions.	3 Credits
	BGEN 361 - Principles of Business Law Offered autumn and spring. Prereq., junior major or minor in business. This course examines law as it applies to business transactions. Topics include the nature and sources of law; courts and procedure; contracts, employment; Uniform Commercial Code; property; environmental; business organizations; tort liability; insurance; consumer and creditor protection; bankruptcy; criminal law; and agency law. Credit not allowed for more than one of BGEN 235, BGEN 361 and BADM 257.	3 Credits
	BMGT 322 - Operations Management Offered every term. Prereq., junior major in Business, CSCI 172. A survey of the processes that organizations, public or private, use to produce goods and services. Includes management science topics.	3 Credits
	BMGT 340 - Mgmt & Organization Behavior Offered autumn and spring. Prereq., junior standing in Business. An intensive examination of the fundamentals of management and organization supported by the application of behavioral science principles to the management of people in organizations.	3 Credits
	BMKT 325 - Principles of Marketing Offered autumn and spring. Prereq., junior standing in Business. The marketing environment, product, price, distribution, and promotion strategies including government regulation and marketing ethics.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Marketing Major - Requirements

Rule: All courses are required

	Course	Credits
	BGEN 360 - International Business Offered autumn and spring. Prereq., junior standing in Business. Analysis of business in diverse parts of the globe. Examines the impact of socio-economic, political, legal, educational, and cultural factors on management.	3 Credits
	BMKT 337 - Consumer Behavior Offered autumn and spring. Prereq., junior standing in Business and BMKT 325; PSYX 100S and 230S recommended. A behavioral analysis of consumer decision making and of the factors influencing consumer decisions, i.e., those decisions directly involved with the obtaining of economic goods and services.	3 Credits

	BMKT 342 - Marketing Research Offered autumn or spring. Prereq., junior standing in Business, BMKT 325. Emphasis on data acquisition and analysis for improved decision making in marketing. Topics include problem definition; secondary data; primary data via observation, interrogation and experimentation; data analysis; written and oral reports. May include field project.	3 Credits
	BMKT 343 - Integrated Marketing Comm Offered autumn or spring. Prereq., junior standing in Business, BMKT 325. An integrated course in promotion strategy. Topics include advertising message design, media selection, promotions, public relations, personal selling, and other selected topics.	3 Credits
	BMKT 420 - Integrated Online Marketing Offered autumn or spring. Prereq., junior standing in business, BMKT 325. Exploration and application of marketing communications principles to the internet environment. Students develop individual WordPress websites/blogs, learn about online marketing techniques, and complete online marketing and social media projects.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Marketing Major - Electives

Rule: Take 9 credits from the list below. At least 3 of these credits must come from BMKT 440, 460 or 491.

Note: Up to 6 credits of BMGT 493 can count towards the 9 credit elective requirement.
Up to 6 credits of BMKT 491 can count towards the 9 credit elective requirement.
Up to 6 credits of BMKT 494 can count towards the 9 credit elective requirement.
Up to 3 credits of BMKT 498 can count towards the 9 credit elective requirement.

	Course	**Credits**
	BMGT 401 - Event Management Offered autumn. Prereq., junior standing; open to non-business majors. Students are introduced to skills that are necessary for managing entertainment events. Topics include: market research; artist research; negotiating events; producing live events; and working with community and non-profit organizations. Students will develop and participate in several live events throughout the semester.	3 Credits
	BMGT 402 - Prin of Entertainment Mgmt I Offered autumn and spring. Prereq., junior standing and consent of instructor; open to non-business majors. Students are introduced to the fundamental aspects of the entertainment business. Topics include: artist development and management; productions; promotions; and venue management and marketing. Students will produce an artist development plan.	3 Credits
	BMGT 403 - Prin of Entertainment Mgmt II Offered spring. Prereq., junior standing; open to non-business majors. Topics include: tour development and marketing; agency relations and responsibilities; and new forms of entertainment media and distribution. Students will produce an event management plan.	3 Credits

	BMGT 410 - Sustainable Business Practices Offered autumn. Prereq., junior standing. This course explores how changing perceptions around environmental and social issues influence current business practices. Through this exploration, we discuss the impact these influences have on business and how adept firms can gain competitive advantage through embracing and integrating them into their core strategies.	3 Credits
	BMGT 467 - Supply Chain Management Offered Spring. Prereq., BMGT 322 and BMKT 325, or consent of instructor. The course introduces students to the challenges and opportunities companies face and how they manage the risk associated with the global supply chain. It provides an overview of global supply chain operations management as a field and describes the strategic role it has in today's intensely competitive business environment.	3 Credits
	BMGT 493 - International Experience (R-6) offered intermittently. Prereq., junior standing in business. Field-based, experiential courses that focus on international business topics, incl. the culture and business environment of important U.S. trading partners, such as China, Germany, or Italy.	1 To 6 Credits
	BMIS 478 - E Commerce a Managerl Prspctv Offered intermittently. Prereq., junior standing in Business. Focuses on the capabilities of the Internet to support and enable commerce. Provides a managerial perspective on topics including effective web site design, emerging technologies, business models, infrastructure architectures, and security.	3 Credits
	BMKT 412 - Non Profit Marketing Offered intermittently. Prereq., junior standing in Business and BMKT 325. Integration of core concepts of marketing into philanthropic and other nonprofit organizations. Includes strategies for large-scale enterprises such as unions, educational and religious institutions to small organizations that provide local support such as cultural services, human and environmental services. Student work with nonprofit organizations creating marketing communications plans in an experiential learning environment.	3 Credits
	BMKT 413 - Sports Marketing Offered intermittently. prereq., junior standing in Business, BMKT 325. Examines the marketing of sports products and non-sports products using sports as a platform. Topics include the use of traditional marketing strategies as well as the use of sponsorship strategies including endorsements, venue naming rights, and licensing.	3 Credits
	BMKT 440 - Marketing Analytics Offered autumn or spring. Prereq., BMKT 325; junior standing in Business or consent of instr. The purpose of this course is to learn about the importance and value of using new measurement tools in marketing and using related research and data to create compelling content. Students in this course are also challenged to bring actual ideas to life.	3 Credits

	BMKT 450 - Marketing Connections Offered intermittently, prerequisites: Marketing major, BMKT 325 and 343 and consent of instructor. This is an experiential course offering designed to allow students to apply marketing concepts and strategy to their career/job aspirations. Principles addressed in previous courses are integrated in this class. The concept of marketing strategy will be applied to real-world career development. Students also spend several days meeting business professionals in the region. Upon successful completion of this course each student will have an immediate, actionable plan that will help achieve career aspirations.	3 Credits
	BMKT 460 - Mktg Hi-Tech Prod & Innov Offered autumn or spring. Prereq., BMKT 325; junior standing in Business or consent of instr. Exploration of concepts and practices related to marketing in fast-paced environment; draws from a range and diversity of industries and contexts including the Internet.	3 Credits
	BMKT 491 - Special Topics (R-9) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 6 Credits
	BMKT 494 - Seminar (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.	1 To 6 Credits
	BMKT 498 - Internship Offered every term. Prereq., junior standing and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	COMX 351 - Principles of Public Relations Offered yearly. The many uses of communication in the endeavor of public relations. Communication theories and models including interpersonal communication, organizational communication, and mass communication are applied to explore the internal and external communication behavior associated with public relations.	3 Credits
	COMX 352 - Public Relations Portfolio Offered yearly. Writing documents such as press releases, fact sheets, brochures and speeches to create relationships between organizations and their publics.	3 Credits
	MART 101L - Intro to Media Arts Offered every term. Overview of the media arts and their interaction, integration and development in the creation of story beginning with the early years of photography and movie-making through the introduction of radio and television up to the digital revolution.	3 Credits

	MART 102 - Digital Technology in the Arts Offered every term. An introduction to the relationship between aesthetics and the emerging capacities of digital technology. The course will explore the basic evolution of hardware, system software, and the Internet and will present a brief history of the pioneers of both traditional and digital art. It will also look at contemporary and emerging trends in the artistic application of digital technology.	3 Credits
	MART 111A - Intro to Photoshop Offered every term. Online Course. This project-oriented design and compositing course introduces students to the fundamentals of Adobe Photoshop while focusing on artistic expression in a digital technology environment.	3 Credits
	MART 341 - Intro to Web Design Offered every term. Online Course. Students will gain necessary skills in this introduction to the fundamentals of website structure, content design and navigation. Areas of focus will be directory structure, visual design, user navigation, audio/video integration and domain management. This course is open to all university students and geared to non-majors.	3 Credits
Minimum Required Grade: C-		9 Total Credits Required

SoBA - Capstone Courses

Rule: All courses are required

Note: Students must complete all lower and upper core and their prerequisites and have an approved graduation application to register for their capstone.
Students must pass the required comprehensive exam as well as all requisite coursework to earn a passing grade in BGEN 499. BGEN 499 must be taken at UM.

	Course	**Credits**
	BGEN 499 - Strategic Management Prereq., senior standing in Business, COMX 111A, ECNS 202S, BGEN 220E and all business core. Analysis of external and internal firm environment and strategy formulation. Integration of cumulative business knowledge. Case orientation and class discussion.	3 Credits
Minimum Required Grade: C-		4 Total Credits Required

SoBA Upper-Division Writing Requirement

Rule: All courses are required

	Course	**Credits**
	BGEN 499 - Strategic Management Prereq., senior standing in Business, COMX 111A, ECNS 202S, BGEN 220E and all business core. Analysis of external and internal firm environment and strategy formulation. Integration of cumulative business knowledge. Case orientation and class discussion.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

SoBA Symbolic Systems Requirement

Rule: Students complete STAT 216 (preferred) or one other course from the list below to fulfill the Symbolic Systems Requirement.

Note: This is a lower primary core course. SoBA SoBA requires that credit be earned for STAT 216 (preferred) or one of the other statistics courses below (with a C- or better) prior to being admitted into an upper-division SoBA major.

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

SoBA Expressive Arts Requirement

Rule: All courses are required

Note: Students must complete this course with a C- or better prior to taking the capstones, though earlier completion is strongly encouraged.

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Social Science Requirement

Rule: All courses are required

Note: This is a primary lower core course and must be completed with a C- or better prior to being admitted into an upper-division SoBA major.

	Course	Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Ethical & Human Values Requirement

Rule: All courses are required

Note: Students must complete this course with a C- or better prior to taking the capstones, though earlier completion is strongly encouraged.

	Course	Credits
	BGEN 220E - Bus Ethics & Soc Responsiblty Offered autumn and spring. Focuses on moral judgments, responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values. Addresses organizations and their relationship to the external environment, the law, and various stakeholders.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Digital Marketing Certification

Certificate of Art - Digital Marketing

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 24

Required Cumulative GPA: 3.0

Note: All students pursuing a Digital Marketing Certificate must also complete the degree requirements for one of the business majors.
The 3.0 GPA requirement pertains specifically to the 24 credits listed below, not a student's cumulative GPA. Please meet with a Digital Marketing Certificate advisor for assistance (see SoBA Advising for list of advisors by major).

Digital Marketing Certificate - Requirements

Rule: All courses are required

	Course	Credits

	BMIS 372 - Information Infrastructures Offered autumn. Prereq., junior standing in Business. Explores the evolution of technological infrastructures with an emphasis on strategic implications. Students develop an enterprise infrastructure and then examine innovations that allow for the design and development of products and services in a global business environment.	3 Credits
	BMIS 373 - Business System Analy & Design Offered autumn and spring. Prereq., junior standing in Business. Provides an understanding of the systems development and modification process, including requirements determination, logical design, physical design, test planning, implementation planning and performance evaluation.	3 Credits
	BMIS 478 - E Commerce a Managerl Prspctv Offered intermittently. Prereq., junior standing in Business. Focuses on the capabilities of the Internet to support and enable commerce. Provides a managerial perspective on topics including effective web site design, emerging technologies, business models, infrastructure architectures, and security.	3 Credits
	BMKT 342 - Marketing Research Offered autumn or spring. Prereq., junior standing in Business, BMKT 325. Emphasis on data acquisition and analysis for improved decision making in marketing. Topics include problem definition; secondary data; primary data via observation, interrogation and experimentation; data analysis; written and oral reports. May include field project.	3 Credits
	BMKT 343 - Integrated Marketing Comm Offered autumn or spring. Prereq., junior standing in Business, BMKT 325. An integrated course in promotion strategy. Topics include advertising message design, media selection, promotions, public relations, personal selling, and other selected topics.	3 Credits
	BMKT 420 - Integrated Online Marketing Offered autumn or spring. Prereq., junior standing in business, BMKT 325. Exploration and application of marketing communications principles to the internet environment. Students develop individual WordPress websites/blogs, learn about online marketing techniques, and complete online marketing and social media projects.	3 Credits
	BMKT 460 - Mktg Hi-Tech Prod & Innov Offered autumn or spring. Prereq., BMKT 325; junior standing in Business or consent of instr. Exploration of concepts and practices related to marketing in fast-paced environment; draws from a range and diversity of industries and contexts including the Internet.	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

Digital Marketing Certificate - Electives

Rule: Take 3 credits from the list below.

	Course	**Credits**

	BMIS 326 - Data Analytics Offered autumn and spring. Prereq., STAT 216 or SOCI 202 or PSYX 222 or FORS 201. This course introduces the terminology and application of big data and data analytics. Students will complete cases in a variety of disciplines as they become acquainted with some of the software, tools, and techniques of data analytics.	3 Credits
	BMIS 365 - Business App Development Offered autumn and spring. Prereq., junior standing in Business. Provides an understanding of algorithm development, programming, computer concepts and the design and application of data and file structures.	3 Credits
	BMIS 479 - Introduction to Consulting Offered intermittently. Prereq., junior standing in Business. Managerial approach to consulting engagements. Includes scoping and writing proposals, presenting to clients, documenting consulting work, and interpersonal skills necessary for successful consulting. Course does not require a technical background.	3 Credits
	FORS 250 - Intro to GIS for Forest Mgt Offered every term. Open to sophomores or juniors or with consent of instructor. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process.	3 Credits
	GPHY 284 - Intro to GIS and Cartography Offered every term. Basic computer competency required. This course is designed as a practical introduction to the use of Geographic Information Systems (GIS) for storing, retrieving, analyzing and displaying spatial data. It will also cover the history of cartography and the conventions of the modern map-making process. Students need to register for a required lab section.	3 Credits
	MAR 101L - Intro to Media Arts Offered every term. Overview of the media arts and their interaction, integration and development in the creation of story beginning with the early years of photography and movie-making through the introduction of radio and television up to the digital revolution.	3 Credits
	MAR 112A - Intro to Non-Linear Editing Offered every term. Study of the history, process and philosophy of narrative film/video editing and an introduction to Final Cut nonlinear editing software.	3 Credits
	MART 102 - Digital Technology in the Arts Offered every term. An introduction to the relationship between aesthetics and the emerging capacities of digital technology. The course will explore the basic evolution of hardware, system software, and the Internet and will present a brief history of the pioneers of both traditional and digital art. It will also look at contemporary and emerging trends in the artistic application of digital technology.	3 Credits
	MART 111A - Intro to Photoshop Offered every term. Online Course. This project-oriented design and compositing course introduces students to the fundamentals of Adobe Photoshop while focusing on artistic expression in a digital technology environment.	3 Credits

	MART 341 - Intro to Web Design Offered every term. Online Course. Students will gain necessary skills in this introduction to the fundamentals of website structure, content design and navigation. Areas of focus will be directory structure, visual design, user navigation, audio/video integration and domain management. This course is open to all university students and geared to non-majors.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Entertainment Management Certificate

Certificate of Art - Entertainment Management

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 18

Required Cumulative GPA: 3.0

Note: This certificate is open to all majors across campus.
The 3.0 GPA requirement pertains specifically to the 18 credits listed below, not a student's cumulative GPA.

Entertainment Management Certificate - Requirements

Rule: All courses are required

	Course	**Credits**
	BMGT 401 - Event Management Offered autumn. Prereq., junior standing; open to non-business majors. Students are introduced to skills that are necessary for managing entertainment events. Topics include: market research; artist research; negotiating events; producing live events; and working with community and non-profit organizations. Students will develop and participate in several live events throughout the semester.	3 Credits
	BMGT 402 - Prin of Entertainment Mgmt I Offered autumn and spring. Prereq., junior standing and consent of instructor; open to non-business majors. Students are introduced to the fundamental aspects of the entertainment business. Topics include: artist development and management; productions; promotions; and venue management and marketing. Students will produce an artist development plan.	3 Credits
	BMGT 403 - Prin of Entertainment Mgmt II Offered spring. Prereq., junior standing; open to non-business majors. Topics include: tour development and marketing; agency relations and responsibilities; and new forms of entertainment media and distribution. Students will produce an event management plan.	3 Credits
Minimum Required Grade: B		9 Total Credits Required

Entertainment Management Certificate - Electives

Rule: Take 9 credits from the list below.

Note: Up to 3 credits of BMGT 498 can count towards the 9 credits of electives.
BMGT 498 must be an entertainment-based internship to count towards the 9 credits of electives.

	Course	Credits
	BFIN 205S - Personal Finance Offered intermittently. Concepts, strategies and techniques in analyzing financial situations and investment opportunities from the individual's perspective.	3 Credits
	BGEN 220E - Bus Ethics & Soc Responsiblty Offered autumn and spring. Focuses on moral judgments, responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values. Addresses organizations and their relationship to the external environment, the law, and various stakeholders.	3 Credits
	BMGT 275 - Venue Management Offered Autumn. Open to non-business majors. This course is designed to provide some of the basic tools for better understanding the processes involved in the conceptualization, development and production of live-events and successfully managing various types of venues.	3 Credits
	BMGT 375 - Business of Film & Television Offered intermittently. Open to non-business majors. The purpose of this class is to gain a basic understanding of the business elements of film and television production. This is done through a semester long project and lectures by visiting television and film professionals.	3 Credits
	BMGT 420 - Leadership and Motivation Offered autumn and spring. Prereq., junior standing in Business and BMGT 340. Study of fundamental concepts, theories, and models of leadership and motivation. Selected topics include: trait and behavioral theories of leadership, charismatic and transformational leadership, power and influence, emotions and justice perceptions in motivation, expectancy and equity theories.	3 Credits
	BMGT 474 - Entertainment Rsrch & Planning Offered intermittently. Prereq., junior standing and consent of instructor; open to non-business majors. This course will provide students with a better understanding of the processes involved in the conceptualization, development, production and or marketing for businesses, particularly entertainment related entities. This is done through a variety of real world projects.	3 Credits
	BMGT 498 - Internship Offered every term. Prereq., junior standing in Business and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits

	BMIS 478 - E Commerce a Managerl Prspctv Offered intermittently. Prereq., junior standing in Business. Focuses on the capabilities of the Internet to support and enable commerce. Provides a managerial perspective on topics including effective web site design, emerging technologies, business models, infrastructure architectures, and security.	3 Credits
	BMKT 412 - Non Profit Marketing Offered intermittently. Prereq., junior standing in Business and BMKT 325. Integration of core concepts of marketing into philanthropic and other nonprofit organizations. Includes strategies for large-scale enterprises such as unions, educational and religious institutions to small organizations that provide local support such as cultural services, human and environmental services. Student work with nonprofit organizations creating marketing communications plans in an experiential learning environment.	3 Credits
	BMKT 413 - Sports Marketing Offered intermittently. prereq., junior standing in Business, BMKT 325. Examines the marketing of sports products and non-sports products using sports as a platform. Topics include the use of traditional marketing strategies as well as the use of sponsorship strategies including endorsements, venue naming rights, and licensing.	3 Credits
	BMKT 420 - Integrated Online Marketing Offered autumn or spring. Prereq., junior standing in business, BMKT 325. Exploration and application of marketing communications principles to the internet environment. Students develop individual WordPress websites/blogs, learn about online marketing techniques, and complete online marketing and social media projects.	3 Credits
	MAR 112A - Intro to Non-Linear Editing Offered every term. Study of the history, process and philosophy of narrative film/video editing and an introduction to Final Cut nonlinear editing software.	3 Credits
	MART 111A - Intro to Photoshop Offered every term. Online Course. This project-oriented design and compositing course introduces students to the fundamentals of Adobe Photoshop while focusing on artistic expression in a digital technology environment.	3 Credits
	MUSI 132L - History of Rock & Roll Offered autumn and spring. A study of the roots, components, and development of the musical art form "Rock and Roll". Significant performing artists and movements with the style identified and presented. Includes traditional lecture with substantial use of audio and visual aids.	3 Credits
	PSCI 466 - Nonprofit Adm & Pub Svc Offered autumn. Prereq., junior standing. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.	3 Credits
Minimum Required Grade: B		9 Total Credits Required

Entrepreneurship Certificate

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 15

Required Cumulative GPA: 2.0

Note: All student pursuing a Certificate in Small Business & Entrepreneurship must also complete the degree requirements for one of the business majors.
The 2.0 GPA requirement pertains specifically to the 15 credits listed below, not a student's cumulative GPA.

Entrepreneurship Certificate - Requirements

Rule: All courses are required

Note: Students must take 3 credits of BMGT 458 to earn the Entrepreneurship Certificate.
Students must complete a three (3) credit 498 internship course with an entrepreneurial venture.

	Course	Credits
	BMGT 448 - Entrepreneurship Offered autumn and spring. Prereq., junior standing in Business, BMGT 340, BMKT 325; prereq or coreq., BFIN 322. Focuses on starting and managing a growing business. Topics include recognizing business opportunities, setting strategy for the firm, raising capital, marketing new products, and organizing the managerial team. Students develop a business model canvas and/or write a business plan for themselves or for a local entrepreneur.	3 Credits
	BMGT 458 - Advanced Entrepreneurship (R-3) Offered spring. Prereq., BMGT 448. Focus on managing and marketing a growing business, legal and technology issues for entrepreneurs, and financing new ventures. Students refine an existing or write a new business plan and participate in a business plan competition or write case analyses. UM instructors supervise course content delivered by local and regional experts in entrepreneurship. Four separate one credit weekend seminars are offered.	1 Credits
	BMGT 498 - Internship Offered every term. Prereq., junior standing in Business and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
Minimum Required Grade: C-		9 Total Credits Required

Entrepreneurship Certificate - Electives

Rule: Take 6 credits from the list below

Note: The electives cannot be in the students' primary major field.

	Course	Credits

	BFIN 301 - Analysis of Finan Statements Offered intermittently. Prereq., junior standing in Business. Analysis of balance sheets, income and cash flow statements and statements of owners' equity in terms of structure, strategy and performance of the company being analyzed. Emphasis is on the use rather than preparation of financial statements.	3 Credits
	BMGT 420 - Leadership and Motivation Offered autumn and spring. Prereq., junior standing in Business and BMGT 340. Study of fundamental concepts, theories, and models of leadership and motivation. Selected topics include: trait and behavioral theories of leadership, charismatic and transformational leadership, power and influence, emotions and justice perceptions in motivation, expectancy and equity theories.	3 Credits
	BMIS 478 - E Commerce a Managerl Prspctv Offered intermittently. Prereq., junior standing in Business. Focuses on the capabilities of the Internet to support and enable commerce. Provides a managerial perspective on topics including effective web site design, emerging technologies, business models, infrastructure architectures, and security.	3 Credits
	BMKT 337 - Consumer Behavior Offered autumn and spring. Prereq., junior standing in Business and BMKT 325; PSYX 100S and 230S recommended. A behavioral analysis of consumer decision making and of the factors influencing consumer decisions, i.e., those decisions directly involved with the obtaining of economic goods and services.	3 Credits
	BMKT 342 - Marketing Research Offered autumn or spring. Prereq., junior standing in Business, BMKT 325. Emphasis on data acquisition and analysis for improved decision making in marketing. Topics include problem definition; secondary data; primary data via observation, interrogation and experimentation; data analysis; written and oral reports. May include field project.	3 Credits
	BMKT 343 - Integrated Marketing Comm Offered autumn or spring. Prereq., junior standing in Business, BMKT 325. An integrated course in promotion strategy. Topics include advertising message design, media selection, promotions, public relations, personal selling, and other selected topics.	3 Credits
	BMKT 460 - Mktg Hi-Tech Prod & Innov Offered autumn or spring. Prereq., BMKT 325; junior standing in Business or consent of instr. Exploration of concepts and practices related to marketing in fast-paced environment; draws from a range and diversity of industries and contexts including the Internet.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Sustainable Business Strategy

Certificate of Art - Sustainable Business Strategy

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 12

Required Cumulative GPA: 3.0

Note: The 3.0 GPA requirement pertains specifically to the 12 credits listed below, not a student's cumulative GPA. In addition to the above requirements, students are required to complete the following:
- Meet with a SBSC certificate advisor;
- After completion of the two required courses, complete one "hands-on" experience to learn to apply and to demonstrate proficiency with sustainable business strategies and tools, as approved by the SBSC advisor (either an internships/service learning experience or case writing/submission; and
- Attend and complete an assignment on two speaker presentations on topics relating to Sustainability & Business as approved by the SBSC advisor.
Please meet with an SBSC advisor for assistance (see SoBA Advising for list of advisors by major).

SBSC Required Courses

Rule: All courses are required

	Course	Credits
	BGEN 445 - Sustainability Reporting Offered spring. Prereq., junior, senior, or graduate standing. This course provides students with an understanding of sustainability reporting by organizations. Topics covered include sustainability reporting metrics for the public disclosure of the economic, environmental, and social impacts of organizations. Regulation of sustainability reporting, greenwashing, and external assurance of sustainability reports are also covered.	3 Credits
	BMGT 410 - Sustainable Business Practices Offered autumn. Prereq., junior standing. This course explores how changing perceptions around environmental and social issues influence current business practices. Through this exploration, we discuss the impact these influences have on business and how adept firms can gain competitive advantage through embracing and integrating them into their core strategies.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

SBSC Elective Courses

Rule: Must choose 2

Note: Note: Only 3 credits of BMGT 493 - International Experience can count towards the 6 required elective credits for the SBSC. BMGT 493 must be approved through SBSC advisor as having a focus on sustainability issues.

	Course	Credits
	BMGT 493 - International Experience (R-6) offered intermittently. Prereq., junior standing in business. Field-based, experiential courses that focus on international business topics, incl. the culture and business environment of important U.S. trading partners, such as China, Germany, or Italy.	1 To 6 Credits

	ECNS 445 - Int Env Econ & Clim Change Offered autumn every other year. Same as CCS 445. Prereq., ECNS 201S. An introduction to the economics of various policy approaches towards climate change and other international environmental issues such as trans-boundary pollution problems, international trade and the environment and pollution haven hypothesis.	3 Credits
	ENST 367 - Envr Politics & Policies Offered autumn. Foundation in public lands history, bedrock environmental laws, policy processes and institutions. Research and analysis of current environmental and natural resource policy issues. Focus is domestic illustrated by case studies.	3 Credits
	ENST 487 - Globalization, Justice & Envir Offered autumn. Study of current trends in economic globalization and its effects on efforts to work for social justice and environmental sustainability, particularly in the Global South. Examination of different models and theories of globalization, analysis of ethical issues raised, and assessment of alternatives proposed.	3 Credits
	GEO 482 - Global Change Offered Spring. Same as CCS 482. Prereq., upper division/higher standing in Geosciences or consent of instructor. Lectures, readings, discussions and practicum on the complexity of global climate. Emphasizes the physical, geochemical and geologic processes affecting climate change over geologic and recent time scales.	3 Credits
	NRSM 408 - Global Cycles and Climate Offered spring even-numbered years. Same as CCS 408. An analysis of the earths major global biogeochemical cycles with a focus on the ways and extent to which each of them influences and interacts with the global climate system.	3 Credits
	NRSM 449E - Climate Change Ethics/Policy Offered autumn. Same as CCS 449E. This course focuses on the ethical dimensions of climate change policy. It will cover the following major topics: (1) climate change, personal and collective responsibilities, (2) ethics, climate change and scientific uncertainty, (3) distributive justice and international climate change negotiations, (4) intergenerational justice and climate change policy.	3 Credits
	NRSM 475 - Environment & Development Offered spring. Co-convened with NRSM 575. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices. Cannot get credit for both NRSM 475 and NRSM 575.	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Bachelor of Science - Management

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 76

Required Cumulative GPA: 2.0

Note: At least 54 credits must be earned in Business classes (ECNS, SoBA internship courses, and SoBA faculty-led study abroad courses may be counted in OR out of Business). A minimum GPA of 2.0 is required in these courses.
At least 60 credits must be earned outside of SoBA (excluding HHP/ACT activities courses).
At least 27 credits in business must be taken at UM.
All business credits transferred in after matriculating to UM must be pre-approved by the department chair in your major.

SoBA - Lower Primary Core Courses

Rule: All courses are required

Note: All lower primary core courses must be completed with a C- or better and a 2.0 GPA must per earned in the seven (7) listed courses prior to admission into an upper-division Business Major

Note: A math course and a statistics course are also required as part of the primary lower core. See Math Requirements and Symbolic Systems Requirements below. Math 3-4 Credits
Symbolic Systems 3-4 Credits

	Course	Credits
	ACTG 201 - Principles of Fin Acct Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.	3 Credits
	ACTG 202 - Principles of Mang Acct Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.	3 Credits
	BMIS 270 - MIS Foundations for Business Offered every term. Prereq., WRIT 101. Introduces the development, use, and management of computer-based information systems.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

SoBA Math Requirement

Rule: Students choose one course from the list below to fulfill their Math Requirement

Note: SoBA requires that credit be earned for one of the math courses below (with a C- or better) before enrolling in ACTG 202.
A student's result on the ALEKS Math Placement Exam does not waive the math requirement.

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA - Lower Secondary Core

Rule: All courses are required

Note: All courses must be completed with a C- or better to satisfy prerequisites for certain major, upper major core, or capstone courses. Students are advised to complete these courses prior to being admitted to an upper-division Business Major. Prerequisites are strictly enforced.

	Course	Credits
	BGEN 220E - Bus Ethics & Soc Responsiblty Offered autumn and spring. Focuses on moral judgments, responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values. Addresses organizations and their relationship to the external environment, the law, and various stakeholders.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

SoBA - Upper Major Core

Rule: All courses are required

Note: All upper major-core courses must be completed before the capstones can be taken.
Take BMGT 340 in the first semester in the upper-division major as it is a prerequisite course for many Management Major courses.
A student must be listed as a major or minor in business to take these courses. Major or minor in business is defined as junior standing with all primary lower core courses completed, a 2.0 cumulative GPA, and formally admitted to the major or minor.

	Course	Credits

	BFIN 322 - Business Finance Offered every term. Prereq., junior standing in Business. The methodology and practice of business financial decisions.	3 Credits
	BGEN 361 - Principles of Business Law Offered autumn and spring. Prereq., junior major or minor in business. This course examines law as it applies to business transactions. Topics include the nature and sources of law; courts and procedure; contracts, employment; Uniform Commercial Code; property; environmental; business organizations; tort liability; insurance; consumer and creditor protection; bankruptcy; criminal law; and agency law. Credit not allowed for more than one of BGEN 235, BGEN 361 and BADM 257.	3 Credits
	BMGT 322 - Operations Management Offered every term. Prereq., junior major in Business, CSCI 172. A survey of the processes that organizations, public or private, use to produce goods and services. Includes management science topics.	3 Credits
	BMGT 340 - Mgmt & Organization Behavior Offered autumn and spring. Prereq., junior standing in Business. An intensive examination of the fundamentals of management and organization supported by the application of behavioral science principles to the management of people in organizations.	3 Credits
	BMKT 325 - Principles of Marketing Offered autumn and spring. Prereq., junior standing in Business. The marketing environment, product, price, distribution, and promotion strategies including government regulation and marketing ethics.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Management Major - Requirements

Rule: All courses are required

	Course	**Credits**
	BGEN 360 - International Business Offered autumn and spring. Prereq., junior standing in Business. Analysis of business in diverse parts of the globe. Examines the impact of socio-economic, political, legal, educational, and cultural factors on management.	3 Credits
	BMGT 420 - Leadership and Motivation Offered autumn and spring. Prereq., junior standing in Business and BMGT 340. Study of fundamental concepts, theories, and models of leadership and motivation. Selected topics include: trait and behavioral theories of leadership, charismatic and transformational leadership, power and influence, emotions and justice perceptions in motivation, expectancy and equity theories.	3 Credits

	BMGT 444 - Management Communications Offered autumn and spring. Prereq., junior standing in Business; BMGT 340. This course focuses on four modules managing external and internal communications: Communication of Innovations; Communications with Company Leadership; PR Crisis Communications; and Business Negotiations. Course projects include team research, team oral presentations, individual written executive reports, case studies and analysis, and competitive negotiations.	3 Credits
	BMGT 448 - Entrepreneurship Offered autumn and spring. Prereq., junior standing in Business, BMGT 340, BMKT 325; prereq or coreq., BFIN 322. Focuses on starting and managing a growing business. Topics include recognizing business opportunities, setting strategy for the firm, raising capital, marketing new products, and organizing the managerial team. Students develop a business model canvas and/or write a business plan for themselves or for a local entrepreneur.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Management Major - Electives

Rule: Take 12 credits from the list below.

Note: Up to 4 credits of BMGT 458 can count towards the 12 credit elective requirement.
Up to 6 credits of BMGT 491 can count towards the 12 credit elective requirement.
Up to 6 credits of BMGT 493 can count towards the 12 credit elective requirement.
Up to 6 credits of BMGT 494 can count towards the 12 credit elective requirement.
Up to 3 credits of BMGT 498 can count towards the 12 credit elective requirement

	Course	Credits
	BGEN 445 - Sustainability Reporting Offered spring. Prereq., junior, senior, or graduate standing. This course provides students with an understanding of sustainability reporting by organizations. Topics covered include sustainability reporting metrics for the public disclosure of the economic, environmental, and social impacts of organizations. Regulation of sustainability reporting, greenwashing, and external assurance of sustainability reports are also covered.	3 Credits
	BMGT 401 - Event Management Offered autumn. Prereq., junior standing; open to non-business majors. Students are introduced to skills that are necessary for managing entertainment events. Topics include: market research; artist research; negotiating events; producing live events; and working with community and non-profit organizations. Students will develop and participate in several live events throughout the semester.	3 Credits
	BMGT 402 - Prin of Entertainment Mgmt I Offered autumn and spring. Prereq., junior standing and consent of instructor; open to non-business majors. Students are introduced to the fundamental aspects of the entertainment business. Topics include: artist development and management; productions; promotions; and venue management and marketing. Students will produce an artist development plan.	3 Credits

	BMGT 403 - Prin of Entertainment Mgmt II Offered spring. Prereq., junior standing; open to non-business majors. Topics include: tour development and marketing; agency relations and responsibilities; and new forms of entertainment media and distribution. Students will produce an event management plan.	3 Credits
	BMGT 410 - Sustainable Business Practices Offered autumn. Prereq., junior standing. This course explores how changing perceptions around environmental and social issues influence current business practices. Through this exploration, we discuss the impact these influences have on business and how adept firms can gain competitive advantage through embracing and integrating them into their core strategies.	3 Credits
	BMGT 458 - Advanced Entrepreneurship (R-3) Offered spring. Prereq., BMGT 448. Focus on managing and marketing a growing business, legal and technology issues for entrepreneurs, and financing new ventures. Students refine an existing or write a new business plan and participate in a business plan competition or write case analyses. UM instructors supervise course content delivered by local and regional experts in entrepreneurship. Four separate one credit weekend seminars are offered.	1 Credits
	BMGT 467 - Supply Chain Management Offered Spring. Prereq., BMGT 322 and BMKT 325, or consent of instructor. The course introduces students to the challenges and opportunities companies face and how they manage the risk associated with the global supply chain. It provides an overview of global supply chain operations management as a field and describes the strategic role it has in today's intensely competitive business environment.	3 Credits
	BMGT 480 - Cross-Cultural Mgmt Offered autumn. Prereq., junior standing in Business. Study of issues related to cultural diversity within the work force and the problems inherent in the management of a firm's activities on an international scale.	3 Credits
	BMGT 491 - Special Topics (R-6) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	BMGT 493 - International Experience (R-6) offered intermittently. Prereq., junior standing in business. Field-based, experiential courses that focus on international business topics, incl. the culture and business environment of important U.S. trading partners, such as China, Germany, or Italy.	1 To 6 Credits
	BMGT 494 - Seminar/Workshop (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.	1 To 6 Credits

	BMGT 498 - Internship Offered every term. Prereq., junior standing in Business and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	COMX 415 - Intercultural Communication Offered autumn and spring. Communication principles and processes in cross-cultural environments. Non-Western cultures are emphasized by contrasting them to Western communication norms.	3 Credits
	ECNS 312 - Labor Economics Offered intermittently. Prereq., ECNS 201S. Economic analysis of labor markets. Theories of wage determination, discrimination and poverty with implications for manpower policy.	3 Credits
	PSCI 462 - Human Resource Management Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

SoBA - Capstone Courses

Rule: Required; BGEN 499

Note: Students must complete all lower and upper core courses and their prerequisites and have an approved graduation application to register for their capstones.
Students must pass the required comprehensive exam as well as all requisite coursework to earn a passing grade in BGEN 499.
BGEN 499 must be taken at UM.

	Course	**Credits**
	BGEN 499 - Strategic Management Prereq., senior standing in Business, COMX 111A, ECNS 202S, BGEN 220E and all business core. Analysis of external and internal firm environment and strategy formulation. Integration of cumulative business knowledge. Case orientation and class discussion.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Upper-Division Writing Requirement

Rule: All courses are required

	Course	**Credits**

	BGEN 499 - Strategic Management Prereq., senior standing in Business, COMX 111A, ECNS 202S, BGEN 220E and all business core. Analysis of external and internal firm environment and strategy formulation. Integration of cumulative business knowledge. Case orientation and class discussion.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Symbolic Systems Requirement

Rule: Students complete STAT 216 (preferred) or one other course from the list below to fulfill the Symbolic Systems Requirement.

Note: This is a lower primary core. SoBA requires that credit be earned for STAT 216 (preferred) or one of the other statistics courses below (with a C- or better) prior to being admitted into an upper-division SoBA major.

	Course	**Credits**
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

SoBA Expressive Arts Requirement

Rule: All courses are required

Note: Students must complete this course with a C- or better prior to taking the capstones, though earlier completion is strongly encouraged.

	Course	**Credits**
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

SoBA Social Science Requirement

Rule: All courses are required

Note: This is a lower primary core course and must be completed with a C- or better prior to a for a student being admitted into an upper-division SoBA major.

	Course	Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Ethical & Human Values Requirement

Rule: All courses are required

Note: Students must complete this course with a C- or better prior to taking the capstones, though earlier completion is strongly encouraged.

	Course	Credits
	BGEN 220E - Bus Ethics & Soc Responsiblty Offered autumn and spring. Focuses on moral judgments, responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values. Addresses organizations and their relationship to the external environment, the law, and various stakeholders.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Management Information Systems Department

Lee Tangedahl, Chair

The Department of Management Information Systems offers a major in Management Information Systems within the Bachelor of Science in Business Administration.

Management Information Systems Major

The management information systems STEM curriculum prepares students to manage an organization's information resources. The major focuses on:
1) analyzing and managing the flows of information within and across the organization's business processes;
2) effectively managing the acquisition and utilization of information technology; and
3) using both information and information technology to enhance the organization's strategic advantage.

The knowledge and skills developed in the curriculum lead to careers in consulting, application development, systems analysis and design, database administration, electronic commerce, telecommunications, network security management, big data analytics and project management.

Certificate in Big Data Analytics

The Big Data Analytics (BDA) certificate is designed to provide students with the tools necessary to compete in the Big Data space. Students will use big data tools that are currently available to capture, analyze, and present big data. They will explore a variety of applications with which Big Data tools can be applied, and they will complete a Big Data project. This certificate is currently aimed at students majoring in business, computer science or mathematics.

Business Finance

Back to Top

- BFIN 267 - Real Estate Theory and Law
  Credits: 4. Offered intermittently through UM Dept. of Continuing Education. Introduction to the theory and legal issues involved in a real estate transaction.

Business: General

Back to Top

- BGEN 105S - Introduction to Business
  Credits: 3. Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S. Course Attributes: Social Sciences Course (S)
- BGEN 291 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- BGEN 292 - Independent Study
  Credits: 1 TO 6. (R-6) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.
- BGEN 361 - Principles of Business Law
  Credits: 3. Offered autumn and spring. Prereq., junior major or minor in business. This course examines law as it applies to business transactions. Topics include the nature and sources of law; courts and procedure; contracts, employment; Uniform Commercial Code; property; environmental; business organizations; tort liability; insurance; consumer and creditor protection; bankruptcy; criminal law; and agency law. Credit not allowed for more than one of BGEN 235, BGEN 361 and BADM 257.
- BGEN 391 - Special Topics
  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Business: Management

Back to Top

- BMGT 101S - Intro to Entertainment Mgmt
  Credits: 3. Offered autumn and spring. Open to non-business majors. Designed to provide basic distinctions and concepts necessary for understanding various business aspects that underpin the business of entertainment as well as most other businesses, regardless of context. Course Attributes: Social Sciences Course (S)
- BMGT 322 - Operations Management
  Credits: 3. Offered every term. Prereq., junior major in Business, CSCI 172. A survey of the processes that organizations, public or private, use to produce goods and services. Includes management science topics.
- BMGT 540 - Mgmt & Legal System
  Credits: 3. Online course. Offered autumn. Prereq., admission to the M.B.A. or M-Acct. programs or graduate standing with consent of graduate business program director. Basic management principles, exploration of concepts such as strategic planning, goal-setting and giving feedback,

leadership, motivation, and reward systems. Law as it relates to doing business in the global environment; ethical dimensions of business decision-making. Level: Graduate

- BMGT 650 - Business Ethics

  Credits: 1. BMGT 650-01 and BMGT 650-60 Business Ethics. 1 credit. Offered in the last five weeks of the fall semester. Prerequisites: admission in MBA program. Business Ethics is a course designed to acquaint students with the ethical implications of business decisions, policy, strategy and operations. The students will learn how to (1) develop a system of ethics that will form the foundation for future ethical practices in business; (2) analyze specific contemporary issues in business for their ethical implications and content; and (3) challenge conventional thinking about ethics by introducing broad-based ethical principles and systems to enlighten and inform ethical thinking. Level: Graduate

Business: Management Info Sys

Back to Top

- BMIS 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BMIS 192 - Independent Study

  Credits: 1 TO 3. (R-3) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- BMIS 270 - MIS Foundations for Business

  Credits: 3. Offered every term. Prereq., WRIT 101. Introduces the development, use, and management of computer-based information systems.

- BMIS 292 - Independent Study

  Credits: 1 TO 3. (R-3) Offered every term. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.

- BMIS 298 - Internship

  Credits: 1 TO 3. (R-3) Offered every term. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internship graduation limit 6

- BMIS 326 - Introduction to Data Analytics

  Credits: 3. Offered autumn and spring. Prereq., STAT 216 or SOCI 202 or PSYX 222 or FORS 201. This course introduces the terminology and application of big data and data analytics. Students will complete cases in a variety of disciplines as they become acquainted with some of the software, tools, and techniques of data analytics.

- BMIS 365 - Business App Development

  Credits: 3. Offered autumn and spring. Prereq., junior standing in Business. Provides an understanding of algorithm development, programming, computer concepts and the design and application of data and file structures.

- BMIS 370 - Managing Information and Data

  Credits: 3. Offered autumn and spring. Prereq., junior standing in Business and BMIS 365. Managing and exploiting organizational data and information. Designing data and information models.

- BMIS 372 - Information Infrastructures

  Credits: 3. Offered autumn. Prereq., junior standing in Business. Explores the evolution of technological infrastructures with an emphasis on strategic implications. Students develop an enterprise infrastructure and then examine innovations that allow for the design and development of products and services in a global business environment.

- BMIS 373 - Business System Analy & Design

  Credits: 3. Offered autumn and spring. Prereq., junior standing in Business. Provides an understanding of the systems development and modification process, including requirements

determination, logical design, physical design, test planning, implementation planning and performance evaluation.

- BMIS 391 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BMIS 392 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

- BMIS 394 - Undergraduate Seminar

  Credits: 1 TO 3. (R-3) Offered intermittently. Prereq., junior standing in Business and consent of instr.

- BMIS 465 - Real-Time Data Analytics

  Credits: 3. Offered intermittently. Prereq., STAT 216, BMIS 365 or equivalents. Focuses on analyzing big data in motion using commercially available software.

- BMIS 471 - Fund of Netwrk & Security Mgmt

  Credits: 3. Offered intermittently. Prereq., junior standing. Current topics will focus on the impact of network technologies and infrastructures on facilitating and supporting business organizations. Students learn about design, installation, and configuration of networks as well as implementing security, networking protocols, and virtualization technologies. Includes a hands-on lab to demonstrate the concepts.

- BMIS 472 - Adv Network & Security Mgmt

  Credits: 3. Offered intermittently. Prereq., junior standing and BMIS 471. Focuses on network security and how it aligns with organizational strategy, directory services for access to organizational information, and cybersecurity management. Includes a hands-on lab to demonstrate the concepts.

- BMIS 476 - Integrated Project Mgmt for IS

  Credits: 3. Offered every term Prereq., junior standing in Business and BMIS 365, 370, and 373. Emphasis on project planning, team selection models, and project management techniques. A software package is used to demonstrate how projects are planned, managed, monitored, and controlled.

- BMIS 478 - E Commerce a Managerl Prspctv

  Credits: 3. Offered intermittently. Prereq., junior standing in Business. Focuses on the capabilities of the Internet to support and enable commerce. Provides a managerial perspective on topics including effective web site design, emerging technologies, business models, infrastructure architectures, and security.

- BMIS 479 - Introduction to Consulting

  Credits: 3. Offered intermittently. Prereq., junior standing in Business. Managerial approach to consulting engagements. Includes scoping and writing proposals, presenting to clients, documenting consulting work, and interpersonal skills necessary for successful consulting. Course does not require a technical background.

- BMIS 482 - Big Data Project

  Credits: 3. Offered autumn and spring. Prereq., BMIS 326 and any 2 electives listed in part 4 of the Big Data Analytics Certificate, or consent of instructor. Students will work in cross-disciplinary teams to complete big data projects from different disciplines. There will be emphasis on agile project management.

- BMIS 491 - Special Topics

  Credits: 1 TO 9. (R-9) Offered autumn and spring. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BMIS 492 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

- BMIS 494 - Seminar

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

- BMIS 495 - Practicum: Information Systems

  Credits: 3. Offered every term. Prereq., junior standing in Business and consent of instr. Practical hands-on experience with area organizations. Provides application of classroom learning. Course Attributes: Internships/Practicums

- BMIS 498 - Internship

  Credits: 1 TO 6. R-6) Offered every term. Prereq., junior standing in Business and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- BMIS 541 - Systems & Operations

  Credits: 3. Online course. Offered spring. Prereq., admission to M.B.A. or M-Acct. program or graduate standing with consent of graduate business program director; grade of B or better in BMKT 560. Design and use of information systems to meet the tactical and strategic needs of an enterprise, particularly within the operations function. Topics include systems analysis, data and process modeling, database designs, manufacturing planning and control, forecasting, and quality management. Level: Graduate

- BMIS 575 - Fundamentals of Consulting

  Credits: 2. Offered spring. Prereq., graduate standing. The technical, interpersonal, and consulting skills necessary to effectively work with clients. Focuses on management; does not require a technical background. Level: Graduate

- BMIS 591 - Special Topics

  Credits: 1 TO 3. (R-3) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate

- BMIS 601 - Business Intelligence

  Credits: 3. Offered intermittently. Prereq., graduate standing and BMIS 326. The course provides graduate students with the foundational knowledge necessary to transform big data into useful business intelligence. Students get the skills, tools, and techniques required to collect, synthesize, and distribute information to support intelligent decision-making at the managerial level. Level: Graduate

- BMIS 625 - Mining of Text & Unstructured Data

  Credits: 3. Prereq., admission to the MS BA program or instructor consent. An integration of Data Science theory and the actual practice of searching, sorting, relating, and deriving results from textual data. Students will be exposed to machine learning, natural language processing, as well as other computer assisted data mining techniques and then gain hands-on proficiency in the practice of data science using the software from data mining and document analysis vendors

- BMIS 650 - Quantitative Analysis

  Credits: 2. Offered spring. Prereq., admission to the M.B.A. or M-Acct. programs. Quantitative methods supporting managerial decision-making. Theory and logic underlying such methods as linear programming and simulation. Solution of complex problems and practice of interpersonal skills in team projects. Level: Graduate

- BMIS 674 - Mgmt of Information Systems

  Credits: 2. Offered autumn. Prereq., admission to the M.B.A. or M-Acct. program. The tactical/operational responsibilities and roles of the CIO. Includes governance issues, supporting the learning organization, managing the technologies, and managing the development of systems. Focuses on management; does not require a technical background. Level: Graduate

MBA

Back to Top

- MBA 694 - Seminar

  Credits: 1 TO 15. (R-15) Offered every term. Prereq., graduate student in business or consent of business graduate director. Selected topics in business. Level: Graduate

- MIS 260 - Life and Health Insurance
  Credits: 3. Offered intermittently through School of Extended and Lifelong Learning (formerly Continuing Education). Introduction to the principles of life and health insurance as well as the legal and regulatory environment for each industry.
- MIS 261 - Life Insurance
  Credits: 1. Offered intermittently through School of Extended and Lifelong Learning (formerly Continuing Education). Introduction to the principles of life insurance as well as the life insurance industry's legal and regulatory environment.
- MIS 262 - Health Insurance
  Credits: 1. Offered intermittently through School of Extended and Lifelong Learning (formerly Continuing Education). Introduction to the principles of health insurance as well as the health insurance industry's legal and regulatory environment.
- MIS 263 - Property and Casualty Ins.
  Credits: 3. Offered intermittently through School of Extended and Lifelong Learning (formerly Continuing Education). Introduction to the principles of property insurance as well as the property insurance industry's legal and regulatory environment.
- MIS 264 - Property Insurance
  Credits: 1. Offered intermittently through School of Extended and Lifelong Learning (formerly Continuing Education). Introduction to the principles of property insurance as well as the property insurance industry's legal and regulatory environment.
- MIS 265 - Casualty Insurance
  Credits: 1. Offered intermittently through School of Extended and Lifelong Learning (formerly Continuing Education). Introduction to the principles of casualty insurance as well as the casualty insurance industry's legal and regulatory environment.
- MIS 266 - Personal Lines Insurance
  Credits: 1. Offered intermittently through School of Extended and Lifelong Learning (formerly Continuing Education). Introduction to the principles of personal lines insurance as well as the personal lines insurance industry's legal and regulatory environment.

Management Information Systems B.S.

Bachelor of Science - Management Information Systems

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 76

Required Cumulative GPA: 2.0

Note: At least 54 credits must be earned in Business classes (ECNS, SoBA internship courses, and SoBA faculty-led study abroad courses may be counted in OR out of Business) A minimum GPA of 2.0 is required for these courses.
At least 60 credits must be earned outside of SoBA (excluding HHP/ACT activities courses).
At least 28 credits in business AND BMIS 476 must be taken at UM.
All business credits transferred in after matriculating to UM must be pre-approved by the department chair in your major.

SoBA - Primary Lower Core Courses

Rule: All courses are required

Note: null

Note: All primary lower core courses must be completed with a C- or better and a 2.0 GPA must be earned in the seven (7) listed course prior to admission into an upper-division Business Major.
A math course and a statistics course are also required in the primary lower core. See Math Requirements and Symbolic Systems Requirements below. Math 3-4 Credits
Symbolic Systems 3-4 Credits

	Course	Credits
	ACTG 201 - Principles of Fin Acct Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.	3 Credits
	ACTG 202 - Principles of Mang Acct Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.	3 Credits
	BMIS 270 - MIS Foundations for Business Offered every term. Prereq., WRIT 101. Introduces the development, use, and management of computer-based information systems.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

SoBA Math Requirement

Rule: Students choose one course from the list below to fulfill their Math Requirement

Note: SoBA requires that credit be earned for one of the math courses below (with a C- or better) before enrolling in ACTG 202.
A student's result on the ALEKS Math Placement Exam does not waive this requirement.

	Course	Credits

	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA – Secondary Lower Core Courses

Rule: All courses are required

Note: All courses must be completed with a C- or better to satisfy prerequisites for certain major, upper major core, or capstone courses. Students are advised to complete these courses prior to being admitted to an upper-division Business Major. Prerequisites are strictly enforced.

	Course	**Credits**
	BGEN 220E - Bus Ethics & Soc Responsiblty Offered autumn and spring. Focuses on moral judgments, responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values. Addresses organizations and their relationship to the external environment, the law, and various stakeholders.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits

	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

SoBA - Upper Major Core

Rule: All courses are required

Note: All upper major core courses must be completed before the capstone can be taken.
A student must be listed as a major in business to take these courses. Major or minor in business is defined as junior standing with all primary lower core courses completed, a 2.0 cumulative GPA, and formally admitted to the major or minor.

	Course	Credits
	BFIN 322 - Business Finance Offered every term. Prereq., junior standing in Business. The methodology and practice of business financial decisions.	3 Credits
	BGEN 361 - Principles of Business Law Offered autumn and spring. Prereq., junior major or minor in business. This course examines law as it applies to business transactions. Topics include the nature and sources of law; courts and procedure; contracts, employment; Uniform Commercial Code; property; environmental; business organizations; tort liability; insurance; consumer and creditor protection; bankruptcy; criminal law; and agency law. Credit not allowed for more than one of BGEN 235, BGEN 361 and BADM 257.	3 Credits
	BMGT 322 - Operations Management Offered every term. Prereq., junior major in Business, CSCI 172. A survey of the processes that organizations, public or private, use to produce goods and services. Includes management science topics.	3 Credits
	BMGT 340 - Mgmt & Organization Behavior Offered autumn and spring. Prereq., junior standing in Business. An intensive examination of the fundamentals of management and organization supported by the application of behavioral science principles to the management of people in organizations.	3 Credits
	BMKT 325 - Principles of Marketing Offered autumn and spring. Prereq., junior standing in Business. The marketing environment, product, price, distribution, and promotion strategies including government regulation and marketing ethics.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Management Information Systems - Requirements

Rule: All courses are required

Note: BMIS 365, BMIS 370, and BMIS 476 must be taken at UM.
3 credits of BMIS 498 are required to graduate.

	Course	Credits
	BMIS 365 - Business App Development Offered autumn and spring. Prereq., junior standing in Business. Provides an understanding of algorithm development, programming, computer concepts and the design and application of data and file structures.	3 Credits
	BMIS 370 - Managing Information and Data Offered autumn and spring. Prereq., junior standing in Business and BMIS 365. Managing and exploiting organizational data and information. Designing data and information models.	3 Credits
	BMIS 372 - Information Infrastructures Offered autumn. Prereq., junior standing in Business. Explores the evolution of technological infrastructures with an emphasis on strategic implications. Students develop an enterprise infrastructure and then examine innovations that allow for the design and development of products and services in a global business environment.	3 Credits
	BMIS 373 - Business System Analy & Design Offered autumn and spring. Prereq., junior standing in Business. Provides an understanding of the systems development and modification process, including requirements determination, logical design, physical design, test planning, implementation planning and performance evaluation.	3 Credits
	BMIS 476 - Integrated Project Mgmt for IS Offered every term Prereq., junior standing in Business and BMIS 365, 370, and 373. Emphasis on project planning, team selection models, and project management techniques. A software package is used to demonstrate how projects are planned, managed, monitored, and controlled.	3 Credits
	BMIS 498 - Internship R-6) Offered every term. Prereq., junior standing in Business and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
Minimum Required Grade: C-		18 Total Credits Required

Management Information Systems - Electives

Rule: Take 6 credits from the list below.

Note: Students taking ACTG 321 for an elective must also take the ACTG 203 co requisite course.

	Course	Credits
	ACTG 321 - Acct Information Systems I Offered autumn and spring. Prereq., junior standing in Business. Prereq., or coreq., ACTG 203. Provides thorough understanding of business processes, risks, and internal controls. Computer applications may be used to demonstrate concepts.	3 Credits

	BMIS 326 - Data Analytics Offered autumn and spring. Prereq., STAT 216 or SOCI 202 or PSYX 222 or FORS 201. This course introduces the terminology and application of big data and data analytics. Students will complete cases in a variety of disciplines as they become acquainted with some of the software, tools, and techniques of data analytics.	3 Credits
	BMIS 391 - Special Topics (R-9) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits
	BMIS 465 - Real-Time Data Analytics Offered intermittently. Prereq., STAT 216, BMIS 365 or equivalents. Focuses on analyzing big data in motion using commercially available software.	3 Credits
	BMIS 471 - Fund of Netwrk & Security Mgmt Offered intermittently. Prereq., junior standing. Current topics will focus on the impact of network technologies and infrastructures on facilitating and supporting business organizations. Students learn about design, installation, and configuration of networks as well as implementing security, networking protocols, and virtualization technologies. Includes a hands-on lab to demonstrate the concepts.	3 Credits
	BMIS 472 - Adv Network & Security Mgmt Offered intermittently. Prereq., junior standing and BMIS 471. Focuses on network security and how it aligns with organizational strategy, directory services for access to organizational information, and cybersecurity management. Includes a hands-on lab to demonstrate the concepts.	3 Credits
	BMIS 478 - E Commerce a Managerl Prspctv Offered intermittently. Prereq., junior standing in Business. Focuses on the capabilities of the Internet to support and enable commerce. Provides a managerial perspective on topics including effective web site design, emerging technologies, business models, infrastructure architectures, and security.	3 Credits
	BMIS 479 - Introduction to Consulting Offered intermittently. Prereq., junior standing in Business. Managerial approach to consulting engagements. Includes scoping and writing proposals, presenting to clients, documenting consulting work, and interpersonal skills necessary for successful consulting. Course does not require a technical background.	3 Credits
	BMIS 482 - Big Data Project Offered autumn and spring. Prereq., BMIS 326 and any 2 electives listed in part 4 of the Big Data Analytics Certificate, or consent of instructor. Students will work in cross-disciplinary teams to complete big data projects from different disciplines. There will be emphasis on agile project management.	3 Credits
	BMIS 491 - Special Topics (R-9) Offered autumn and spring. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.	1 To 9 Credits

	BMIS 492 - Independent Study (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.	1 To 6 Credits
	BMKT 460 - Mktg Hi-Tech Prod & Innov Offered autumn or spring. Prereq., BMKT 325; junior standing in Business or consent of instr. Exploration of concepts and practices related to marketing in fast-paced environment; draws from a range and diversity of industries and contexts including the Internet.	3 Credits
	C&I 341 - Information Managemnt & Design Offered spring. Prereq., CSCI 172. Emphasis on the development and maintenance of a file management system, application of effective design concepts in the creation of professional print and digital images and documents, and the creation of digital videos for use in education and/or business.	3 Credits
	CSCI 135 - Fund of Computer Science I Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc. Fundamental computer science concepts using the high level structured programming language, Java.	3 Credits
	CSCI 136 - Fund of Computer Science II Offered autumn and spring. Prereq., CSCI 135; coreq., M 115 or M 151 or consent of instr. Continuation of CSCI 135. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.	3 Credits
	CSCI 448 - Pattern Recognition Offered intermittently. Prereq., Junior or Senior status. Introduction to the framework of unsupervised learning techniques such as clustering (agglomerative, fuzzy, graph theory based, etc.), multivariate analysis approaches (PCA, MDS, LDA, etc.), image analysis (edge detection, etc.), as well as feature selection and generation. Emphasis will be on the underlying algorithms and their implementation. Credit not allowed for both CSCI 448 and CSCI 548.	3 Credits
	CSCI 464 - Applications Mining Big Data Offered intermittently. Prereq., upper division or consent of instr. Co-convenes with CSCI 564. Introduction to existing data mining software systems and their use, with focus on practical exercises. Topics include data acquisition, data cleansing, feature selection, and data analysis. Credit not allowed for both CSCI 464 and CSCI 564.	3 Credits
	EDU 472 - Dev Digital Rich Workplace Offered spring. Prereq., CSCI 172. Project-based course to gain understanding and the ability to use web development tools to create a functional, well-designed web project. Additional topics/projects include: Web 2.0+ tapping the potential of digital tool; social media—educational and business uses; gamification in education and business, and introductory electronic game development for the classroom and the boardroom.	3 Credits

	M 461 - Practical Big Data Analytics Offered autumn. Prereq., STAT 341, and one of M 221 or M 273, or consent of instructor. This is a methods course supporting the Big Data Certificate Program. The course provides the students with the essential tools for the analysis of big data. The content consists of map reduce and canonical information methods for analyzing massively large data sets, windowing methods for the analysis of streaming data, an introduction to predictive analytics, and an introduction to data visualization methods. Level: Undergraduate-Graduate	3 Credits
	STAT 451 - Statistical Methods I Offered autumn. Prereq., one year of college mathematics including M 115 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

SoBA - Capstone Courses

Rule: All courses are required

Note: Students must complete all lower and upper core courses and their prerequisites and have an approved graduation application to register for their capstones.
Students must pass the required comprehensive exam as well as all requisite coursework to earn a passing grade in BGEN 499.
BGEN 499 must be taken at UM.

	Course	**Credits**
	BGEN 499 - Strategic Management Prereq., senior standing in Business, COMX 111A, ECNS 202S, BGEN 220E and all business core. Analysis of external and internal firm environment and strategy formulation. Integration of cumulative business knowledge. Case orientation and class discussion.	3 Credits
Minimum Required Grade: C-		4 Total Credits Required

SoBA Upper-Division Writing Requirement

Rule: All courses are required

	Course	**Credits**

	BMGT 486 - Strategic Venture Management Offered every term. Prereq., senior standing in Business, COMX 111, ECNS 202, BGEN 220 with grades C or better and completed upper Business core; coreq., BGEN 499. Integration of all functional areas of business including starting and managing a growing business. Topics include recognizing business opportunities, setting strategy for the firm, raising capital, marketing new products, and organizing a management team. Students write a business plan for themselves or for a local entrepreneur or organization.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Symbolic Systems Requirement

Rule: Students complete STAT 216 (preferred) or one other course from the list below to fulfill the Symbolic Systems Requirement.

Note: This is a primary lower core course. SoBA requires that credit be earned for STAT 216 (preferred) or one of the other statistics courses below (with a C- or better) prior to being admitted into an upper-division SoBA major.

	Course	**Credits**
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Expressive Arts Requirement

Rule: All courses are required

Note: Students must complete this course with a C- or better prior to taking the capstones, though earlier completion is strongly encouraged.

	Course	**Credits**

	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Social Science Requirement

Rule: All courses are required

Note: This is a primary lower core course and must be completed with a C- or better prior to a student being admitted into an upper-division SoBA major.

	Course	**Credits**
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Ethical & Human Values Requirement

Rule: All courses are required

Note: Students must complete this course with a C- or better prior to taking the capstones, though earlier completion is strongly encouraged.

	Course	**Credits**
	BGEN 220E - Bus Ethics & Soc Responsiblty Offered autumn and spring. Focuses on moral judgments, responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values. Addresses organizations and their relationship to the external environment, the law, and various stakeholders.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Business Administration Minor

Minor - Business Administration

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 27

Required Cumulative GPA: 2.0

Primary Lower Core Courses

Rule: Must complete all of the following courses:

Note: Students must earn a "C-" or better in any prerequisites and primary lower core courses before taking the upper division business minor courses. These seven (7) courses must be completed with a 2.0 GPA.

Student can apply to the Business Minor when they have a "C-" or better in all primary lower core courses, 60 credits, and a 2.0 primary lower core GPA.

	Course	Credits
	ACTG 201 - Principles of Fin Acct Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.	3 Credits
	ACTG 202 - Principles of Mang Acct Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.	3 Credits
	BMIS 270 - MIS Foundations for Business Offered every term. Prereq., WRIT 101. Introduces the development, use, and management of computer-based information systems.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		15 Total Credits Required

Upper Minor Core

Rule: Must complete all of the following courses:

Note: Three of the four upper minor core classes must be completed at the University of Montana - Missoula.

These classes can only be taken after the application to the Business Minor has been approved.

	Course	Credits
	BFIN 322 - Business Finance Offered every term. Prereq., junior standing in Business. The methodology and practice of business financial decisions.	3 Credits
	BGEN 361 - Principles of Business Law Offered autumn and spring. Prereq., junior major or minor in business. This course examines law as it applies to business transactions. Topics include the nature and sources of law; courts and procedure; contracts, employment; Uniform Commercial Code; property; environmental; business organizations; tort liability; insurance; consumer and creditor protection; bankruptcy; criminal law; and agency law. Credit not allowed for more than one of BGEN 235, BGEN 361 and BADM 257.	3 Credits

	BMGT 340 - Mgmt & Organization Behavior Offered autumn and spring. Prereq., junior standing in Business. An intensive examination of the fundamentals of management and organization supported by the application of behavioral science principles to the management of people in organizations.	3 Credits
	BMKT 325 - Principles of Marketing Offered autumn and spring. Prereq., junior standing in Business. The marketing environment, product, price, distribution, and promotion strategies including government regulation and marketing ethics.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Certificate in Big Data Analytics

The Big Data Analytics (BDA) certificate is designed to provide students with the tools necessary to compete in the Big Data space. Students will use big data tools that are currently available to capture, analyze, and present big data. They will explore a variety of applications with which Big Data tools can be applied, and they will complete a Big Data project. This certificate is currently aimed at students majoring in business, computer science, or mathematics.

- Big Data Analytics

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 12

Required Cumulative GPA: 3.0

Note: All students pursuing a BDA Certificate must also complete the degree requirements for a UM major. The 3.0 GPA requirement pertains specifically to the 12 credits required for this certificate, not a student's cumulative GPA.
Please meet with an BDA Certificate Advisor for assistance (Computer Science and Mathematics majors contact their department; all others contact SOBA Advising).
Complete the BDA certificate application (available from the SOBA advising office).

Big Data Analytics Certificate - Foundational Course

Rule: Take the following course.

Note: See individual course descriptions in the catalog for additional grade and prerequisite requirements.

	Course	**Credits**
	BMIS 326 - Data Analytics Offered autumn and spring. Prereq., STAT 216 or SOCI 202 or PSYX 222 or FORS 201. This course introduces the terminology and application of big data and data analytics. Students will complete cases in a variety of disciplines as they become acquainted with some of the software, tools, and techniques of data analytics.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Big Data Analytics Certificate – Elective Courses

Rule: Take 6 credits from the list below.

	Course	Credits
	BMIS 465 - Real-Time Data Analytics Offered intermittently. Prereq., STAT 216, BMIS 365 or equivalents. Focuses on analyzing big data in motion using commercially available software.	3 Credits
	BMKT 440 - Marketing Analytics Offered autumn or spring. Prereq., BMKT 325; junior standing in Business or consent of instr. The purpose of this course is to learn about the importance and value of using new measurement tools in marketing and using related research and data to create compelling content. Students in this course are also challenged to bring actual ideas to life.	3 Credits
	CSCI 444 - Data Visualization Offered intermittently. Prereq., M 171; programming experience; and junior, senior, or graduate status; or consent of instr. Visualization fundamentals and applications using special visualization software; formulation of 3-D empirical models; translation of 3-D models into graphical displays; time sequences and pseudo-animation; interactive versus presentation techniques; special techniques for video, CD and other media.	3 Credits
	CSCI 447 - Machine Learning Offered intermittently. Prereq., CSCI 232 or consent of instr. Introduction to the framework of learning from examples, various learning algorithms such as neural networks, and generic learning principles such as inductive bias, Occam's Razor, and data mining. Credit not allowed for both CSCI 447 and CSCI 547.	3 Credits
	CSCI 448 - Pattern Recognition Offered intermittently. Prereq., Junior or Senior status. Introduction to the framework of unsupervised learning techniques such as clustering (agglomerative, fuzzy, graph theory based, etc.), multivariate analysis approaches (PCA, MDS, LDA, etc.), image analysis (edge detection, etc.), as well as feature selection and generation. Emphasis will be on the underlying algorithms and their implementation. Credit not allowed for both CSCI 448 and CSCI 548.	3 Credits
	CSCI 464 - Applications Mining Big Data Offered intermittently. Prereq., upper division or consent of instr. Co-convenes with CSCI 564. Introduction to existing data mining software systems and their use, with focus on practical exercises. Topics include data acquisition, data cleansing, feature selection, and data analysis. Credit not allowed for both CSCI 464 and CSCI 564.	3 Credits

	CSCI 480 - Parallel Computing Prereq., CSCI 205 and 232, or instructor consent. This course is an introduction to parallelism and parallel programming. Topics include the various forms of parallelism on modern computer hardware (e.g. SIMD vector instructions, GPUs, multiple cores, and networked clusters), with coverage of locality and latency, shared vs non-shared memory, and synchronization mechanisms (locking, atomicity, etc). We will introduce patterns that appear in essentially all programs that need to run fast. We will discuss how to recognize these patterns in a variety of practical problems, discuss efficient algorithms for implementing them, and how to compose these patterns into larger applications. We will address computer architecture at a high level, sufficient to understand the relative costs of operations like arithmetic and data transfer. We also introduce useful tools for debugging correctness and performance of parallel programs. Assignments will include significant parallel programming projects. Co-convenes with CSCI 580. Credit not allowed for both CSCI 480 and CSCI 580.	3 Credits
	CSCI 564 - Applications Mining Big Data Offered intermittently. Co-convenes with CSCI 464. Introduction to existing data mining software systems and their use, with focus on practical exercises. Topics include data acquisition, data cleansing, feature selection, and data analysis. Credit not allowed for both CSCI 464 and CSCI 564. Level: Graduate	3 Credits
	CSCI 580 - Parallel Computing Offered intermittently. Prereq., CSCI 232, 205. Parallel processing architectures and programming languages. Co-convenes with CSCI 580. Credit not allowed for both CSCI 480 and CSCI 580. Level: Graduate	3 Credits
	M 461 - Practical Big Data Analytics Offered autumn. Prereq., STAT 341, and one of M 221 or M 273, or consent of instructor. This is a methods course supporting the Big Data Certificate Program. The course provides the students with the essential tools for the analysis of big data. The content consists of map reduce and canonical information methods for analyzing massively large data sets, windowing methods for the analysis of streaming data, an introduction to predictive analytics, and an introduction to data visualization methods. Level: Undergraduate-Graduate	3 Credits
	M 462 - Theoretical Big Data Analytics Offered spring. Prereq., M 221 and two other Mathematics / Statistics classes at the 200-level or above, or consent of instr. The main goal of this course is to provide students with a unique opportunity to acquire conceptual knowledge and theoretical background behind mathematical tools applicable to Big Data Analytics and Real Time Computations. Specific challenges of Big Data Analytics, e.g., problems of extracting, unifying, updating, and merging information, and processing of highly parallel and distributed data, will be reviewed. The tools for Big Data Analytics, such as regression analysis, linear estimation, calibration problems, real time processing of incoming (potentially infinite) data, will be studied in more detail. It will be shown how these approaches can be transformed to conform to the Big Data demands. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		6 Total Credits Required

Big Data Analytics Certificate – Capstone Course

Rule: Take one of the following two courses.

	Course	Credits
	BMIS 482 - Big Data Project Offered autumn and spring. Prereq., BMIS 326 and any 2 electives listed in part 4 of the Big Data Analytics Certificate, or consent of instructor. Students will work in cross-disciplinary teams to complete big data projects from different disciplines. There will be emphasis on agile project management.	3 Credits
	M 467 - Big Data Analytic Projects Offered spring. Prereq., two courses chosen from STAT 341, M 221 and M 273, and one of M 461 or M 462, or consent of instructor. This course is a practicum course aimed at developing skills needed to solve big data problems facing industry and academics. Problems are brought to the class by local technology-oriented businesses and university researchers. Lecture topics include project management, interacting with clients, and written and oral presentation of results. Additional lecture topics will be selected to address the specific problems brought to the class and may cover data reduction methods, algorithm design and predictive analytics. Level: Undergraduate-Graduate	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Accounting and Finance Department

Bruce A. Costa Ph.D., Chair

The Department of Accounting and Finance prepares ethically aware decision-makers with effective analytical and qualitative business knowledge and skills to become professionals in their respective fields in the region and beyond. We commit to high quality teaching and applying scholarship to professional practice, pedagogy, and theory to enhance the professional accounting and finance fields. The department offers the Master of Accountancy degree and two undergraduate majors within the Bachelor of Science in Business Administration degree: accounting and finance. The department also offers a Certificate in Accounting Information Systems.

Accounting

Back to Top

- ACTG 201 - Principles of Fin Acct
  Credits: 3. Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.
- ACTG 202 - Principles of Mang Acct
  Credits: 3. Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.
- ACTG 203 - Accounting Lab
  Credits: 1. Offered every term. Prereq., ACTG 201 with a grade of C or better. Applying accounting cycle concepts to comprehensive hands-on financial statement cases and/or a practice set and exploring career options.
- ACTG 298 - Internship
  Credits: 1 TO 3. (R 3) Offered autumn and spring. Prereq., last semester in program, minimum grade of “C” in all ACTG courses, and approval of program director. On-the-job training in positions related to the accounting field. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend scheduled one-hour seminars.
  Course Attributes: Internships/Practicums

- ACTG 305 - Corporate Reporting I

  Credits: 3. Offered every term. Prereq., junior standing in Business, ACTG 201 and 202 with grades of C or better or consent of instr. Prereq., or Coreq., ACTG 203. Topics include concepts in financial accounting, assets and related income statement accounts.

- ACTG 306 - Corporate Reporting II

  Credits: 3. Offered every term. Prereq., junior standing in Business, ACTG 203, ACTG 305 with grades of C or better, or consent of instr. Continuation of ACTG 305. Topics include concepts in financial accounting, coverage of the liability and equity side of the balance sheet, the cash flow statement, and several special financial accounting topics.

- ACTG 307 - Corporate Reporting III

  Credits: 2. Offered spring. Prereq., junior standing in Business and ACTG 305; prereq., or coreq., ACTG 306, or consent of instr. Application of accounting principles to complex issues such as post-retirement benefits, accounting changes, bankruptcies, reorganizations, income taxes and other topics.

- ACTG 321 - Acct Information Systems I

  Credits: 3. Offered autumn and spring. Prereq., junior standing in Business. Prereq., or coreq., ACTG 203. Provides thorough understanding of business processes, risks, and internal controls. Computer applications may be used to demonstrate concepts.

- ACTG 391 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., junior standing in Business and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ACTG 392 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

- ACTG 394 - Undergraduate Seminar

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

- ACTG 401 - Principles of Fed Tax - Ind

  Credits: 3. Offered autumn. Prereq., Junior standing in Business or consent of instr. Prereq., or coreq., ACTG 306. The application of the federal income tax law to determine income, deductions and losses. Special topics include property transactions.

- ACTG 410 - Cost/Mgmt Acct I

  Credits: 3. Offered autumn and/or spring. Prereq., junior standing in business or consent of instr. The study of cost management for business and other organizations. Emphasis on how information about costs helps managers make better decisions.

- ACTG 411 - Auditing I

  Credits: 3. Offered spring. Prereq., junior standing in Business, ACTG 321 and ACTG 306, or consent of instr. Introduction to auditing with emphasis on the independent audit of financial statements. Coverage includes professional standards, ethics, audit risk, evidence, internal controls, procedures, opinions, operational and compliance auditing.

- ACTG 420 - Cost/Mgmt Acct II

  Credits: 3. Offered intermittently. Prereq., senior standing in Business and ACTG 410 or consent of instr. Advanced cost management with emphasis on how financial and non-financial information helps managers make better decisions in a wide variety of business and not-for-profit organizations. Current readings in cost management and related topics.

- ACTG 425 - State & Local Gov't Acctg

  Credits: 2. Offered spring. Prereq., junior standing in Business or consent of instr. Prereq., or coreq., ACTG 306. Reporting requirements and generally accepted accounting principles applicable to state and local governmental units.

- ACTG 426 - Acctg for Nonprofits

  Credits: 1. Offered spring. Prereq., junior standing in Business or consent of instr. Prereq., or coreq., ACTG 306. Reporting requirements and generally accepted accounting principles applicable to nonprofit entities, including colleges/universities.

- ACTG 432 - Income Tax Practicum

Credits: 1. Offered spring. Prereq., junior standing in Business. Service course that provides free tax preparation to low income taxpayers and students, in conjunction with the IRS. Students apply their knowledge of tax law to the preparation and e-filing of income tax returns under the direction of a practicing CPA. Designated as a service learning course. Graded credit/no credit only. Course Attributes: Internships/Practicums Service Learning/Volunteer Service Learning

- ACTG 491 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., junior standing in Business and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- ACTG 492 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., junior standing in Business and consent of inst.

- ACTG 494 - Seminar

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

- ACTG 498 - Internship

  Credits: 1 TO 6. Offered every term. Prereq., junior standing in Business and consent of instr. Students are placed with private or governmental organizations to receive on-the-job training. Written reports are required. A maximum of 3 credits count toward graduation. Course Attributes: Internships/Practicums

- ACTG 509 - Financial Rptg & Control

  Credits: 3. Online course. Offered spring. Prereq., admission to M.B.A. or M-Acct. program or graduate standing with consent of graduate business program director. Reporting and using financial information of an enterprise, with a focus on internal and external decision-making. Topics include analysis and recording financial transactions, understanding how these events affect financial statements, and using quantitative tools for internal decision-making. Level: Graduate

- ACTG 605 - Administrative Controls

  Credits: 2. Offered autumn. Prereq., admission to the M.B.A. program. Not open to M-Acct. students. The application of accounting information to managerial and financial decision making. Level: Graduate

- ACTG 615 - Accounting Theory

  Credits: 3. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, Business core, accounting core, and admission to M-Acct. program or consent of accounting graduate director. A critical analysis of the concepts underlying the development and application of financial accounting in the United States. Coverage of current accounting standards as well as other current topics in financial accounting. Level: Graduate

- ACTG 616 - Adv. Financial Topics

  Credits: 3. Offered fall or spring. Prerq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, business core, accounting core, admission to M-Acct. program or consent of accounting graduate director. Study of financial accounting topics requiring complex treatment, such as accounting for business combinations, consolidations, investments in other entities, and accounting for non-corporate for-profit entities. Level: Graduate

- ACTG 631 - Advanced Tax

  Credits: 3. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, ACTG 401, admission to M-Acct. program or consent of accounting graduate director. The application of the federal income tax law to corporations and partnerships, and special problems associated with taxation of trusts, estates and gifts. Level: Graduate

- ACTG 632 - Adv Income Tax Prac

  Credits: 1. Offered spring. Prereq., graduate student in business or consent of accounting graduate director and instr. Service course that provides free tax preparation to low income taxpayers and students, in conjunction with the IRS. Graduate students apply their knowledge of tax law to the preparation and e-filing of income tax returns under the direction of a practicing CPA, review the work of undergraduate preparers, and assist in the organization and training of undergraduate preparers. Designated as a service-learning course. Grade option credit/no credit only. Level: Graduate Course Attributes: Internships/Practicums Service Learning/Volunteer Service Learning

- ACTG 641 - Advanced Auditing

  Credits: 3. Offered autumn or spring. Prereq., admissions to M-Acct., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, ACTG 411, graduate student in business or consent of accounting graduate director. Research cases in auditing and coverage of contemporary topics in auditing, typically including attestation standards, other reports and services, legal and ethical environment, and fraud detection. Level: Graduate

- ACTG 643 - Fraud/Forensic Acct

  Credits: 2 TO 3. Offered intermittently. Prereq., admission to M-Acct., with grade of B or better in ACTG 321 and 411 or equivalents, or consent of M-Acct. director. A study of fraud motivations, techniques, prevention, and detection. Includes the study of forensic accounting using forensic science, information security, and other forensic auditing/investigation tools and techniques, as they apply in various fraud and financial contexts. Level: Graduate

- ACTG 661 - Acct Law & Ethics

  Credits: 3. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, Business core, admission to M-Acct. program or consent of accounting graduate director. Legal issues from the common law and appropriate statutes applicable to the public practice of accounting. The professional responsibilities and ethics of a practicing CPA. Level: Graduate

- ACTG 675 - Contemporary Acct Problems

  Credits: 4. Offered first summer session. Prereq. or coreq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, student must be in good academic standing, ACTG 611, 615, 631, 641, and 661. Integration of accounting theory and practice. Primarily for the student preparing to take the uniform CPA examination. Graded only credit/no credit. Level: Graduate

- ACTG 694 - Seminar

  Credits: 1 TO 3. (R-15) Offered intermittently. Prereq., graduate student in business or consent of business graduate director. Selected topics in accounting. Level: Graduate

- ACTG 696 - Independent Study

  Credits: 1 TO 9. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Directed study of individual or small groups of students in topics not available in scheduled classes. Level: Graduate Course Attributes: Independent Study

- ACTG 698 - Internship

  Credits: 1 TO 6. (R-3) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Placements with private or governmental organizations for practical training. Written reports required. Level: Graduate Course Attributes: Internships/Practicums

- ACTG 699 - Thesis

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director. Grade option credit/no credit only. Level: Graduate

Business Finance

Back to Top

- BFIN 191 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BFIN 192 - Independent Study

  Credits: 1 TO 3. (R-3) Offered every term. Course material appropriate to the needs and objectives of the individual student.

- BFIN 205S - Personal Finance

  Credits: 3. Offered intermittently. Concepts, strategies and techniques in analyzing financial situations and investment opportunities from the individual's perspective. Course Attributes: Social Sciences Course (S)

- BFIN 292 - Independent Study

  Credits: 1 TO 3. (R-3) Course material appropriate to the needs and objectives of the individual student.

- BFIN 298 - Internship

  Credits: 1 TO 3. (R-3) Offered every term. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internship graduation limit 6

- BFIN 301 - Analysis of Finan Statements

  Credits: 3. Offered intermittently. Prereq., junior standing in Business. Analysis of balance sheets, income and cash flow statements and statements of owners' equity in terms of structure, strategy and performance of the company being analyzed. Emphasis is on the use rather than preparation of financial statements.

- BFIN 322 - Business Finance

  Credits: 3. Offered every term. Prereq., junior standing in Business. The methodology and practice of business financial decisions.

- BFIN 391 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., junior standing in Business and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BFIN 392 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

- BFIN 394 - Undergraduate Seminar

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

- BFIN 410 - $50,000 Portfolio

  Credits: 3. Offered intermittently. Prereq., junior standing in Business, grade of C or better in BFIN 322, and consent of department chair. Students manage a diversified investment portfolio for a semester. Students analyze and discuss investment opportunities and implement their decisions.

- BFIN 420 - Investments

  Credits: 3. Offered autumn. Prereq., junior standing in Business, grade of C or better in BFIN 322 or consent of instr. Principles, practices and methodology in investment analysis and portfolio management.

- BFIN 421 - Real Estate Invtmnt & Analysis

  Credits: 3. Offered intermittently. Prereq., junior standing in Business and BFIN 322 with a C or better, or consent of instr. Introduction to the principles and practices of real estate. Includes the study of real estate law, financing, valuation, brokerage and land use.

- BFIN 424 - Markets, Instns & Fin Enginrng

  Credits: 3. Offered spring. Prereq., junior standing in Business, BFIN 322 with C or better and BFIN 429 with C- or better or BFIN 439 with C- or better, or consent of instr. Topics covered include operations and analysis of the national and international money and capital markets as they affect financial institutions and usage of derivatives to hedge risks.

- BFIN 429 - Fin Mgmt I:Thry/Analysis

  Credits: 3. Offered spring. Prereq., junior standing in Business, grade of C or better in BFIN 322 and ECNS 202S or consent of instr. Understanding the practice of business investment and working capital decisions. Computer models and cases used to demonstrate the management process.

- BFIN 439 - Fin Mgmt II: Analysis/Problems

  Credits: 3. Offered autumn. Prereq., junior standing in Business, grade of C or better in BFIN 322 and ECNS 202S or consent of instr. Topics include business valuation techniques, capital structure, raising capital, mergers and acquisitions, working capital management, and multinational financial management. Course uses computer models and cases to emphasize analysis and decision making.

- BFIN 450 - Banking

  Credits: 3. Offered spring. Prereq., junior standing in Business, grade of C or better in BFIN 322, or consent of instr. The financial management of banking institutions including financial analysis, interest rate risk management, liquidity management, investment and loan portfolio management.

- BFIN 473 - Multinational Financial Mgmt

  Credits: 3. Offered autumn. Prereq., junior standing in Business, BFIN 322 and ECNS 202S, or consent of instr. Students are strongly encouraged to complete BGEN 360 prior to BFIN 473. Topics include financial skills required of corporate executives in international business, exchange rate risk analysis, analysis of global financial systems and assessment of real international investments.

- BFIN 491 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., junior standing in Business and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- BFIN 492 - Independent Study

  Credits: 1 TO 6. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

- BFIN 494 - Seminar

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

- BFIN 498 - Internship

  Credits: 1 TO 6. Offered every term. Prereq., junior standing in Business and consent of instr. Students are placed with private or governmental organizations to receive on-the-job training. Written reports are required. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Course Attributes: Internships/Practicums

- BFIN 522 - Prin Financial Analysis

  Credits: 3. Online course. Offered summer. Prereq., admission to M.B.A. or M-Acct. program or graduate standing with consent of graduate business program director; grade of B or better in ACTG 509. Introduction to financial management and the application of these principles to business decisions. Topics include financial analysis, time value of money, theories of risk and return, stock and bond valuation, capital budgeting, cost of capital, and working capital management. Level: Graduate

- BFIN 651 - Cornerstone of Grad Fin

  Credits: 1. Offered fall. Course is designed to prepare M-Acct. and MBA students who desire an improved foundation in corporate finance. Level: Graduate

- BFIN 681 - Financial Management

  Credits: 2. Offered autumn. Prereq., admission to the M.B.A. or admission to the M-Acct. programs. Advanced theory and analysis in corporate financial management. Level: Graduate

- BFIN 694 - Seminar

  Credits: 1 TO 15. (R-15) Offered intermittently. Prereq., graduate student in business or consent of business graduate director. Selected topics in finance. Level: Graduate

Business: General

Back to Top

- BGEN 445 - Sustainability Reporting

  Credits: 3. Offered spring. Prereq., junior, senior, or graduate standing. This course provides students with an understanding of sustainability reporting by organizations. Topics covered include sustainability reporting metrics for the public disclosure of the economic, environmental, and social impacts of organizations. Regulation of sustainability reporting, greenwashing, and external assurance of sustainability reports are also covered.

The undergraduate accounting program is committed to preparing students to apply accounting and business knowledge in organizations. Students develop competence in a broad range of accounting practices. The curriculum strives to foster critical thinking and problem-solving skills. Students are prepared to enter professional positions in accounting with business, nonprofit, or government organizations. Accounting programs in the School of Business Administration hold separate AACSB International accreditation.

See the School of Business Administration section of the catalog for additional credit restrictions and residency requirements.

Bachelor of Science - Accounting

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 76

Required Cumulative GPA: 2.0

Note: At least 54 credits must be earned in Business classes (ECNS, SoBA internship courses, and SoBA faculty-led study abroad courses may be counted in OR out of Business). A minimum GPA of 2.0 is required for these courses.
At least 60 credits must be earned outside of SoBA (excluding HHP/ACT activities courses).
No more than 30 credits of ACTG (including ACTG 201 and ACTG 202) may count towards the 120 credits required to graduate.
At least 28 credits in business, the capstone courses, AND all required 400-level accounting courses must be taken at UM.
All Business credits transferred in after matriculating to UM must be pre-approved by the department chair in your major.

SoBA - Lower Primary Core Courses

Rule: All courses are required

Note: Unless a higher requirement is specified, all lower primary core courses must be completed with a C- or better and a 2.0 GPA in the seven (7) listed courses prior to admission into an upper-division Business Major. A minimum grade of C or better is required for ACTG 201 and ACTG 202 as a prerequisite for ACTG 203 and ACTG 305.
A math course and a statistics course are also required in the lower primary core. See Math Requirements and Symbolic Systems Requirements below. Math 3-4 credits, Symbolic Systems 3-4 credits, Stat is a primary lower core course.

	Course	Credits
	ACTG 201 - Principles of Fin Acct Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.	3 Credits
	ACTG 202 - Principles of Mang Acct Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.	3 Credits
	BMIS 270 - MIS Foundations for Business Offered every term. Prereq., WRIT 101. Introduces the development, use, and management of computer-based information systems.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

SoBA Math Requirement

Rule: Students choose one course from the list below to fulfill their Math Requirement

Note: SoBA requires that credit be earned for one of the math courses below (with a C- or better) before enrolling in ACTG 202.
A student's result on the ALEKS Math Placement Exam does not waive this math requirement.

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits

Minimum Required Grade: C-	3 Total Credits Required

SoBA – Lower Secondary Core Courses

Rule: All courses are required

Note: All courses must be completed with a "C-" or better to satisfy prerequisites for certain major, upper core, or capstone courses. Students are advised to complete these courses prior to being admitted to an upper-division Business Major. Prerequisites are strictly enforced.

	Course	Credits
	BGEN 220E - Bus Ethics & Soc Responsiblty Offered autumn and spring. Focuses on moral judgments, responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values. Addresses organizations and their relationship to the external environment, the law, and various stakeholders.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

SoBA - Upper Core

Rule: All courses are required

Note: All upper core courses must be completed before the capstone can be taken. A student must be listed as a major or minor in business to take these courses. Major or minor in business is defined as junior standing with all primary lower core courses completed, a 2.0 cumulative GPA, and formally admitted to the major or minor.

	Course	Credits
	BFIN 322 - Business Finance Offered every term. Prereq., junior standing in Business. The methodology and practice of business financial decisions.	3 Credits

	BGEN 361 - Principles of Business Law Offered autumn and spring. Prereq., junior major or minor in business. This course examines law as it applies to business transactions. Topics include the nature and sources of law; courts and procedure; contracts, employment; Uniform Commercial Code; property; environmental; business organizations; tort liability; insurance; consumer and creditor protection; bankruptcy; criminal law; and agency law. Credit not allowed for more than one of BGEN 235, BGEN 361 and BADM 257.	3 Credits
	BMGT 322 - Operations Management Offered every term. Prereq., junior major in Business, CSCI 172. A survey of the processes that organizations, public or private, use to produce goods and services. Includes management science topics.	3 Credits
	BMGT 340 - Mgmt & Organization Behavior Offered autumn and spring. Prereq., junior standing in Business. An intensive examination of the fundamentals of management and organization supported by the application of behavioral science principles to the management of people in organizations.	3 Credits
	BMKT 325 - Principles of Marketing Offered autumn and spring. Prereq., junior standing in Business. The marketing environment, product, price, distribution, and promotion strategies including government regulation and marketing ethics.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Accounting Major Requirements

Rule: Must complete the following subcategories

Note: No more than 30 credits of ACTG (including ACTG 201 and 202) may count towards the 120 credits required to graduate.
All required 400-level accounting courses must be taken at UM.

21 Total Credits Required

Accounting Major Requirements

Rule: All courses are required

	Course	Credits
	ACTG 203 - Accounting Lab Offered every term. Prereq., ACTG 201 with a grade of C or better. Applying accounting cycle concepts to comprehensive hands-on financial statement cases and/or a practice set and exploring career options.	1 Credits
	ACTG 305 - Corporate Reporting I Offered every term. Prereq., junior standing in Business, ACTG 201 and 202 with grades of C or better or consent of instr. Prereq., or Coreq., ACTG 203. Topics include concepts in financial accounting, assets and related income statement accounts.	3 Credits

	ACTG 306 - Corporate Reporting II Offered every term. Prereq., junior standing in Business, ACTG 203, ACTG 305 with grades of C or better, or consent of instr. Continuation of ACTG 305. Topics include concepts in financial accounting, coverage of the liability and equity side of the balance sheet, the cash flow statement, and several special financial accounting topics.	3 Credits
	ACTG 321 - Acct Information Systems I Offered autumn and spring. Prereq., junior standing in Business. Prereq., or coreq., ACTG 203. Provides thorough understanding of business processes, risks, and internal controls. Computer applications may be used to demonstrate concepts.	3 Credits
	ACTG 401 - Principles of Fed Tax - Ind Offered autumn. Prereq., Junior standing in Business or consent of instr. Prereq., or coreq., ACTG 306. The application of the federal income tax law to determine income, deductions and losses. Special topics include property transactions.	3 Credits
	ACTG 410 - Cost/Mgmt Acct I Offered autumn and/or spring. Prereq., junior standing in business or consent of instr. The study of cost management for business and other organizations. Emphasis on how information about costs helps managers make better decisions.	3 Credits
	ACTG 411 - Auditing I Offered spring. Prereq., junior standing in Business, ACTG 321 and ACTG 306, or consent of instr. Introduction to auditing with emphasis on the independent audit of financial statements. Coverage includes professional standards, ethics, audit risk, evidence, internal controls, procedures, opinions, operational and compliance auditing.	3 Credits
	ACTG 425 - State & Local Gov't Acctg Offered spring. Prereq., junior standing in Business or consent of instr. Prereq., or coreq., ACTG 306. Reporting requirements and generally accepted accounting principles applicable to state and local governmental units.	2 Credits
Minimum Required Grade: C-		21 Total Credits Required

Accounting Major - Electives

Rule: Take 3 credits from the list below.

Note: No more than 3 credits of ACTG 498 may count towards the 120 credits required to graduate.
No more than 30 credits of ACTG (including ACTG 201 and ACTG 202) may count towards the 120 credits required to graduate.
See MAcct Director for information pertaining to the Master's of Accountancy Program or taking the CPA exam.

	Course	**Credits**

	ACTG 307 - Corporate Reporting III Offered spring. Prereq., junior standing in Business and ACTG 305; prereq., or coreq., ACTG 306, or consent of instr. Application of accounting principles to complex issues such as post-retirement benefits, accounting changes, bankruptcies, reorganizations, income taxes and other topics.	2 Credits
	ACTG 420 - Cost/Mgmt Acct II Offered intermittently. Prereq., senior standing in Business and ACTG 410 or consent of instr. Advanced cost management with emphasis on how financial and non-financial information helps managers make better decisions in a wide variety of business and not-for-profit organizations. Current readings in cost management and related topics.	3 Credits
	ACTG 426 - Acctg for Nonprofits Offered spring. Prereq., junior standing in Business or consent of instr. Prereq., or coreq., ACTG 306. Reporting requirements and generally accepted accounting principles applicable to nonprofit entities, including colleges/universities.	1 Credits
	ACTG 432 - Income Tax Practicum Offered spring. Prereq., junior standing in Business. Service course that provides free tax preparation to low income taxpayers and students, in conjunction with the IRS. Students apply their knowledge of tax law to the preparation and e-filing of income tax returns under the direction of a practicing CPA. Designated as a service learning course. Graded credit/no credit only.	1 Credits
	ACTG 498 - Internship Offered every term. Prereq., junior standing in Business and consent of instr. Students are placed with private or governmental organizations to receive on-the-job training. Written reports are required. A maximum of 3 credits count toward graduation.	1 To 6 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA - Capstone Courses

Rule: All courses are required

Note: Students must complete all lower primary and secondary core and upper core courses and their prerequisites and have an approved graduation application to register for their capstones.

Students must pass the required comprehensive exam as well as all requisite coursework to earn a passing grade in BGEN 499. BGEN 499 must be taken at UM.

	Course	**Credits**
	BGEN 499 - Strategic Management Prereq., senior standing in Business, COMX 111A, ECNS 202S, BGEN 220E and all business core. Analysis of external and internal firm environment and strategy formulation. Integration of cumulative business knowledge. Case orientation and class discussion.	3 Credits

Minimum Required Grade: C-	3 Total Credits Required

SoBA Upper-Division Writing Requirement

Rule: All courses are required

	Course	Credits
	BGEN 499 - Strategic Management Prereq., senior standing in Business, COMX 111A, ECNS 202S, BGEN 220E and all business core. Analysis of external and internal firm environment and strategy formulation. Integration of cumulative business knowledge. Case orientation and class discussion.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Symbolic Systems Requirement

Rule: Students complete STAT 216 (preferred) or one other course from the list below to fulfill the Symbolic Systems Requirement.

Note: This is a primary lower core course. SoBA requires that credit be earned for STAT 216 (preferred) or one of the other statistics courses below (with a C- or better) prior to being admitted into an upper-division SoBA major.

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

SoBA Expressive Arts Requirement

Rule: All courses are required

Note: Students must complete this course with a C- or better prior to taking the capstones, though earlier completion is strongly encouraged.

	Course	Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Social Science Requirement

Rule: All courses are required

Note: This is a primary lower core course and must be completed with a C- or better prior to a student being admitted into an upper-division SoBA major.

	Course	Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Ethical & Human Values Requirement

Rule: All courses are required

Note: Students must complete this course with a C- or better prior to taking the capstones, though earlier completion is strongly encouraged.

	Course	Credits
	BGEN 220E - Bus Ethics & Soc Responsiblty Offered autumn and spring. Focuses on moral judgments, responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values. Addresses organizations and their relationship to the external environment, the law, and various stakeholders.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Finance B.S.

The finance curriculum is designed to equip students with a comprehensive foundation in financial management, financial markets and investments. Students will gain competence in making effective decisions, performing complex analyses, providing expert financial advice and utilizing current technology tools and data sources.

Basic Requirements for Finance Major

All students must complete a faculty-approved plan of study during the first semester of their junior year. The plan of study is available from a finance faculty advisor and must be completed and signed by the faculty advisor. Failure to implement and adhere to a program of study may delay graduation. Some courses have grade requirements in the prerequisite course (see the catalog course descriptions). Many of these courses may be taught once a year, so students should see their advisor for the schedule each academic year.

Bachelor of Science - Finance

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 76

Required Cumulative GPA: 2.0

Note: At least 54 credits must be earned in Business classes (ECNS, SoBA internship courses, and SoBA faculty-led study abroad courses may be counted in OR out of Business) A minimum GPA of 2.0 is required for these courses.
At least 60 credits must be earned outside of SoBA (excluding HHP/ACT activities courses).
At least 28 credits in business AND all required 400-level finance courses must be taken at UM.
All business credits transferred in after matriculating to UM must be pre-approved by the department chair in your major.

SoBA - Lower Primary Core Courses

Rule: All courses are required

Note: Unless a higher grade requirement is specified, all Lower primary core courses must be completed with a C- or better and a 2.0 GPA must be earned in the seven (7) listed courses prior to admission into an upper-division Business Major.
A math course and a statistics course are also required as part of the lower primary core. See Math Requirements and Symbolic Systems Requirements below. Math 3-4 Credits
Symbolic Systems 3-4 Credits

	Course	Credits
	ACTG 201 - Principles of Fin Acct Offered every term. Prereq. or Coreq. M 115, M 121, M 151 or M 162. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.	3 Credits
	ACTG 202 - Principles of Mang Acct Offered every term. Prereq., ACTG 201 and M 115, M 121, M 151 or M 162. Continuation of ACTG 201 with a focus on managerial accounting topics.	3 Credits
	BMIS 270 - MIS Foundations for Business Offered every term. Prereq., WRIT 101. Introduces the development, use, and management of computer-based information systems.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits

	WRIT 101 - College Writing I UM: Offered every term. Prereq., WRIT 095 or proof of passing score on writing diagnostic examination, referral by WRIT 095 instructor-SAT writing score at or above 440, MUSWA at or above 3.5, SAT/ACT essay score at or above 7, or ACT Combined English/Writing score at or above 18. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both WRIT 101 and COM 101. Grading A-F, or NC (no credit). MC: Offered every term. Prereq., WRIT 095 or proof of appropriate SAT/ACT essay, English/Writing, writing section scores, appropriate MUSWA scores, or proof of passing scores on Writing Placement Exam). Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Grading A-F, or NC (no credit).	3 Credits
Minimum Required Grade: C-		21 Total Credits Required

SoBA Math Requirement

Rule: Students choose one from the list below to fulfill their Math Requirement

Note: The Finance Department encourages that a student take M 162 to complete his or her math requirement to better prepare the student for a major in Finance. However, M 115, M 121, or M 151 will be accepted for students who choose not to take M 162.
SoBA requires that credit be earned for one of the math courses below (with a C- or better) before enrolling in ACTG 202.
A student's result on the ALEKS Math Placement Exam does not waive this math requirement.

	Course	**Credits**
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits

	M 162 - Applied Calculus Offered autumn and spring. Prereq., ALEKS placement >= 5 or one of M 121, 122 or 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA – Lower Secondary Core Courses

Rule: All courses are required

Note: All courses must be completed with a "C-" or better to satisfy BFIN 322, prerequisites for certain major, upper core, or capstone courses. Students are advised to complete these courses prior to being admitted to an upper-division Business Major. Prerequisites are strictly enforced.

	Course	Credits
	BGEN 220E - Bus Ethics & Soc Responsiblty Offered autumn and spring. Focuses on moral judgments, responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values. Addresses organizations and their relationship to the external environment, the law, and various stakeholders.	3 Credits
	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
	CSCI 172 - Intro to Computer Modeling Offered autumn and spring. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and database for data analysis. Credit not allowed for CSCI 172, CRT 172, and CS 172.	3 Credits
	ECNS 202S - Principles of Macroeconomics Offered every term. Prereq., ECNS 201S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

SoBA - Upper Core

Rule: All courses are required

Note: BFIN 322 must be completed with a C or higher as a prerequisite to the finance major requirements. All upper core courses must be completed before the capstones can be taken. A student must be listed as a major or minor in business to take these courses. Major or minor in business is defined as junior standing with all primary lower core courses completed, a 2.0 cumulative GPA, and formally admitted to the major or minor.

	Course	Credits

	BFIN 322 - Business Finance Offered every term. Prereq., junior standing in Business. The methodology and practice of business financial decisions.	3 Credits
	BGEN 361 - Principles of Business Law Offered autumn and spring. Prereq., junior major or minor in business. This course examines law as it applies to business transactions. Topics include the nature and sources of law; courts and procedure; contracts, employment; Uniform Commercial Code; property; environmental; business organizations; tort liability; insurance; consumer and creditor protection; bankruptcy; criminal law; and agency law. Credit not allowed for more than one of BGEN 235, BGEN 361 and BADM 257.	3 Credits
	BMGT 322 - Operations Management Offered every term. Prereq., junior major in Business, CSCI 172. A survey of the processes that organizations, public or private, use to produce goods and services. Includes management science topics.	3 Credits
	BMGT 340 - Mgmt & Organization Behavior Offered autumn and spring. Prereq., junior standing in Business. An intensive examination of the fundamentals of management and organization supported by the application of behavioral science principles to the management of people in organizations.	3 Credits
	BMKT 325 - Principles of Marketing Offered autumn and spring. Prereq., junior standing in Business. The marketing environment, product, price, distribution, and promotion strategies including government regulation and marketing ethics.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Finance Major - Requirements

Rule: All courses are required

Note: Finance major courses only offered once per academic year.
All required 400-level finance courses must be taken at UM.

	Course	**Credits**
	BFIN 420 - Investments Offered autumn. Prereq., junior standing in Business, grade of C or better in BFIN 322 or consent of instr. Principles, practices and methodology in investment analysis and portfolio management.	3 Credits
	BFIN 424 - Markets, Instns & Fin Enginrng Offered spring. Prereq., junior standing in Business, BFIN 322 with C or better and BFIN 429 with C- or better or BFIN 439 with C- or better, or consent of instr. Topics covered include operations and analysis of the national and international money and capital markets as they affect financial institutions and usage of derivatives to hedge risks.	3 Credits

	BFIN 429 - Fin Mgmt I:Thry/Analysis Offered spring. Prereq., junior standing in Business, grade of C or better in BFIN 322 and ECNS 202S or consent of instr. Understanding the practice of business investment and working capital decisions. Computer models and cases used to demonstrate the management process.	3 Credits
	BFIN 439 - Fin Mgmt II: Analysis/Problems Offered autumn. Prereq., junior standing in Business, grade of C or better in BFIN 322 and ECNS 202S or consent of instr. Topics include business valuation techniques, capital structure, raising capital, mergers and acquisitions, working capital management, and multinational financial management. Course uses computer models and cases to emphasize analysis and decision making.	3 Credits
	BFIN 450 - Banking Offered spring. Prereq., junior standing in Business, grade of C or better in BFIN 322, or consent of instr. The financial management of banking institutions including financial analysis, interest rate risk management, liquidity management, investment and loan portfolio management.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Finance Major - Electives

Rule: Take 9 credits from the list below.

Note: BFIN 205S is encouraged for Finance majors, but does not count as an elective for the Finance Major.

Note: These 9 credits are selected in consultation with your faculty advisor. A signed track sheet reflecting these courses is required on file in the SoBA Advising Office.
ACTG 305 and ACT 321 have a co-requisite of ACTG 203.
Up to 3 credits of BFIN 498 can count towards the 9 credit elective requirement.

	Course	**Credits**
	ACTG 305 - Corporate Reporting I Offered every term. Prereq., junior standing in Business, ACTG 201 and 202 with grades of C or better or consent of instr. Prereq., or Coreq., ACTG 203. Topics include concepts in financial accounting, assets and related income statement accounts.	3 Credits
	ACTG 321 - Acct Information Systems I Offered autumn and spring. Prereq., junior standing in Business. Prereq., or coreq., ACTG 203. Provides thorough understanding of business processes, risks, and internal controls. Computer applications may be used to demonstrate concepts.	3 Credits
	ACTG 410 - Cost/Mgmt Acct I Offered autumn and/or spring. Prereq., junior standing in business or consent of instr. The study of cost management for business and other organizations. Emphasis on how information about costs helps managers make better decisions.	3 Credits

	BFIN 301 - Analysis of Finan Statements Offered intermittently. Prereq., junior standing in Business. Analysis of balance sheets, income and cash flow statements and statements of owners' equity in terms of structure, strategy and performance of the company being analyzed. Emphasis is on the use rather than preparation of financial statements.	3 Credits
	BFIN 473 - Multinational Finance and FDI Offered autumn. Prereq., junior standing in Business, BFIN 322 and ECNS 202S, or consent of instr. Students are strongly encouraged to complete BGEN 360 prior to BFIN 473. Topics include financial skills required of corporate executives in international business, exchange rate risk analysis, analysis of global financial systems and assessment of real international investments.	3 Credits
	BFIN 498 - Internship Offered every term. Prereq., junior standing in Business and consent of instr. Students are placed with private or governmental organizations to receive on-the-job training. Written reports are required. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.	1 To 6 Credits
	ECNS 301 - Intermediate Micro with Calc Offered spring and autumn. Prereq., ECNS 201S and M 162 or equiv. Analysis of consumer behavior, production, factor pricing, externalities and public goods.	3 Credits
	ECNS 302 - Intermediate Macroeconomics Offered autumn and spring. Prereq., ECNS 202S. Analysis of national income determination, unemployment, and inflation with emphasis on the role of fiscal and monetary policy.	3 Credits
	ECNS 403 - Introduction to Econometrics Offered autumn. Prereq., an introductory statistics course. Quantitative methods in economics with emphasis on regression analysis.	4 Credits
Minimum Required Grade: C-		9 Total Credits Required

SoBA - Capstone Course

Rule: All courses are required.

Note: Students must complete all lower primary and secondary core and upper core courses (and their prerequisites) and have an approved graduation application to register for their capstone.
Students must pass the required comprehensive exam as well as all requisite coursework to earn a passing grade in BGEN 499. BGEN 499 must be taken at UM

	Course	**Credits**
	BGEN 499 - Strategic Management Prereq., senior standing in Business, COMX 111A, ECNS 202S, BGEN 220E and all business core. Analysis of external and internal firm environment and strategy formulation. Integration of cumulative business knowledge. Case orientation and class discussion.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Upper-Division Writing Requirement

Rule: All courses are required

	Course	Credits
	BGEN 499 - Strategic Management Prereq., senior standing in Business, COMX 111A, ECNS 202S, BGEN 220E and all business core. Analysis of external and internal firm environment and strategy formulation. Integration of cumulative business knowledge. Case orientation and class discussion.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Symbolic Systems Requirement

Rule: Student's complete STAT 216 (preferred) or one other course from the list below to fulfill the Symbolic Systems Requirement.

Note: This is a primary lower core course. SoBA requires that credit be earned for STAT 216 (preferred) or one of the other statistics courses below (with a C- or better) prior to being admitted into an upper-division SoBA major.

	Course	Credits
	FORS 201 - Forest Biometrics Offered autumn. Prereq., M 115 or M 121 or M 122 or M 151 or M 162 or M 171 or M 172. Introduction to probability and statistical methods for forestry and environmental sciences covering natural resource applications of common probability distributions, data analysis, hypothesis testing, and regression.	3 Credits
	PSYX 222 - Psychological Statistics Offered every term. Prereq., PSYX 120; M 115, M 162 or 171. Application of statistical techniques to psychological data. Credit not allowed for both PSYX 222 and SOCI 202.	3 Credits
	SOCI 202 - Social Statistics Offered every term. Prereq., M 115, Sociology majors only, or consent of instr. Application of descriptive and inferential statistical techniques to sociological data. Required of all majors.	3 Credits
	STAT 216 - Introduction to Statistics Offered autumn and spring. Prereq., M 115 (preferred), or one of M 121, 132, 151, 162 or 171, or ALEKS placement >= 4. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

SoBA Expressive Arts Requirement

Rule: All courses are required

Note: Students must complete this course with a C- or better prior to taking the capstones, though earlier completion is strongly encouraged.

	Course	Credits

	COMX 111A - Intro to Public Speaking Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COM 160A.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Social Science Requirement

Rule: All courses are required

Note: This is a lower primary core course and must be completed with a C- or better prior to being admitted to an upper division SoBA major.

	Course	Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

SoBA Ethical & Human Values Requirement

Rule: All courses are required

Note: Students must complete this course with a C- or better prior to taking the capstones, though earlier completion is strongly encouraged.

	Course	Credits
	BGEN 220E - Bus Ethics & Soc Responsiblty Offered autumn and spring. Focuses on moral judgments, responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values. Addresses organizations and their relationship to the external environment, the law, and various stakeholders.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Accounting Info Systems Certificate

Certificate of Art - Accounting Information Systems

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 25

Required Cumulative GPA: 3.0

Note: All students pursuing an AIS Certificate must also complete the degree requirements for one of the business majors.
The 3.0 GPA requirement pertains specifically to the 25 credits listed below, not a student's cumulative GPA. Please meet with an AIS Certificate Advisor for assistance (see SoBA Advising for list of advisors by major).

Accounting Information Systems Certificate - Requirements

Rule: All courses are required

Note: See individual course descriptions in the catalog for additional grade and prerequisite requirements.

	Course	Credits
	ACTG 203 - Accounting Lab Offered every term. Prereq., ACTG 201 with a grade of C or better. Applying accounting cycle concepts to comprehensive hands-on financial statement cases and/or a practice set and exploring career options.	1 Credits
	ACTG 305 - Corporate Reporting I Offered every term. Prereq., junior standing in Business, ACTG 201 and 202 with grades of C or better or consent of instr. Prereq., or Coreq., ACTG 203. Topics include concepts in financial accounting, assets and related income statement accounts.	3 Credits
	ACTG 306 - Corporate Reporting II Offered every term. Prereq., junior standing in Business, ACTG 203, ACTG 305 with grades of C or better, or consent of instr. Continuation of ACTG 305. Topics include concepts in financial accounting, coverage of the liability and equity side of the balance sheet, the cash flow statement, and several special financial accounting topics.	3 Credits
	ACTG 321 - Acct Information Systems I Offered autumn and spring. Prereq., junior standing in Business. Prereq., or coreq., ACTG 203. Provides thorough understanding of business processes, risks, and internal controls. Computer applications may be used to demonstrate concepts.	3 Credits
	ACTG 411 - Auditing I Offered spring. Prereq., junior standing in Business, ACTG 321 and ACTG 306, or consent of instr. Introduction to auditing with emphasis on the independent audit of financial statements. Coverage includes professional standards, ethics, audit risk, evidence, internal controls, procedures, opinions, operational and compliance auditing.	3 Credits
	BMIS 365 - Business App Development Offered autumn and spring. Prereq., junior standing in Business. Provides an understanding of algorithm development, programming, computer concepts and the design and application of data and file structures.	3 Credits
	BMIS 370 - Managing Information and Data Offered autumn and spring. Prereq., junior standing in Business and BMIS 365. Managing and exploiting organizational data and information. Designing data and information models.	3 Credits
	BMIS 373 - Business System Analy & Design Offered autumn and spring. Prereq., junior standing in Business. Provides an understanding of the systems development and modification process, including requirements determination, logical design, physical design, test planning, implementation planning and performance evaluation.	3 Credits

	BMIS 479 - Introduction to Consulting Offered intermittently. Prereq., junior standing in Business. Managerial approach to consulting engagements. Includes scoping and writing proposals, presenting to clients, documenting consulting work, and interpersonal skills necessary for successful consulting. Course does not require a technical background.	3 Credits
Minimum Required Grade: C-		25 Total Credits Required

International Business Major

Klaus Uhlenbruck, Chair

The Department of Management and Marketing offers three majors within the Bachelor of Science in Business Administration: International Business, Management, and Marketing.

International Business B.S.

Bachelor of Science - International Business

School of Business Admin

Catalog Year: 2016-2017

Degree Specific Credits: 30

Required Cumulative GPA: 2.0

Note: At least 54 credits must be earned in Business classes (ECNS, SoBA internship courses, and SoBA faculty-led study abroad courses may be counted in OR out of Business) A minimum GPA of 2.0 is required for these courses.
At least 60 credits must be earned outside of SoBA (excluding HHP/ACT activities courses).
At least 28 credits in business must be taken at UM.
All business credits transferred in after matriculating to UM must be pre-approved by the department chair in your major.
In addition to the below requirements, students seeking a major in International Business must complete all degree requirements for a major in ACCT, FIN, MGMT, MIS, or MKTG.

International Business Major

Rule: All courses are required

Note: null

	Course	**Credits**
	BFIN 473 - Multinational Finance and FDI Offered autumn. Prereq., junior standing in Business, BFIN 322 and ECNS 202S, or consent of instr. Students are strongly encouraged to complete BGEN 360 prior to BFIN 473. Topics include financial skills required of corporate executives in international business, exchange rate risk analysis, analysis of global financial systems and assessment of real international investments.	3 Credits
	BGEN 360 - International Business Offered autumn and spring. Prereq., junior standing in Business. Analysis of business in diverse parts of the globe. Examines the impact of socio-economic, political, legal, educational, and cultural factors on management.	3 Credits

	BMGT 467 - Supply Chain Management Offered Spring. Prereq., BMGT 322 and BMKT 325, or consent of instructor. The course introduces students to the challenges and opportunities companies face and how they manage the risk associated with the global supply chain. It provides an overview of global supply chain operations management as a field and describes the strategic role it has in today's intensely competitive business environment.	3 Credits
	BMGT 480 - Cross-Cultural Mgmt Offered autumn. Prereq., junior standing in Business. Study of issues related to cultural diversity within the work force and the problems inherent in the management of a firm's activities on an international scale.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

International Business Major - Foreign Language Requirement

Rule: Four semesters or equivalent of one foreign language is required.

Note: A student may be exempt from this requirement if using English as a Second Language. Please see the International Business Advisor for assistance.

Minimum Required Grade: C-

16 Total Credits Required

International Business Major - Track Courses

Rule: Take 6 credits in approved track courses.

Note: These 6 credits are selected in consultation with your faculty advisor. A signed track sheet reflecting these courses is required on file in the SoBA Advising Office.

Minimum Required Grade: C-

6 Total Credits Required

School of Journalism

Larry Abramson, Dean

Dennis Swibold, Director of Faculty Affairs

Courses in the School of Journalism examine the news media -- emphasizing their history, privileges and ethical responsibilities -- and provide instruction in skills required for a wide array of careers that require gathering, verifying and disseminating news and information in the Digital Age. The School of Journalism offers a Bachelor of Arts in Journalism and a Minor in Journalism. Students select courses in writing, reporting, producing, directing, editing and still and video photography. They train to work across multiple platforms including online, audio, video, newspaper and magazine.

A quality education in journalism is built on a strong liberal arts foundation. Students at the pre-professional level are required to take courses outside journalism, including courses in Political Science, Business/Economics and History. They must complete the University's general education requirements as well.

For further information about the school's Master's of Arts program in Environmental and Natural Resource Journalism, contact the Director of Graduate Studies in Journalism, Henriette Löwisch, School of Journalism, University of Montana, Missoula, MT 59812, or (406) 243-2227.

Pre-Professional Program

In the first three or four semesters of study students are enrolled in pre-journalism and take courses in the major and in the liberal arts and sciences. Journalism courses in the pre-professional curriculum must be taken at University of Montana-Missoula, though the directors may occasionally accept substitutes taught at another schools with programs accredited by the Accrediting Council for Education in Journalism and Mass Communications. All non-journalism courses in the curriculum may be completed at any college or university if transfer credits are accepted by UM. Students may enter the pre-professional program during either autumn or spring semester.

Professional Program

Students may apply for admission to the professional program in Journalism once they have successfully completed the pre-professional curriculum. Applications are accepted in autumn and spring. Deadlines for applications are the last Monday of September and February.

Students may apply for admission to the professional program in either semester, but they must have completed at least 45 credits before applying. In addition, applicants must have either completed all courses listed in the pre-professional curriculum or be taking the courses needed to complete the requirements during the semester in which they apply.

An overall grade point average of 2.5, and a GPA of at least 2.5 in the journalism core courses, is required of applicants.

Completed applications are evaluated by the School of Journalism directors and acceptances are made by the dean based on the director's recommendations. The primary admissions criteria are grade point averages, both overall and in the pre-professional program, and progress in completing the pre-professional curriculum. Successful applicants will have demonstrated, among other qualities, promise and professional aptitude through the quality of their course work and their overall performance in the pre-professional program, and will have demonstrated an interest in pursuing a career in journalism. Students with deficiencies in these requirements may on occasion be admitted provisionally. Once deficiencies are removed the student will be given full admission status.

Applications for admission to the professional programs may be obtained online at the School's website. A $15 nonrefundable application fee and transcripts of all academic work must accompany the application. Admission for one academic year cannot be deferred to another academic year without the written consent of the academic director.

Students transferring from other ACEJMC-accredited programs may be admitted on a space available basis. Transfer credit for pre-professional and professional courses taken at other institutions is accepted only for those courses that are deemed equivalent and in which a letter grade of C or better is obtained.

Academic Progression

The general University academic standing requirements are listed separately in this catalog. See index.

Students enrolled in the professional journalism program must maintain satisfactory academic progress. Admission to the professional program requires a cumulative grade average of 2.5 and a pre-journalism course average of 2.5. Any student who has been admitted and whose grade average subsequently falls below a 2.5 must meet with his or her adviser to discuss the student's progress before classes resume the following semester. A student in the professional program who has a cumulative or professional grade point average less than 2.0 will be suspended from the program.

A student dismissed from the program for substandard performance will not be readmitted, except in cases where substantiation is made to the faculty, by written petition, that the substandard performance was the result of circumstances that no longer exist, or that the student has demonstrated the capability and desire to perform satisfactory work since dismissal from the program.

A student leaving the journalism professional program for any reason, whether in good standing or on academic suspension, must reapply for admission.

Name	Minor	Certificate	Associate	Bachelor
Journalism	Requirements			Requirements

Journalism

Department Faculty

Professor

Larry Abramson, Dean
Peggy Kuhr, Vice President for Integrated Communications
Dennis Swibold, Professor & Director of Faculty Affairs

Associate Professor

Anne Bailey, Pollner Professor
Jule Banville, Assistant Professor
Lee Banville, Associate Professor
Jason Begay, Assistant Professor

Denise Dowling, Associate Professor
Ray Fanning, Associate Professor
Keith Graham, Associate Professor
Henriette Lowisch, Associate Professor
Jeremy Lurgio, Associate Professor
Nadia White, Associate Professor

Assistant Professor

Joe Eaton, Assistant Professor

Adjunct

Sarah Buszmann
Ryan Corwin, Adjunct Instructor
Courtney Cowgill, Adjunct Instructor
Matthew Frank, Adjunct Instructor
Breanna Roy, Adjunct Instructor
Kevin Tompkins, Adjunct Professor
John Twiggs, Adjunct Instructor

Journalism B.A.

Bachelor of Arts - Journalism

School of Journalism

Catalog Year: 2016-2017

Degree Specific Credits: 37

Required Cumulative GPA: 2.5

Note: Degree Specific Requirements: must complete at least 37 and no more than 48 JRNL credits. Students must complete at least 72 total credits outside of Journalism.

Pre-Journalism Courses

Rule: 2.5 overall GPA and 2.5 GPA in pre-journalism core.

Note: The lower division core must be completed prior to admission to the School of Journalism professional program. The department strongly recommends students complete 2 semesters of the same foreign language before applying to the professional program.

Minimum Required Grade: C-

38 Total Credits Required

Core Requirements

Rule: Complete with at least a 2.5 in this core.

Note: Must complete these courses in order to apply to the professional programs.

	Course	Credits
	JRNL 100H - Media History and Literacy Offered autumn. A survey of the history, development and role of the media in society, including newspapers, magazines, radio, television, books, movies, recordings and the World Wide Web. The course examines ethical, political, financial and other issues related to mass media. Also included is an introduction to media literacy and critical thinking about the media and their messages.	3 Credits

	JRNL 170 - Elements of News Writing Offered autumn and spring. Prereq. or Co-req., grade of C- or better in WRIT 101. Foundational course in the elements of news writing, with a focus on the style and conventions of writing for print, online and broadcast media.	3 Credits
	JRNL 257 - Beginning Visual Journalism Offered autumn and spring. This course provides an introduction to photo and video journalism using digital cameras. Students will learn the basics of editing still images with Photoshop and video with Final Cut Pro. Students will learn how to take compelling, content-driven photographs using light, composition and depth of field. Students will also learn about capturing quality video, audio and natural sound used to build video sequences. The overall emphasis is on visual storytelling.	3 Credits
	JRNL 270 - Reporting Offered autumn and spring. Prereq., JRNL 170. Fundamentals of interviewing, reporting, writing and audio editing of news stories for print, online and broadcast media.	3 Credits
Minimum Required Grade: C-		12 Total Credits Required

Math

Rule: Must complete 1 of the following math courses that fulfills the General Education math requirement.

Note: Other courses considered by department as long as meets the General Education Requirement.

	Course	**Credits**
	M 104 - Numbers as News Offered spring. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. An exploration of mathematics and statistics as used in the popular media. For students in the School of Journalism only.	3 Credits
	M 105 - Contemporary Mathematics Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.	3 Credits
	M 115 - Probability and Linear Math Offered every term. Prereq. M 090 with a grade of B- or better, or M 095, or ALEKS placement >= 3, or ACT score of 22, or SAT score of 520. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields.	3 Credits
	M 121 - College Algebra Offered autumn and spring. Prereq., M 095 or ALEKS placement >= 4. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both M 121, and M 151.	3 Credits

	M 122 - College Trigonometry Offered autumn and spring. Prereq., M 121 or ALEKS placement >= 4. Preparation for calculus based on college algebra. Review of functions and their inverses. Trigonometric functions and identities, polar coordinates and an optional topic such as complex numbers, vectors or parametric equations. Credit not allowed for both M 122 and M 151.	3 Credits
	M 151 - Precalculus Offered autumn and spring. Prereq., ALEKS placement >= 4. A one semester preparation for calculus (as an alternative to M 121-122. Functions of one real variable are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both M 151 and M 121 or 122.	4 Credits
Minimum Required Grade: C-		3 Total Credits Required

American History

Rule: Complete 1 of the following:

	Course	Credits
	HSTA 101H - American History I (AM) Offered autumn. A comprehensive introductory history of Colonial, Revolutionary and 19th century America, to 1877. Lecture-discussion. Credit not allowed for both 101H and 103H.	4 Credits
	HSTA 102H - American History II (AM) Offered spring. A comprehensive introductory history of the U.S. since 1877. Lecture-discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
	HSTA 103H - Honors American History I (AM) Offered autumn. Enrollment by consent of instructor. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1877. Lecture-honors discussion. Credit not allowed for both 103H and 101H.	4 Credits
	HSTA 104H - Honors American History II (AM) Offered spring. Enrollment by consent of instructor. A comprehensive introductory history of the U. S. since 1877. Lecture-honors discussion. Credit not allowed for both HSTA 102H and 104H.	4 Credits
Minimum Required Grade: C-		4 Total Credits Required

Indigenous and Global General Education Course

Rule: Complete 1 of the following:

	Course	Credits
	ANTY 101H - Anthro & the Human Experience Offered autumn and spring. Offered intermittently in summer. A survey of anthropology which introduces the fundamental concepts, methods and perspectives of the field. The description and analysis of human culture, its growth and change. The nature and functions of social institutions.	3 Credits
	ANTY 141H - The Silk Road Offered autumn and spring. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	GPHY 243X - Africa Offered intermittently. A survey of the biophysical and cultural geography of Sub-Saharan Africa. Emphasis is on the region's cultural-historical development and current ecological, demographic, and economic patterns.	3 Credits
	GPHY 245X - The Middle East Offered intermittently. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change; prehistory; patterns of cultural and historical change; issues of socio-economic, religious, and political diversity; and the broader political significance of the region.	3 Credits
	HSTR 146H - The Silk Road (WRLD) Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.	3 Credits
	HSTR 231H - Modern Latin America (WRLD) Offered spring. Latin America from wars of independence to the present. Focus on social relations, development models, politics, and popular movements.	3 Credits
	JRNL 105X - Global Current Events Offered autumn and spring. Survey of global news intended to make students familiar with the context and vocabulary necessary to understand the news, what makes it, and the implications that stem from it.	3 Credits
	MCLG 100H - Intro Latin American Studies Offered autumn or spring. Same as ANTY 103H. Multi–disciplinary survey and introduction to Latin America from pre–Columbian times to the present.	3 Credits
	NASX 105H - Intro Native Amer Studies Offered Autumn and Spring. Survey course to acquaint the student with Native American Studies by a general overview of Indian history, culture, philosophy, religious beliefs and contemporary issues.	3 Credits
	NASX 231X - Indig World View Perspectives Offered Spring. Same as ANTY 231X. Examination of Indigenous belief systems, with regard to world views, religious ceremonies, cultural ways and the impact that Anglo-European culture has had upon these systems. Focus on Indigenous peoples of Australia, New Zealand, Canada and the United States	3 Credits

	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
	SOCI 212H - Southeast Asian Cult & Civ Offered intermittently. Same as AS and LS 212H. Introduction to the cultures, societies, and contemporary social problems of Southeast Asia.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Political Science Course

Rule: Complete 1 of the following

Note: If PSCI 230 is taken to fulfill the Indigenous and Global General Education Course, PSCI 210 or 220 is required to fulfill this requirement.

	Course	Credits
	PSCI 210S - Intro to American Government Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.	3 Credits
	PSCI 220S - Intro to Comparative Govt Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures.	3 Credits
	PSCI 230X - Intro to International Rel Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Economics or Business Course

Rule: Complete 1 of the following:

	Course	Credits

	BGEN 105S - Introduction to Business Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit allowed for only one of BGEN 105S, MIS 100S, IS 100S, BADM 100S and BUS 103S.	3 Credits
	ECNS 101S - Economic Way of Thinking Offered autumn and spring. A critical examination of the market mechanism as a social decision-making device to guide the use of a nation's resources. The limitations of these processes in light of current economic problems such as the rise of the large corporation, monopoly, environmental degradation, economic discrimination and the increasing role of the government.	3 Credits
	ECNS 201S - Principles of Microeconomics Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Modern or Classical Language

Rule: Students must complete the first year sequence of any modern or classical language.

Journalism Professional Program

Rule: Complete all courses.

Note: Must also complete 1 capstone course as designated by the faculty.

	Course	Credits
	JRNL 300 - First Amendmnt and Jrnalism La Offered spring. Prereq., JRNL 270 and admission to professional program, or consent of instr. Overview of issues related to journalism and the law. Exploration of libel, privacy, prior restraints, access and other First Amendment questions along with ethical problems peculiar to media news gathering.	3 Credits
	JRNL 400 - Ethics & Trends in News Media Offered autumn and spring. Prereq. JRNL 270 (for minors) or senior standing in journalism's professional program. Practical ethics case studies from print, online and broadcast media, as well as an examination of the trends that are shaping the evolving news media.	3 Credits
	JRNL 498 - Supervised Internship (R-2) Offered every term. Prereq., consent of instructor; open to students in the professional program with the appropriate intermediate skills. For each credit, students perform the equivalent of six weeks' full-time work for communications organizations. All internships must be pre-approved by the faculty internship supervisor.	1 To 2 Credits

Minimum Required Grade: C-	7 Total Credits Required

Journalism Upper Division Electives

Rule: Complete 5 of the following courses:

Note: null

	Course	Credits
	JRNL 328 - Int Photojournalism Offered autumn and spring. Prereq., Must be admitted to Journalism Professional Program. Students create single photo assignments for newspapers, magazines and online publications. Students also create narrative picture stories and photo essays, one of which is produced in Final Cut Pro, and learn the basics of portable flash units.	3 Credits
	JRNL 330 - News Editing Offered autumn and spring. Prereq., Must be admitted to Journalism Professional Program. Fundamentals of editing and headline writing for print and online media.	3 Credits
	JRNL 331 - Intermediate Web Reporting Offered autumn and spring. Prereq., Must be admitted to Professional Program. Students learn to produce reporting for different websites and digital news sources, with a special emphasis on using digital technologies to broaden sources for stories. Course will also explore the societal, business and ethical effects these emerging technologies are having.	3 Credits
	JRNL 340 - Intermediate Audio Offered autumn. Prereq., admission to Professional Program. Use of audio in news, interview and feature programs. Students will write, gather audio and produce segments and programs using digital audio equipment.	3 Credits
	JRNL 350 - Intermediate Video Photography Offered autumn. Prereq., admission to Professional Program. Digital video photography, storytelling and non-linear editing. Students will be introduced to high-definition video cameras and advanced editing techniques and build on photojournalism skills introduced in JRNL 257.	3 Credits
	JRNL 351 - Intermediate Video Directing Offered spring. Prereq., JRNL 350. Students will learn the fundamentals of production and directing of studio-based programming. Students will work with those enrolled in Intermediate Video Reporting & Producing to create content. Newscasts produced in these courses are not intended for air.	3 Credits
	JRNL 352 - Int Video Reporting and Produc Offered spring. Prereq., JRNL 350. Creation of video news stories and programs including story idea generation, research and interviewing techniques, sound selection, script writing, television anchoring and producing, video photography and editing. Works with Intermediate Video Directing class to create news programs.	3 Credits

	JRNL 362 - Feature Writing Offered autumn and spring. Prereq., Must be admitted to Journalism Professional Program. Classroom instruction and practical experience in applying feature-writing techniques to the coverage of news, entertainment and sports for print and electronic media.	3 Credits
	JRNL 370 - Public Affairs Reporting Offered autumn and spring. Prereq., Must be admitted to Journalism Professional Program. Study and practice of reporting public issues with emphases on news sources, interpretive writing and the coverage of local, state and federal governments.	3 Credits
	JRNL 410 - Native News Honors Project (R-6) Offered spring. Prereq., consent of instr. Researching, photographing and designing stories about Montana's Native American community. Photojournalism students travel with reporters to Montana's seven Indian reservations to document in- depth stories on a single topic.	1 To 3 Credits
	JRNL 411 - Reporting Native News (R-6) Offered spring. Prereq., consent of instr. Researching, reporting and editing stories about Montana's Native American community. Reporters travel to Montana's seven Indian reservations to investigate in depth a single story topic. Editors coach reporters and edit their stories. The stories appear in a publication distributed throughout the state and nation.	1 To 6 Credits
	JRNL 412 - Montana Journalism Review (R-6) Offered spring. Prereq., consent of instr. Students assist writing, editing, design and overall production and distribution of the Montana Journalism Review, a publication of the School of Journalism.	1 To 6 Credits
	JRNL 414 - Investigations Offered autumn. Prereq., JRNL 370 or JRNL 352. Introduction to methods and ethics of investigative reporting, emphasizing computer-assisted research and analysis of public records and databases.	3 Credits
	JRNL 427 - Adv Photo & Multimed Storytell Offered spring. Prereq., JRNL 328 and admission into Professional Program. Students discuss, research, photograph, design, write and produce several documentary-style stories and essays using still photography, video, audio, text and graphics.	3 Credits
	JRNL 428 - Freelance Photography Offered autumn and spring. Prereq., JRNL 328 and admission into Professional Program. A workshop-style class that centers on the technical aspects of digital still and video camera lighting for freelance photography. Includes instruction in basic business practices for freelance work. Students produce weekly assignments including editorial and adventure portraiture, food illustrations, magazine fashion projects and travel stories. Business and marketing practices will include copyright, branding, usage, pricing, licensing and negotiation. Students must provide a professional still digital SLR with lenses and a portable strobe.	3 Credits

	JRNL 429 - Documentary Photojournalism Offered autumn. Prereq., JRNL 427 or consent of instr. Production of an in-depth documentary project involving a social issue with intent to educate, inform and implement change. Students write, shoot and design final project in book form or produce a multimedia project using stills, video, audio and text.	3 Credits
	JRNL 430 - Print & Web Editing & Design Offered spring. Prereq., JRNL 330 or consent of instr. Introduction to basic design principles, typography, color theory and usage, headline and caption writing. Discussion of the newest research on how readers use print and online publications. Students will design newsletter, brochure, newspaper, magazine and websites, plus other publications.	3 Credits
	JRNL 431 - Online Journalism Offered autumn and spring. Prereq., admission to the professional program or consent of instr. Course introduces students to the basics of website design and organization, explores how the Internet can be used to generate sources for stories and directs students in using multimedia reporting techniques for a web-based news site.	3 Credits
	JRNL 433 - Marketing Your Work Offered spring. Prereq., admission to the professional program. This course aims to help upper-division students find buyers for their journalistic work in today's rapidly changing information marketplace. Students will study how to identify news markets, how to establish and maintain relationships with editors, producers and publishers; and how to maintain control of their work while maximizing its value.	2 Credits
	JRNL 440 - Advanced Audio Offered spring. Prereq., JRNL 340 or consent of instr. Students will create long-form, in-depth audio programs such as radio documentaries and radio deliberation programming on a variety of topics. Students will report, interview, host, and write the programs for a variety of outlets such as radio stations, webcasting and online.	3 Credits
	JRNL 470 - Covering Elections Offered autumn of even-numbered years. Prereq., JRNL 370 or consent of instr. Students will produce coverage of Montana elections for newspapers, broadcast stations and the web.	3 Credits
	JRNL 471 - Covering the Legislature Offered spring of odd-numbered years. Prereq., JRNL 370 or consent of instr. Students will produce coverage of Montana’s biennial legislative sessions for newspapers, broadcast stations and the web.	3 Credits
	JRNL 472 - Opinion Writing Offered intermittently. Prereq., JRNL 370 or consent of instr. Practice in writing editorials, columns, op-eds, and opinion blogs. Examines the evolving role of journalism in moderating and stimulating public discourse.	3 Credits
	JRNL 473 - International Reporting Offered intermittently. Prereq., admission to the professional program or consent of instr. Prepares students to report internationally and to develop global sources for local stories. History and practice of foreign correspondence.	3 Credits

	JRNL 474 - Magazine Freelance Writing Offered autumn. Prereq., JOUR 315 or consent of instr. The techniques of reporting, writing and selling articles to regional and national magazines.	3 Credits
	JRNL 480 - Advanced Video Reporting Offered autumn. Prereq., JRNL 352. Teams will create three to five minute television weekly news updates available online and broadcast on commercial stations in Montana. Students will fill all positions needed to produce the updates including reporters, producers and anchors, in tandem with students in JRNL 450, 650.	3 Credits
	JRNL 481 - Adv Video Photo and Directing Offered autumn. Prereq., JRNL 351 or consent of instr. Teams will create three to five minute weekly news updates to be broadcast online and on commercial stations in Montana. Students will fill all positions needed to produce the updates including photographers, editors and directors.	3 Credits
	JRNL 482 - Advanced Video Storytelling Offered autumn. Prereq., JRNL 350 or consent of instr. Teams will generate story ideas about Montana issues, businesses and people. Students will research, write, photograph, interview, edit and create long-form video programs. The programs generated in this course are intended for air on Montana PBS	3 Credits
	JRNL 485 - Griz TV Offered spring. Prereq., JRNL 480 or 481. Techniques and strategies for directing, reporting, and producing a 30 minute live newscast. Students will also produce a weekly online newscast.	3 Credits
	JRNL 488 - Student Documentary Unit Offered spring. Prereq., JRNL 351 or 352 or consent of isntructor. In-depth examination of a topic of importance in Montana. Students will produce a one-hour television documentary to air on MontanaPBS and other outlets. Students will research, report, write, photograph, edit and promote the film. Co-convenes with JRNL 688.	3 Credits
Minimum Required Grade: C-		15 Total Credits Required

Journalism Minor

Minor - Journalism (Minor)

School of Journalism

Catalog Year: 2016-2017

Degree Specific Credits: 21
Required Cumulative GPA: 2.0

Core Courses

Rule: Must complete all of the following courses

	Course	Credits
	JRNL 100H - Media History and Literacy Offered autumn. A survey of the history, development and role of the media in society, including newspapers, magazines, radio, television, books, movies, recordings and the World Wide Web. The course examines ethical, political, financial and other issues related to mass media. Also included is an introduction to media literacy and critical thinking about the media and their messages.	3 Credits
	JRNL 170 - Elements of News Writing Offered autumn and spring. Prereq. or Co-req., grade of C- or better in WRIT 101. Foundational course in the elements of news writing, with a focus on the style and conventions of writing for print, online and broadcast media.	3 Credits
	JRNL 257 - Beginning Visual Journalism Offered autumn and spring. This course provides an introduction to photo and video journalism using digital cameras. Students will learn the basics of editing still images with Photoshop and video with Final Cut Pro. Students will learn how to take compelling, content-driven photographs using light, composition and depth of field. Students will also learn about capturing quality video, audio and natural sound used to build video sequences. The overall emphasis is on visual storytelling.	3 Credits
	JRNL 270 - Reporting Offered autumn and spring. Prereq., JRNL 170. Fundamentals of interviewing, reporting, writing and audio editing of news stories for print, online and broadcast media.	3 Credits
	JRNL 300 - First Amendmnt and Jrnalism La Offered spring. Prereq., JRNL 270 and admission to professional program, or consent of instr. Overview of issues related to journalism and the law. Exploration of libel, privacy, prior restraints, access and other First Amendment questions along with ethical problems peculiar to media news gathering.	3 Credits
	JRNL 400 - Ethics & Trends in News Media Offered autumn and spring. Prereq. JRNL 270 (for minors) or senior standing in journalism's professional program. Practical ethics case studies from print, online and broadcast media, as well as an examination of the trends that are shaping the evolving news media.	3 Credits
Minimum Required Grade: C-		18 Total Credits Required

Additional courses

Note: Must complete 1 additional JRNL upper-division elective.

School of Law

Paul Kirgis, Dean

Andrew King-Ries, Associate Dean

The Law School is accredited by the American Bar Association and the Association of American Law Schools, and offers the degree of Juris Doctor (J.D.). Prerequisites for admission to the Law School are a baccalaureate degree and Law School Admission Test.

For detailed information concerning the Law School's admission criteria, application procedures, facilities, and official course descriptions, consult the Law School Catalog, which may be obtained by calling (406)243-6169 or visiting the Law School website.

The Law School's administrative regulations are contained in the Law School Student Handbook, which is on the website. The Law School conforms in most instances to the calendar established for the entire University. There are some differences, however, because the Law School operates on a different (and longer) semester system than the rest of the University.

Academic Year Calendar

Access the Law School Academic Calendar on the Law School calendar weg page.

Required Curriculum

First Year	**Credits**
500 Civil Procedure I	3
501 Civil Procedure II	2
502 Contracts I	3
503 Contracts II	2
504 Pretrial Advocacy I	2
505 Pretrial Advocacy II	1
506 Legal Research	2
508 Legal Analysis	1
509 Legal Writing I	3
510 Criminal Law & Proc I	2
511 Criminal Law & Proc II	3
512 Torts I	2
513 Torts II	3
Second Year	**Credits**
550 Property I	2
551 Property II	3
552 Federal Tax(may be taken third year)	3
554 Business Organizations	3
555 Professional Responsibility	3
556 Business Transactions	2
557 Trial Practice	2

558 Constitutional Law	4
560 Evidence	3
Electives (see below)	
Third Year	**Credits**
(minimum of 4 credits required)	
599 Clinical Training II	1-8
600 Clinical Training III	1-6
601 Clinical Training IV	1-6
Electives (see below)	

Elective Courses

(Elective offerings vary from year to year)

- Advanced Criminal Procedure (Law 690, 2 credits)
- Advanced Environmental Law (Law 649, 3 credits)
- Advanced Legal Research (Law 615, 2 credits)
- Advanced Legal Issues in Education (Law 686, 3 credits)
- Advanced Legislation (Law 652, 2 credits)
- Advanced Federal Indian Law (Law 617, 2 credits)
- Advanced Public Land and Resources Law (Law 619, 2 credits)
- Advanced Trial Advocacy (Law 685, 1 credit)
- Agricultural Law (Law 656, 2 credits)
- Alternative Dispute Resolution (Law 614, 3 credits)
- American Indian Natural Resources (Law 619, 2credits)
- Appellate Advocacy (Law 616, 3 credits)
- Bankruptcy (Law 621, 2 credits)
- Child Advocacy (Law 670, 2 credits)
- Client Counseling Team (Law 638, 2 credits)
- Conflict of Laws (Law 653, 2 credits)
- Consumer Transactions (Law 645, 3 credits)
- Copyright Law (Law 682, 3 credits)
- Cyber Law (Law 676, 2 credits)
- Disability Law (Law 668, 2 credits)
- Elder Law (Law 620, 3 credits)
- Employment Law (Law 622, 3 credits)
- Environmental Law (Law 650, 3 credits)
- Estate Planning (Law 659, 3 credits)
- Family Law (Law 669, 3 credits)
- Family Law Mediation (Law 672, 2 credits)
- Federal Courts (Law 671, 2 credits)
- Federal Indian Law (Law 648, 3 credits)
- First Amendment Seminar (Law 675, 2 credits)
- Foundations of Natural Resources Conflict Resolution (Law 613, 3 credits)
- Gender and the Law (Law 625, 3 credits)
- Health Care Law (Law 637, 3 credits)
- Independent Study (Law 660/1, 1-2 credits)
- Insurance Law (Law 624, 3 credits)
- International Business & Trade (Law 629, 2 credits)
- Introduction to Environmental Law (Law 650, 3 credits)
- Land Use Planning (Law 687, 3 credits)
- Law & Literature (Law 607, 1 credit)
- Law & Technology (Law 693, 2 credits)
- Law Practice (Law 631, 1 credit)
- Law Reviews I, II, III, IV (Law 564/5, Law 602/3, 1-2 credits)
- Lawyers' Values (Law 630, 2 credits)
- Legal History (Law 626, 2 credits)

- Local Government (Law 646, 3 credits)
- Moot Courts (Law 666, 2 credits)
- Montana Constitutional Law (Law 618, 2 credits)
- Natural Resource Development (Law 633, 3 credits)
- Negotiations (Law 641, 2 credits)
- Negotiation Team (Law 642, 2 credits)
- Non-profit Organizations (Law 674, 2 credits)
- Patent Law (Law 627, 2 credits)
- Philosophy of Law (Law 664, 3 credits)
- Practicum in Natural Resources Conflict Resolution
- Product Liability (Law 657, 2 credits)
- Public Interest Lawyering (Law 673, 3 credits)
- Public International Law (Law 634, 3 credits)
- Public Land and Resources Law (Law 654, 3 credits)
- Public Regulation of Business (Law 632, 3 credits)
- Real Estate Transactions (Law 658, 2 credits)
- Remedies (Law 628, 3 credits)
- Sales & Leases (Law 692, 3 credits)
- Secured Transactions (Law 636, 2 credits)
- Special Topics in Criminal Law (Law 667, 2 credits)
- Taxation of Business Organizations (Law 639, 4 credits)
- Taxation of Estates & Gifts (Law 655, 3 credits)
- Taxation of Property Transactions (Law 640, 2 credits)
- Trademark Law (Law 693, 2 credits)
- Tribal Courts/Tribal Law (Law 688, 3 credits)
- Tribal/State Relations (Law 694, 2 credits)
- UCC Articles 203 (Law 609, 3 credits)
- Water Law (Law 663, 2 credits)
- White Collar Crime (Law 644, 2 credits)
- Workers' Compensation (Law 662, 3 credits)

Professors

Bari Burke, Professor
Eduardo R.C. Capulong, Associate Dean of Clinical and Experiential Education and Professor of Law
Cynthia Ford, Professor
Elaine Gagliardi, Associate Dean of Students and Professor
Jordan Gross, Professor
Larry Howell, Professor
Andrew King-Ries, Associate Dean and Professor
Paul Kirgis, Dean and Professor of Law
Monte Mills, Assistant Professor & Co-Director, Margery Hunter Brown Indian Law Clinic
Jeff Renz, Clinical Professor (Retired)
Hillary Wandler, Professor

Associate Professors

Pippa Browde, Associate Professor
Michelle Bryan, Professor of Law
Philip Cousineau, Assoc. Prof. of Law Librarianship
Stacey Gordon, Associate Professor
Anthony Johnstone, Associate Professor

Assistant Professors

Jonathon Byington, Associate Professor
Samuel Panarella, Associate Professor
Cathay Smith, Assistant Professor of Law
Martha Williams, Assistant Professor (On Leave)

Adjunct Faculty

Matthew Baldassin, Adjunct Professor
Randall Bishop, Adjunct Professor
Beth Brennan, Adjunct Professor
Stephen Brown, Adjunct Professor

Hon. Edmond Burke, Adjunct Professor
J. Martin Burke, Professor (Retired)
Anna Conley, Adjunct Professor
Sally Cummins, Adjunct Professor
Jesse Dodson, Adjunct Professor
Heidi Fanslow, Adjunct Professor
Hon. Leslie Halligan, Adjunct Professor
Shahid Haque-hausrath, Adjunct Professor
Melissa Hartigan, Adjunct Professor
Joel Henry, Professor
Marcia Holland, Adjunct Professor
Kelley Hubbard, Adjunct Professor
Thomas Huff, Adjunct Professor / Professor of Philosophy, Emeritus
Cort Jensen, Adjunct Professor
Malin Johnson, Adjunct Professor
Shawn Johnson, Adjunct Professor
Kristen Juras, Adjunct Professor
Martin King, Adjunct Professor
Matthew Mckinney, Adjunct Professor
Gregory Munro, Professor (Retired)
Tony Patterson, Adjunct Professor
Robert Phillips, Adjunct Professor
David Rice, Adjunct Professor
Brandi Ries, Adjunct Professor
Klaus Sitte, Adjunct Professor
Wilton Strickland, Adjunct Professor
Christian Tweeten, Adjunct Professor
Sally Weaver, Adjunct Professor
Charles Willey, Adjunct Professor

Davidson Honors College

Brock Tessman, Dean

The Davidson Honors College is a campus-wide association of faculty and students united by a common concern for academic and personal excellence. Its mission is to foster intellectual and civic values, and to support the best possible teaching and learning circumstances for participating faculty and students.

The College offers an academic and social home to talented and motivated students as they pursue their undergraduate education. Students from all major areas in the College of Humanities and Sciences and the professional schools are welcome, as well as students who are undecided about a major. Honors is not a major in itself, but an enhancement to General Education in the liberal arts and sciences as well as to virtually all undergraduate majors on campus.

The Honors College building, at the center of the campus, provides a large student lounge, study rooms, classrooms and a computer center for student use. The Honors Student Association plans and conducts a variety of social and academic activities as well as community service projects throughout the year. Special Honors residence hall floors and living units are available.

The Davidson Honors College also sponsors the University of Montana Office for Civic Engagement, an office that coordinates student service activities in the community and beyond, and supports the integration of community service experience into the academic curriculum.

Curriculum

In accordance with our mission, the DHC is committed to offering students the additional resources, challenges, and encouragement to be active and collaborative learners. DHC students are expected to:

- be intellectually curious;
- develop skills in critical thinking, analytic reasoning, and problem solving;
- increase their abilities to write and speak effectively;
- acquire skills and habits of community and public service;
- develop research and life-long learning skills and habits.

Honors students are expected to pursue these student learning outcomes inside the classroom and out, in their work and their recreation, volunteer service, membership in clubs and organizations, participation in campus and civic governance, independent study, pursuit of their hobbies and interests, and formal course work.

Honors courses are limited in enrollment to 20 students and usually are conducted in a discussion or seminar format. They emphasize critical thinking, the development of written and oral communication skills, direct contact with the faculty, and use of original texts or "hands-on," participatory experience. These courses are

taught by outstanding faculty selected according to their department's standards of excellence. Course offerings vary somewhat and represent many academic departments and subject areas. Honors courses often fulfill General Education and many common major requirements.

At the junior and senior level students are offered a selection of Honors seminars. These seminars are open to students from all disciplines. The aim of these seminars is to assist students in applying different methods of inquiry and research, in using the insights of various disciplines, in integrating the students' knowledge, and in developing well-informed personal stances toward the material and issues studied.

In their senior year, students complete an Honors thesis or research project, assuming responsibility, together with a faculty mentor, for an original scholarly research or creative project. This project may coincide with a departmental requirement, and is intended to prepare students to fulfill roles of intellectual, moral, and cultural leadership as they realize their places in society.

Assessment of Personal and Academic Goals

A college education invites students to formulate goals and reflect on their progress toward attaining them. Davidson Honors College students are responsible for evaluating their aims and attainments from year to year in collaboration with an advisor. Entering students are asked to assess their abilities and resources and begin to formulate interests and aims in light of the student learning outcomes mentioned previously.

Requirements

Davidson Honors College students are required to complete a minimum of seven Honors courses, including HONR 121L and a senior Honors research project (which may be counted as one Honors course). An Honors section of *Introduction to Humanities*, LSH 151L or LSH 152L, may be counted as equivalent to HONR 121L. HONR 120, *Introduction to Honors*, also is required of all first-year students. As this is a one-credit course, it does not count toward the seven Honors courses required to graduate. Details are available in the Davidson Honors College office or on the DHC web site at www.dhc.umt.edu.

It also is recommended that all students include in their curriculum at least one course or independent study project that includes an experience of volunteer community service or study abroad.

To maintain good standing in the Davidson Honors College, students must take at least one Honors course per year and maintain an overall cumulative grade point average of 3.0 or above. Academic progress is reviewed each semester. Students whose grades are below the 3.0 standard are given an academic warning. A student whose cumulative grade point average falls below 3.0 is placed on academic probation and remains in this status until the cumulative grade point average rises to 3.0 or higher. Suspension from the Honors College occurs when the term grade point average of a student on probation is below 3.0. A suspended student may be reinstated when the cumulative grade point average rises to 3.0 or higher.

Graduation through the Davidson Honors College requires a cumulative grade point average of 3.0 or higher, and 3.4 in the major field. Upon successful completion of the requirements, students will receive their bachelor degrees as "University Scholars" in their respective majors and have this distinction noted on their diplomas. Graduation through the Davidson Honors College is not connected with the distinctions "with honors" and "with high honors" bestowed on the recommendation of major departments according to certain grade point averages and/or on the basis of exams or other means of assessment in the senior year.

Scholarships

The Davidson Honors College administers the Presidential Leadership Scholarships for incoming freshmen, and several other scholarship programs for currently enrolled students. For further information about these scholarship programs, contact the Honors College. Honors students and those transferring from other institutions are eligible for the general scholarship program. For further information, contact the Financial Aid Office.

Admission to the DHC

Students applying to the Davidson Honors College should show evidence of academic talent and motivation. Generally, a minimum high school GPA of 3.5 is expected, as well as an ACT score of 27 or higher, or SAT combined score of 1800. These criteria are not absolute, and highly motivated students are encouraged to apply.

Applications are particularly welcomed from older or non-traditional students and students from varied racial and ethnic backgrounds. College transfer students with a record of strong academic performance (GPA of 3.5 or higher) also are welcome to apply. *The Davidson Honors College Application for Admission* must be postmarked or submitted online by . Note that all applicants to the Davidson Honors College also must complete a separate application for admission to the University of Montana-Missoula.

Presidential Leadership Scholarships

The Presidential Leadership Scholarships are the University of Montana's premier academic scholarships, recognizing outstanding talent, academic performance, leadership, and contribution to the community. These awards are renewable for four years, subject to satisfactory performance by the student. Each scholarship includes a full or partial tuition waiver, the value of which varies according to the amount of tuition each year.

Eligible candidates for the Presidential Leadership Scholarship must be recent high school graduates who have not previously enrolled as a regular college or university student. Recent finalists for the Presidential Leadership Scholarship posted an average of 3.98 GPA, SAT combined score of 2100, and ACT composite score of 32.

All Davidson Honors College applications for admission received by of each year will be considered for the Presidential Leadership Scholarship.

Contact:
The Davidson Honors College
University of Montana
Missoula, MT 59812
Phone: (406) 243-2541
e-mail: dhc@umontana.edu
web site: www.dhc.umt.edu

Department Faculty

Professors

Brock Tessman, Dean, Davidson Honors College

Adjunct

Sue Bradford, Adjunct Faculty
Patrick Burke, Adjunct Instructor of Philosophy
Gillian Glaes, Visiting Associate Professor of History
Judith Johnson

Graduate School

Scott Whittenburg - Vice President for Research and Creative Scholarship & Dean of The Graduate School

Graduate education explores and advances knowledge boundaries and re-defines the state-of-the-art in every discipline. A master's degree will improve a person's expertise in their given field while a doctoral degree will promote original research that advances the current knowledge in the field.

The mission of the Graduate School is to improve and advance graduate education at the University of Montana. Our graduate programs train the next generation of scholars and enable the generation of new knowledge that will contribute to the scientific, economic and cultural needs of the state, the nation and the global community in the 21st century. The Graduate School carries out its mission through student advocacy, promotion of diversity and inclusivity, promotion of research, and development of dynamic, synergistic paths for education.

The Graduate School administers admission to masters and doctoral graduate programs at the University of Montana. Questions about specific programs should be directed to the appropriate college or school. There are currently 83 different graduate programs at the University of Montana that provide curricula for Master's, Educational Specialist, and Doctoral degrees. A complete list of programs is found in the Graduate School webpage and on the Degree and Majors webpage. The Skaggs School of Pharmacy, the School of Physical Therapy and Rehabilitation Science, and the School of Law administer the Professional Doctorates in Pharmacy, Physical Therapy, and Juris Doctor, respectively.

Applicants complete an online application, providing the information required by the graduate program of interest. Official test scores are sent to the Graduate School, while transcripts are sent to the program. Many, but not all, graduate programs have a specific application deadline. Each program has an admissions committee that evaluates the application, and the committee's final decision is forwarded as a recommendation to the Graduate School. The applicant then receives an electronic decision letter from the Graduate School.

Please refer to the graduate school website for degree programs offered. For further questions, please call us at 406-243-2572 or via email at grad.school@umontana.edu.

Maureen and Mike Mansfield Center

Abraham Kim, Director

The Maureen and Mike Mansfield Center was established in 1986 to pay tribute to Maureen and Mike Mansfield and to recognize their important contributions to U.S. Asian relations and public policy. The Center is an academic unit within the University of Montana and receives core funding from an endowment managed by the Maureen and Mike Mansfield Foundation. Mansfield Center faculty offer classroom instruction, conduct research, provide training for Asian and U.S. government personnel, and organize various types of conferences, all with a focus on East Asia. The Center faculty collaborate with the University's Asian Studies Program and several other campus units.

The Mansfield Center's Ethics and Public Affairs Program (formerly known as the Center for Ethics) focuses upon the relationship of values to public institutions and affairs. Its courses, seminars, lectures, conferences, and internships examine the role that ethical values can and should play in public life, moral quandaries faced by those who govern philosophical and practical dimensions of political ethics, and issues of leadership and character in public service.

No Degrees Found

Course Descriptions

View Offered Courses

East Asian Studies

Department Faculty

Professor

Robert Saldin

East Asian Studies B.A.

Bachelor of Arts - East Asian Studies

College Humanities & Sciences

Catalog Year: 2016-2017

Degree Specific Credits: 44
Required Cumulative GPA: 2.0

Lower DIvision Core Courses

Rule: Complete the following subcategories

6 Total Credits Required

Fundamentals

Rule: Must complete the following course

Note: On occasion the Modern and Classical Languages department offers an alternative Introduction to East Asian Studies course which could fulfill this requirement. Check with the advisor.

	Course	Credits
	HSTR 240 - East Asian Civilizations (WRLD) An interdisciplinary, pluralist, and exploratory introduction to civilizations of East Asia. Primary focus on China, Japan, and Korea, the relations among them and their patterns of interaction with the outside world in pre-modern and modern periods.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Culture and Civilization

Rule: Must complete 1 of the following courses

	Course	Credits
	CHIN 211H - Chinese Culture and Civiliz Offered intermittently. Same as AS and LS 211H. An introduction to the historical, intellectual, political, literary and social developments of China from early times to the present.	3 Credits
	JPNS 150H - Japanese Cult & Civiliz Offered intermittently. Same as AS and LS 210H. The historical, religious, artistic, literary and social developments in Japan from earliest times to the present.	3 Credits
Minimum Required Grade: C-		3 Total Credits Required

Upper Division Core Courses

Rule: Must complete the following subcategories

18 Total Credits Required

Chinese Studies

Rule: Must complete 2 courses of Chinese Studies

Japanese Studies

Rule: Must complete 2 courses of Japanese Studies

East Asian Studies

Rule: Must complete 2 courses of Japanese, Chinese, Viet Nam, pan-East Asia, or Buddhism

Note: Student may select from courses as they are available.

Language

Rule: Must complete one of the following subcategories

20 Total Credits Required

Chinese Language

Rule: May select the following language sequence

	Course	Credits
	CHIN 101 - Elementary Chinese I Offered autumn. Emphasis on speaking, reading and writing elementary Mandarin.	5 Credits
	CHIN 102 - Elementary Chinese II Prereq., CHIN 101. Offered spring. Continuation of 101.	5 Credits

	CHIN 201 - Intermediate Chinese I Offered autumn. Prereq., CHIN 102 or equiv. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading and writing.	5 Credits
	CHIN 202 - Intermediate Chinese II Offered spring. Prereq., CHIN 201 or equiv. Continuation of 201.	5 Credits
Minimum Required Grade: C-		20 Total Credits Required

Japanese Language

Rule: May select the following language sequence

	Course	Credits
	JPNS 101 - Elementary Japanese I Offered autumn. Understanding of grammar and basic sentence structures are taught as a foundation for oral comprehension. The students will learn Hiragana and Katakana, two syllabic writing systems, and approximately 400 Kanji ideographs.	5 Credits
	JPNS 102 - Elementary Japanese II Offered spring. Prereq., JPNS 101. Continuation of 101.	5 Credits
	JPNS 201 - Intermediate Japanese I Offered autumn. Prereq., JPNS 102 or equiv. Reading and writing kanji; building oral/aural fluency.	5 Credits
	JPNS 202 - Intermediate Japanese II Offered spring. Prereq., JPNS 201 or equiv. Continuation of JPNS 201.	5 Credits
Minimum Required Grade: C-		20 Total Credits Required

Mansfield Center Course Listing

Mansfield Center

Back to Top

- MANS 101 - Elementary Pashto I
  Credits: 5. Offered intermittently. Prereq., students must be grant eligible. This course is an intensive six-week course teaching Pashto.
- MANS 106 - Elementary Indonesian
  Credits: 5. Indonesian language belongs to category II languages as defined by the DLIFLC (Defense Language Institute Foreign Language Center). The Elementary Indonesian Course is designed for those students who are in their initial Indonesian language acquisition level. Student knowledge can vary from 'zero' (or no knowledge of the language) to some elementary skills in the target language. The course is organized by topics, grammar points and cultural notes. Students develop fluency of comprehension and oral skills to express their needs as well as simple ideas about family, hobbies, jobs, and daily activities. The classes mainly consist of three components: listening, reading, and speaking. There are some writing tasks as optional assignments. At the end of each week, students are given quizzes to recapitulate what they have acquired during the week.

Quizzes include DLPT5-like mock tests (Defense Language Proficiency Test 5), OPI (Oral Proficiency Interview), and written tests.

- MANS 107 - Elementary Korean I

  Credits: 5. The Defense Critical Language and Culture Program (DCLCP) (of The University of Montana's Maureen and Mike Mansfield Center) provides intensive language and culture training for members of the National Guard, Reserve, and Active Duty utilizing a congressionally funded Language Training Center (LTC) contract through the Department of Defense Language and National Security Education Office (DLNSEO)—Grant title: Subaward 2013-LTC-Montana (H98210-13-2-0001). This DCLCP course is designed to meet DoD (Department of Defense) total force Korean language training needs, especially members of the 1st Special Forces Group (Joint Base Lewis McChord, WA) in order to enable the DoD workforce to be better prepared and equipped with the target language, cultural and regional expertise. As a part of DoD Language Training Center, the course is open exclusively for U.S. DoD personnel who would not otherwise enroll into other UMT language course. Nonetheless, we encourage the students to pursue a degree in programs like Eastern Asian Studies, Asian Studies, or political science offered by the University of Montana.

- MANS 108 - Elementary Chinese I

  Credits: 5. The Defense Critical Language and Culture Program's Elementary I is an intensive 120-hour, 30 hours per week course (with 5 hours dedicated to culture and regional studies in English), equivalent to 6 months of college language courses. The course is for Special Forces military students who have previous language training in Chinese language, yet whose skills may have eroded somewhat due to insufficient practice. Students are admitted into the elementary Chinese-Mandarin class if they currently perform at either 0 or 0+ on the Interagency Language Roundtable (ILR) scale. In class, the target language is used exclusively when teaching the language, with no English permitted (unless in a case of an emergency when the Chinese word is unknown). Standard Chinese or Modern Standard Chinese (MSC), also known as Mandarin, Putonghua and Guoyu is the official language of the People's Republic of China, the Republic of China (Taiwan) and one of the four official languages of Singapore. Due to the complexities of this language, the Defense Language Institute categorized MSC as Category IV language, one of the toughest languages to learn for non-native speakers. The majority of the class will be conducted via Video Tele Conferencing (VTC); the remaining portion of the class will be in residence. In order to create communicative and task-based and skill-integration activities in improving students' overall language proficiency level, additional tutoring, counseling and coaching will also be conducted.

- MANS 201 - Intermediate Pashto I

  Credits: 4. Offered intermittently. Prereq., MANS 101 and MANS 102. Students must also be grant eligible. This course is an intensive five-week course teaching Pashto.

- MANS 206 - Intermediate Indonesian Language and Culture

  Credits: 5. This DCLCP course is designed to meet DoD (Department of Defense) Total Force Indonesian language training needs, with an emphasis on the 1st Special Forces Group (Joint Base Lewis McChord, WA) in order to improve their language, cultural and regional expertise. As a part of DoD Language Training Center, the course is open exclusively for U.S. DoD personnel who would not otherwise enroll in other University of Montana language courses. Nonetheless, the DCLCP does encourage its students to pursue degrees in University programs like East Asian Studies, Central Asian Studies, or political science after their discharge from the armed forces.

- MANS 207 - Intermediate Korean I

  Credits: 5. The Defense Critical Language and Culture Program (DCLCP) (of The University of Montana's Maureen and Mike Mansfield Center) provides intensive language and culture training for members of the National Guard, Reserve, and Active Duty utilizing a congressionally funded Language Training Center (LTC) contract through the Department of Defense Language and National Security Education Office (DLNSEO)—Grant title: Subaward 2013-LTC-Montana (H98210-13-2-0001). This DCLCP course is designed to meet DoD (Department of Defense) total force Korean language training needs, especially members of the 1st Special Forces Group (Joint Base Lewis McChord, WA) in order to enable the DoD workforce to be better prepared and equipped with the target language, cultural and regional expertise. As a part of DoD Language Training Center, the course is open exclusively for U.S. DoD personnel who would not otherwise enroll into other UMT language course. Nonetheless, we encourage the students to pursue a degree in programs like Eastern Asian Studies, Asian Studies, or political science offered by the University of Montana.

- MANS 208 - Intermediate Chinese I

  Credits: 5. The Defense Critical Language and Culture Program's Intermediate I is an intensive 120-hour, 30 hours per week course (with 5 hours dedicated to culture and regional studies), equivalent to 6 months of college language courses. The course is for Special Forces military

students who have previous language training in Chinese language, yet whose skills may have eroded somewhat due to insufficient practice. Students are admitted into the elementary Chinese-Mandarin class if they currently perform at either 1 or 1+ on the Interagency Language Roundtable (ILR) scale. In class, the target language is used exclusively, with no English permitted (unless in a case of an emergency when the Chinese word is unknown). Standard Chinese or Modern Standard Chinese (MSC), also known as Mandarin, Putonghua and Guoyu is the official language of the People's Republic of China, the Republic of China (Taiwan) and one of the four official languages of Singapore. Due to the complexities of this language, the Defense Language Institute categorized MSC as Category IV language, one of the toughest languages to learn for non-native speakers. The majority of the class will be conducted via Video Tele Conferencing (VTC); the remaining portion of the class will be in residence. In order to create communicative and task-based and skill-integration activities in improving students' overall language proficiency level, additional tutoring, counseling and coaching will also be conducted

- MANS 295 - Special Topics

  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of new courses or one-time offerings of current topics.

- MANS 296 - Independent Study

  Credits: 1 TO 6. (R-6) Offered intermittently.

- MANS 306 - Advanced Indonesian Language and Culture

  Credits: 5. This DCLCP course is designed to meet DoD (Department of Defense) Total Force Indonesian language training needs, with an emphasis on the 1st Special Forces Group (Joint Base Lewis McChord, WA) in order to improve their language, regional, and cultural expertise. As a part of DoD Language Training Center, the course is open exclusively for U.S. DoD personnel who would not otherwise enroll in other University of Montana language courses. Nonetheless, the DCLCP does encourage its students to pursue degrees in University programs like East Asian Studies, Central Asian Studies, or political science after their discharge from the armed forces

- MANS 307 - Advanced Korean I

  Credits: 5. The Defense Critical Language and Culture Program (DCLCP) (of The University of Montana's Maureen and Mike Mansfield Center) provides intensive language and culture training for members of the National Guard, Reserve, and Active Duty utilizing a congressionally funded Language Training Center (LTC) contract through the Department of Defense Language and National Security Education Office (DLNSEO)—Grant title: Subaward 2013-LTC-Montana (H98210-13-2-0001). This DCLCP course is designed to meet DoD (Department of Defense) total force Korean language training needs, especially members of the 1st Special Forces Group (Joint Base Lewis McChord, WA) in order to enable the DoD workforce to be better prepared and equipped with the target language, cultural and regional expertise. As a part of DoD Language Training Center, the course is open exclusively for U.S. DoD personnel who would not otherwise enroll into other UMT language course. Nonetheless, we encourage the students to pursue a degree in programs like Eastern Asian Studies, Asian Studies, or Political Science offered by the University of Montana.

- MANS 308 - Advanced Chinese I

  Credits: 5. The Defense Critical Language and Culture Program's Advanced I is an intensive 120-hour, 30 hours per week (with 5 hours dedicated to culture and regional studies in the target language), equivalent to 6 months of college language courses. The course is for Special Forces military students who have previous language training in Chinese language, yet whose skills may have eroded somewhat due to insufficient practice. Students are admitted into the advanced Chinese-Mandarin class if they currently perform at either 2 or 2+ on the Interagency Language Roundtable (ILR) scale. In class, the target language is used exclusively, with no English permitted (unless in a case of an emergency when the Chinese word is unknown). Standard Chinese or Modern Standard Chinese (MSC), also known as Mandarin, Putonghua and Guoyu is the official language of the People's Republic of China, the Republic of China (Taiwan) and one of the four official languages of Singapore. Due to the complexities of this language, the Defense Language Institute categorized MSC as Category IV language, one of the toughest languages to learn for non-native speakers. The majority of the class will be conducted via Video Tele Conferencing (VTC); the remaining portion of the class will be in residence. In order to create communicative and task-based and skill-integration activities in improving students' overall language proficiency level, additional tutoring, counseling and coaching will also be conducted.

- MANS 395 - Special Topics

  Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- MANS 494 - Mansfield Center Seminar

Credits: 1 TO 9. (R-9) Offered intermittently. Prereq., consent of instr. A review and discussion of current research. Topics vary.

- MANS 495 - Special Topics
  Credits: 1 TO 9. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- MANS 496 - Independent Study
  Credits: 1 TO 6. (R-6) Offered intermittently. Prereq., consent of instr. Course material appropriate to the needs and objectives of the individual student.
- MANS 595 - Special Topics
  Credits: 1 TO 12. (R-12) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Level: Graduate

Maureen and Mike Mansfield Library

Shali Zhang, Dean of Libraries

The Maureen and Mike Mansfield Library at the University of Montana provides an array of information resources and services in support of the teaching, learning, and research programs of the University. These resources include print collections and access to networked research databases, electronic journals e-books, media materials, and a web-based integrated library cataloging and discovery platform. Library services include in-depth research and reference assistance, an extensive instruction program integrated into the university curriculum, and full-service computing and media facilities. Extensive services for online education students and faculty are available to provide an equitable educational experience.

The Maureen and Mike Mansfield Library comprises the heart of UM's library system. Collections exceed 1.75 million volumes, more than 800,000 electronic books, access to over 75,000 print and electronic journals, an expanding array of electronic databases, over 72,000 media, a federal government depository collection and an Archives and Special Collections. These resources are supplemented by an active interlibrary loan service through which items from other libraries can be loaned to UM students and faculty. The Mansfield Library is open seven days a week for 111 hours per week during the academic semesters.

Over 130 computers available for student use and wireless access throughout the building provides fast and stable internet connectivity in support of access to electronic resources and access to other networked information. Three state-of-the-art instructional classrooms underscore the goal of the library as a learning library in which students learn how to access and evaluate information in support of their advancing academic careers. Study carrels, group study rooms, study tables, and soft seating on all floors of the library provide a variety of study environments.

The Mansfield Library at Missoula College UM (located on the East Campus) supports its curricular programs. Students and faculty at both campuses have access to all library resources and services. Students at Bitterroot College UM, in Hamilton, also have full access to the Mansfield Library's resources and services. The library collections at the affiliated UM campuses are located in Butte at Montana Tech, and Highlands College of Montana Tech; in Dillon at The Carson Library of the University of Montana-Western; and in Helena at Helena College the University of Montana.

Department Faculty

Professors

Barry Brown, Head of Access and Collection Services; Science Librarian
Kim Granath, Head of Information and Research Services; Public Health Librarian
Donna E. McCrea, Head of Archives and Special Collections
Sue Samson, Humanities Librarian and Instruction Coordinator
Shali Zhang, Dean of Libraries

Associate Professors

Susanne Caro, Government Documents Librarian
Julie Edwards, Ethnic Studies Librarian and Diversity Coordinator
Teressa Keenan, Head of Bibliographic and Research Services Division; Metadata Librarian
Tammy Ravas, Visual and Performing Arts Librarian and Media Coordinator
Megan Stark, Undergraduate Services Librarian
Kate Zoellner, Education and Human Sciences Librarian

Assistant Professors

Adrienne Alger, Online Learning and Instructional Technology Librarian
Wendy Walker, Digital Initiatives Librarian
Jaci Wilkinson, Web Services Librarian

Adjunct Assistant Professors

Natalie Bond, Political Papers Archivist
Jill Howard, Workshop Coordinator
Kimberly Swanson, Missoula College Liaison

School of Extended and Life Long Learning

Roger Maclean, Dean

The School of Extended & Lifelong Learning (SELL) is the outreach arm of the University of Montana. SELL partners with external organizations and academic units to provide innovative and flexible education experiences and personal growth opportunities for a variety of audiences. SELL's mission is realized through service, innovation and collaboration. By creating relationships based on integrity and professionalism, SELL advances quality lifelong learning opportunities that transform lives.

SELL is located in the James E. Todd building, east of the University Center. The building includes meeting space, available to rent by both on and off-campus entities, including state-of-the-art technology in every room and video conferencing capabilities. In addition, SELL provides conference and event planning, including equipment rental, technical support and logistical assistance.

We provide educational opportunities for community members

SELL is responsive to community needs, and seeks partnerships that help enrich the lives of community members. We design training programs tailored to help local companies meet their goals, and provide meeting space or planning services for educational conferences.

Individuals aged +50, enjoy MOLLI short courses in the fine arts, humanities, current and political affairs and natural and social sciences. These lifetime learners enjoy courses without the added pressure of grades, tests, or homework.

Community members who are looking to enhance their career potential need not look any further than our Professional Development program.

Interested in Beekeeping? We even have something for you. SELL offers an online certificate program for serious beekeepers that is taught by one of the nation's premier bee research teams. Beekeeping is just one example of the creative educational programming that is incubated at SELL.

We Support UM

SELL supports the entire campus community by offering a range of administrative, design and technical services associated with Summer Semester, Wintersession, and UMOnline. SELL's Innovation Studio helps faculty members bring their subject matter to life with instructional design, content creation, and accessibility support.

We accommodate all your conference planning and meeting needs

If you need help planning a conference, symposium, or large educational event, SELL has a Conference Planning Services team that can help make your event a success.

Need meeting space? The Continuing Education Conference Center at SELL can accommodate your needs with meeting rooms that can seat anywhere from 100-200 people and have state-of-the-art equipment and in-house technical support.

These are just a sampling of the ways SELL meets educational needs and provides diverse learning opportunities. We strive to broaden educational access by meeting our audiences where they are, thinking outside the box, and providing excellent customer service.

The University of Montana Western

The unique mission of the University of Montana Western emphasizes experiential learning combining theory and practice through projects and field experiences. Montana Western students learn by doing, collaborating directly with their professors and fellow students in a mentorship environment.

In order to better facilitate this type of learning, UMW adopted a course scheduling system, named Experience One (X1). Under X1, students take a single course at a time for 18 days for three hours per day. Montana Western is the first and only public four-year university in the country to fully adopt this system.

Montana Western embraces the privilege and obligations associated with its mission as a higher education institution within the beautiful landscape of southwest Montana. This mission infuses the University's curriculum: in its century-long tradition for excellence in professional programs in teacher education, business and technology; in its strong interdisciplinary arts and science programs; and in its two-year associate degree programs responding to regional needs.

Montana Western offers the Bachelor of Science degree in: Elementary Education, Secondary Education with options in traditional subject areas, Biology, Business Administration, Early Childhood Education, Environmental Interpretation, Environmental Science, Health & Human Performance, Mathematics, and Natural Horsemanship. In addition, Montana Western offers Bachelor of Arts (BA) and Bachelor of Applied Science (BAS) degrees. Bachelor of Arts options include English, Interdisciplinary Social Science, and Visual Arts. Bachelor of Applied Science students may use an Associate of Applied Science (AAS) degree as a base for the BAS degree with most of the credits from the two-year degree transferring into the BAS at Montana Western. Montana Western also offers Associate of Arts and Associate of Science degrees for those who want to obtain their general education before transferring to another campus; Associate of Applied Science degrees for those needing entry-level job skills in Business, Early Childhood Education, Education Studies, Equine Studies, Natural Horsemanship, and Tourism & Recreation; and certificate programs in Early Childhood Technology, and Information Technology & Network Administration.

Individualized education has been a campus hallmark for over 100 years. Approximately 1,400 students enroll at Montana Western each fall. Class sizes are kept small (average class size is 18 students). The faculty is nationally recognized for its excellence, creativity, and genuine concern for maintaining the Montana Western tradition of high quality academic and personal experience.

In addition to fulfilling academic life, Montana Western offers National Association of Intercollegiate Athletics Frontier Conference sports in football, volleyball, men's and women's basketball, men's and women's National Intercollegiate Rodeo Association teams, and Equestrian team competition. A varied sports program is also available for students seeking intramural activities.

With close proximity to Yellowstone, Grand Teton, and Glacier national parks, Montana Western's geographic location makes an ideal setting for individuals who enjoy the rugged outdoors. With a friendly, small town atmosphere, Dillon offers many of the amenities of a much larger community. Ranching, mining and tourism are the chief industries of the area. Montana Western's picturesque 34-acre campus and friendly atmosphere enhance the community and area. For more informationm visit the University of Montana Western website or call (877) 683-7331.

Helena College University of Montana

Helena College offers two-year programs in business, trades, technical, and health occupations designed to meet the state's business and industry needs for technologically-skilled workers. All of the curricula are industry-approved and emphasize learning in a hands-on environment. In addition, the college offers an Associate of Science degree and Associate of Arts degree designed to transfer to four-year institutions. The college, founded in 1939, is fully accredited by the Northwest Commission on Colleges and Universities (NWCCU), approved by the Montana State Board of Nursing, certified and licensed by the Federal Aviation Administration, and certified by the National Institute for Automotive Service Excellence.

Helena College students take a full complement of courses in mathematics, communications, computer literacy, and career development. Located in Helena, Montana's beautiful capitol city, the College offers its programs in modern classrooms, shops, and labs, both near the Capitol building and at the Helena airport. For more information, call (406) 447-6900.

Montana Tech of The University of Montana

Opening its doors in 1900 as the Montana School of Mines, Montana Tech has a century-old reputation as one of the finest science and engineering universities in the nation. Early curricula at the Montana State School of Mines were designed around mining and electrical engineering.

Today, Montana Tech specializes in the areas of science, technology, engineering, math, and healthcare disciplines and has repeatedly been recognized among the top 10% of all universities in America. Enrollment on campus sits at 2,945 students on its two campuses. The university offers 13 certificate programs, 14 associate degrees, 25 undergraduate programs, 10 masters programs, and a doctoral program in Materials Science. The north campus offers four-year and graduate degrees while the south campus, Highlands College, offers associate degrees and certificate programs, continuing education, and customized training.

Montana Tech is a friendly campus where students get involved in a wide array of campus events and activities as well as abundant outdoor recreational opportunities. Student satisfaction surveys consistently give the university high marks for its quality of student life. The student body presents a national and global snapshot with 43 states and 24 foreign countries represented.

Montana Tech emphasizes teamwork, collaboration, and hands-on learning and has a long-standing reputation for producing outstanding graduates. For the past 10 years, Montana Tech graduates have enjoyed a 92% placement rate, including acceptance into professional and graduate programs, and graduates from our School of Mines report an average starting salary of $66,186. Many of the university's alumni have attained senior leadership positions in the minerals, energy, and natural resource industries as well as business. Over 16% of Montana Tech alumni give back to the campus each year.

Located in the heart of the mountains of Southwest Montana, the 98-acre main campus can be seen for miles. With over $20 million in recently completed building and renovation projects and another $12.5 million currently under construction, the campus blends its historical buildings with new state-of the-art laboratory and instructional facilities. Highlands College is located seven miles south of the main campus.

The Montana Bureau of Mines and Geology, Montana's geologic and hydrogeologic research arm, is housed on the campus of Montana Tech. Montana Tech's commitment to research is evident in significant recent investments in major instrumentation, support for creative scholarship by faculty and graduate students, and a vibrant undergraduate research program.

Inquiries to Montana Tech should be directed to 1-800-445-Tech or visit the Montana Tech website.

Affiliated

Fees

General

The student expense information provided in this catalog is based upon the rates for the 2015-16 academic year as submitted to and approved by The Montana Board of Regents of the Montana University System. The Board of Regents reserves the right to adjust fees at any time. Current information may be obtained by contacting Business Services by mail at Business Services, Lommasson Center, University of Montana-Missoula, Missoula, Montana 59812; by phone at 406-243-2223; by email at um.statements@mso.umt.edu; or by visiting the Business Services website.

Paying the Registration Bill

A student's registration is not complete until it is "paid." Paying the registration bill confirms registration of the courses listed on the registration bill and the student's acceptance of the associated tuition and fee charges. **Even if financial aid and/or scholarships cover the full cost of the registration bill, all students are required to complete their registration by clicking the "Pay Registration Bill" button in CyberBear. FAILURE TO PAY THE REGISTRATION BILL WILL RESULT IN THE CANCELLATION OF CLASSES FOR THE SEMESTER.** Please see the published payment deadlines on the Registrar's Calendar web page.

Foreign and Canadian checks are not accepted. Credit card payment is accepted using VISA and MasterCard. Payment may be completed electronically via the student's CyberBear account. Payments can be made online via CyberBear:

- E-check
- Credit or debit card

Payment may be mailed to:

University of Montana

Business Services

32 Campus Drive

Missoula, MT 59812

All payments received in the mail should include the student's UM ID number and must be received on or before the published payment deadlines which can be found at the Registrar's Calendar web page.

Payment by credit or debit card can be made via the telephone by calling Business Services at (406) 243-2223 during our normal business hours which can be found at the Business Services website.

Tuition and Madatory Fee Schedules

The tuition and mandatory fee schedules are posted on the Business Services Tuition and Fees web page. Different fee schedules apply to each type of student: undergraduate lower/upper, Missoula College, graduate first/advanced, graduate TA/RA first/advanced, law fall/spring, WUE undergraduate lower/upper, WUE Missoula College, post-baccalaureate, distance undergraduate lower/upper, distance Missoula College, distance graduate first/advanced, or distance post-baccalaureate. The full schedule of fees and fee definitions are available at Business Services Tuition and Fees web page or by calling Business Services at 406-243-2223. Students enrolled at 12 or more credits are assessed at the same rate. Students who are enrolled less than 12 credits are assessed per credit. Students enrolled for 6 credits or fewer have the option of paying an additional amount to cover the ASUM activity fee, campus recreation fee, health service fee, and athletic fee.

A distance learning fee is assessed on all online courses to partially defray costs associated with courses delivered online over the World Wide Web. Online courses are assessed an additional fee of $48.00 per credit. If a student is registered for all distance classes, they have the option to request a change to a distance only student. Students enrolled in all online courses for a term are not assessed some of the mandatory fees that apply to students enrolled in face-to-face courses. The student needs to complete the Distance Only Change of Status form which can be found on the UM Online website.

Montana resident high school eligible students may enroll in Early to College courses through the UM-Missoula College campus. The tuition rate is 50% of the resident Missoula College two-year tuition rate. Mandatory and non-mandatory fees are not assessed except for applicable course fees. Early to College students are not eligible to elect campus services such as the student insurance, Campus Recreation Center, Athletic fee, AUSM fee, and Campus Health Service (may not be all-inclusive).

Audited courses are assessed at the same tuition and fees as courses taken for credit or no-credit.

Delivery of Student Credit Balance Refunds

The University of Montana processes all student credit balance refunds, and refunds are delivered based on the option the student has selected as explained at the Business Services Refund web page. The student needs to select an option only once unless they change or close their bank account or wish to change their option. If the student does not select an option, a check will be sent to their current mailing address. Even if a student does not expect to receive refunds due to financial aid, it is still important to select an option. For instance, a student may have a credit balance if classes are dropped or they withdraw that would create a credit balance refund.

Additional Course Fees

The Board of Regents may approve additional course fees at any time. Additional course fees frequently are assessed for selected courses in subjects such as: Accounting Technology, Art, Biology, Biochemistry, Building Maintenance Engineering, Business, Chemistry, Computer Technology, Culinary Arts, Curriculum and Instruction, Dance, Diesel Equipment Technology, Drama, Educational Leadership, Electronics Technology, Forestry, Geology, Health and Human Performance, Heavy Equipment Operation, Journalism, Legal Studies, Mathematics, Metals Processes, Microbiology, Military Science, Music, Nursing, Pharmacy, Physical Therapy, Resource Conservation, Respiratory Therapy, Science, Secretarial Technology, Small Engines, Surgical Technology, Truck, Welding, and Wildlife Biology. This listing may not be all-inclusive and does not preclude a specific fee from being assessed. The current report on Non-Mandatory Fees can be found on the Business Services Tuition and Fees web page.

Special fees are assessed for extended field trips in various departments.
An Educational Service Fee is charged for the off-campus M.B.A. and M.P.A. programs.
A fee is charged for cooperative education internships.
Purchase of supplies, equipment, or tools may be required by certain programs.

Certain programs will also have an additional program tuition added based on the major in which a student is admitted. The programs listed may not be all inclusive and they are Foreign and Conservation Program, Law Program, Masters in Athletic Training Program, Medical Technology Internship Program, Pharmacy Program, Physical Therapy Program, Public Health Program, School of Business Program, Social Work Program and Wildlife Biology Program.

Law School Fees

The proposed 2014-15 School of Law fees for 15 credits are approximately $3,237 for autumn and $3,212 for spring for an in-state student and $11,175 for autumn and $11,150 for spring for an out-of-state student. The Health Service fee is included. Health insurance coverage is available to students for an additional charge.

Law Special Fees

All persons who apply for admission to the School of Law must pay an acceptance fee of $300.00 ($150.00 is refundable if written notice is received by the due date if student does not want to attend), which is applied toward payment of fees upon entering and attending the School of Law in the semester for which the application was made.

In addition to the above fees, Law School students must pay an additional $145.00 per credit per semester. The amount is applied to instructional costs.

All law students are assessed a $25.00 law activity fee during autumn. An additional Academic Facilities fee of $50 per semester plus $1.25 per credit hour is also assessed.

School of Extended and Life Long Learning (SELL)

Fees, room and board costs for SELL summer programs, and fees for registration in SELL continuing education are contained in separate publications. These publications can be obtained by contacting the School of Extended and Lifelong Learning and Summer Programs by phone at 406-243-2900; by mail at University of Montana-Missoula, Missoula, MT 59812; or by visiting the School for Extended and Lifelong Learning website.

Refund Policy

Refund for Dropped Classes

Students who have paid their registration bill may drop classes through the first fifteen days of the Autumn and Spring semesters. Adjustments of the associated tuition & fees and financial aid will be made to their student account during that time. **Beginning with the sixteenth class day, there is no refund for classes dropped, and there is a $10 fee for each class dropped.** Students who finalized with financial aid should always check with the Financial Aid Office and Business Services before dropping classes to make sure they fully understand the financial impacts of dropping classes as that may result in the student having to immediately repay grant aid they received or make them ineligible to receive aid that has not been disbursed yet.

Refund for Withdrawal from the University

If a student decides to withdraw from classes or has ceased to attend classes after paying their registration bill, the student should contact the University of Montana Registrar's Office in Griz Central, located in the Lommasson Center, and complete an Official Withdrawal form to begin the official withdrawal process. This procedure will enable the University to prorate the tuition and fees assessed based upon the date of withdrawal. A percentage-based refund of tuition and fees does occur when a student officially withdraws before the first day of classes or within the first 15 class days of each term. Students ceasing to attend classes who do not complete an Official Withdrawal form and as a result do not receive any passing grades for the semester will be considered an unofficial withdrawal and will not receive any consideration for refund of tuition and fees.

Students who desire to continue the Blue Cross Health Insurance must contact the Curry Health Center prior to withdrawal. Otherwise, the insurance premiums will automatically be refunded and coverage will be lost upon the date of their withdrawal.

For students receiving federal financial aid, they must be attending classes to remain eligible for the federal financial aid they have received or could be eligible to receive. A post-withdrawal disbursement will be made if a student shows eligibility for Title IV aid. If a student drops courses, stops attending classes (Unofficial Withdrawal), never starts attending a class, or officially withdraws from the University of Montana by completing and submitting the Official Withdrawal form, the University and/or the student may be required to return federal funds awarded to the student. **It is very important for students receiving federal financial aid to contact Business Services at (406) 243-2223 PRIOR to completing the official withdrawal process or if they are not going to attend their classes.** If a student officially withdraws during the first fifteen days of class, the tuition and fees will be re-assessed for the semester based upon the official date of withdrawal. If a student does not complete the Official Withdrawal form and ceases attending and receives no passing grades for the semester the student is an Unofficial Withdrawal. A student's official or unofficial withdrawal date is determined by:

- the date the student began the institution's withdrawal process or officially notified the institution of intent to withdraw;
- the midpoint of the period for a student who leaves without notifying the institution (unofficial);
- or the last date of attendance by the student at a documented academically related activity.

Students who withdraw from the University after paying their registration bill will receive pro-rated assessment of tuition and fees according to the following schedule. The Summer term is also is subject to a pro-rated assessment of tuition and fees based on the length of each of the sessions within a Summer term.

	Before classes begin	1st Week	2nd Week	3rd Week	4th week or Later
Registration	none	none	none	none	none
Tuition/Fees	100%	90%	75%	50%	none
Blue Cross Ins. **	100%	100%	100%	100%	none
Other Fees	varies	varies	varies	varies	varies

Charges for room and board will be re-assessed on a pro-rated basis. During the final two weeks of the semester, room charges will not be re-assessed. Student who do not formally and completely withdraw are not eligible for a refund. The student will need to contact both the Residence Life Office located at 101 Turner Hall and UM Dining located on the first floor of the Lommasson Center.

The University of Montana will reassess the tuition and fees for students using the Deferred Payment Plan if the student officially withdraws during the first fifteen days of a semester. The student may still owe a balance to the University.

Return of Title IV Funds (Federal Financial Aid)

The University of Montana Refund Policy exists for calculating the amount of the federal financial aid that is subject to return when a student officially or unofficially withdraws on or before the 60% point of the term for which the aid was or could have been disbursed. The federal "Return of Title IV Funds" formula dictates the amount of Federal Title IV aid that must be returned to the federal government by the University and the student. The federal formula is applicable to a student receiving Title IV Funds if that student officially or unofficially withdraws. The University of Montana is required to return the Title IV funds to the federal government, U.S. Department of Education, within 45 days of determining the student is no longer attending. A student's official or unofficial withdrawal date is determined by:

- the date the student began the institution's withdrawal process or officially notified the institution of intent to withdraw;
- the midpoint of the period for a student who leaves without notifying the institution (unofficial);
- or, the last date of attendance by the student at a documented academically related activity.

The federal formula requires a return of Title IV aid if the student received federal financial assistance in the form of a Federal Pell Grant, TEACH Grant, Iraq/Afghanistan Service Grant, Federal Supplemental Educational Opportunity Grant (SEOG), Federal Perkins Loan, Federal Direct Loan (subsidized or unsubsidized), or Federal Parent or Graduate PLUS loans for students who officially or unofficially withdraw on or before completing 60% of the semester. The percentage of Title IV aid to be returned is equal to the number of calendar days remaining in the semester (based on the official withdrawal date) divided by the number of calendar days in the semester (scheduled academic breaks of five consecutive days or more are excluded). After all Title IV aid return requirements have been satisfied, any credit balances on a student's account will be first applied to satisfy outstanding University tuition, fees, and institutional charges, then to any Grant overpayments and finally any remaining credit balances will then be refunded to the student.

If you officially or unofficially withdraw from the University of Montana before completing 60% of the semester, you may have to repay any unearned financial aid funds that were already disbursed to you. A post-withdrawal disbursement will be made if a student shows eligibility for Title IV aid. Please contact staff in The University's Business Services, located in Griz Central or call 406-243-2223, if you have any questions about refund of tuition and fees or the calculation of the return of federal financial aid PRIOR TO WITHDRAWING OR CEASING TO ATTEND.

Distribution Priority for Return of Title IV Funds

1. Federal Unsubsidized Stafford Loan
2. Federal Subsidized Stafford Loan
3. Federal Perkins Loan
4. Federal Graduate PLUS Loan
5. Federal Parent PLUS Loan
6. Federal Pell Grant Program
7. Federal SEOG Program
8. Federal TEACH Grant
9. Federal Iraq/Afghanistan Service Grant
10. State, Private, or Institutional Aid
11. The Student

Hardship Withdrawal Policy

A hardship withdrawal may be granted to a student who experiences a catastrophic unanticipated condition or event after the fifteenth class day of a semester, if the condition prevents the student from completing academic course work. If medical, this must be documented by a health care provider. A medical hardship withdrawal will only be granted in cases of extreme hardship resulting from a serious or life threatening medical condition. In order for a student to petition to receive a hardship withdrawal from the University of Montana, the student must contact the Registrar's Office or Business Services to complete and submit the hardship petition. Upon approval of a hardship petition, the Registrar's Office will enter the appropriate withdrawal information on the student's academic record.

Students withdrawing during the first fifteen class days of a semester for medical reasons should contact the Curry Health Center in order to maintain their health insurance coverage if they are covered by the student health insurance. Otherwise, the medical insurance premiums will be automatically refunded and coverage will be lost.

The hardship petition process is not the appropriate venue to resolve or petition academic matters. Such concerns must be addressed in the student's respective department, school, or college. In addition, the hardship petition process is not an alternative means to drop classes after the normal drop date, to remove unwanted grades, or preclude resulting academic/financial aid actions (warning, probation, suspension, etc.).

Other Costs and Policies

Late Registration

A student who does not complete registration, including payment of tuition & fees in CyberBear, by the seventh class day is assessed a late registration fee of $80.00. An additional late registration fee is assessed on the 16th class day if the registration bill is not paid. After the fifteenth class day, a petition is required to register and, if approved, the total late registration fee of $160.00 is assessed.

Returned Checks

A charge of $25.00 will be assessed on checks (paper or electronic) returned from the bank. Any paper or electronic check tendered in payment of registration fees and not honored by the bank upon which it is drawn may result in cancellation of a student's registration. If the student's registration is cancelled, the student will be required to re-register and may be subject to the late registration fees in addition to the $25.00 service charge.

Fee Policy on Drop/Adds

Students must pay for all courses for which they are enrolled at registration. However, within the first fifteen class days, they may drop or add courses. The courses for which students are enrolled on the fifteenth class day will determine any fee adjustments (see fee schedule) or financial aid adjustments. Beginning the sixteenth class day, courses dropped will not result in a reduction of fees but courses added will increase credit hour enrollment and may result in an additional tuition and fees charges. Payment is due within 10 days of the day courses are added.

CyberBear will not allow a student to drop all courses. Dropping all courses is considered a withdrawal from the University. Please refer to the Withdrawal Policy section in the catalog for information on how to withdraw and the associated Refund Policy.

Drop/Add Processing Fee

A $10.00 processing fee will be charged for each course that is added or dropped after the fifteenth instructional day. See the summer class schedule for summer session deadlines.

Deferred Payment Plan

The University of Montana offers a payment plan to help students and their families pay their tuition, mandatory fees, and room and board. Eligibility is based on the following criteria:

- ü Making payments as scheduled.
- ü Existing credit history with the University.
- ü Fully complete and sign all required documents.

The plan provides for the payment of at least one fourth of the total fees along with a $30.00 administrative charge at the time of registration, payment of one fourth approximately 30 days after registration and payment of the full balance approximately 90 days after registration.

Registration, tuition and mandatory fees less any Financial Aid may be deferred. Student insurance and non-mandatory/course fees may not be deferred.

Deferred Payment Plan (DPP) applications must be submitted via CyberBear. The instructions (at right) will lead you to the DPP application. Be prepared to fill out the necessary application forms including parent and spouse information and two references. Your application will be reviewed by Business Services within 3 business days and you will be notified UM email on the status of your application.

The signing and adherence to the terms and conditions of a promissory note will be required and no fees may be deferred by any person who owes the University any fees, fines, loans or other charges or who has previously deferred fees and failed to make timely payments. A $15.00 fee will be assessed each time a payment is late.

This plan is not available for the summer session.

Monthly Bill Statements

Monthly bill statements are mailed on accounts that do not have an active UM email. An electronic notification will be e-mailed to the official University of Montana e-mail account . It is the student's responsibility to check their mail and official University of Montana e-mail account for these statements and notices. Payments for billed amounts are due by the due date indicated on the statements and electronic message. Failure to make

timely payments will result in an interest charge assessed on balances not paid in full by the following monthly billing. Payments can be made (1) online in CyberBear; (2) at the cashiers station located in Griz Central (2nd floor Lommasson Center); or by mailing payments to Student Accounts, Business Services, The University of Montana, 32 Campus Drive #2304, Missoula, MT 59812-2304.

Non Payment

A student who owes regular fees and charges including room and board or has an overdue debt owed to the University for any fees, fines, or other charges will not be able to register, secure any transcript or record, or access any University facilities or services until the full amount due has been paid or satisfactorily resolved with Business Services. Interest may be charged at the rate of 10% on the balance due from the day after the due date until the full amount has been paid and any attorney's fees or other costs or charges necessary for the collection of the amount owed may be added to the balance due. The University of Montana also reserves the right to use the Montana State Department of Revenue to offset and receive any funds being refunded by the State of Montana. The University of Montana reserves the right to refer unpaid accounts to third-party collection agents under contract with the University of Montana.

Determination of In-State Fee Status

The Montana University System classifies all students as either in-state or out-of-state. This classification affects admission decisions and fee determinations. The basic rules for making the classification are found in Board of Regents' Policy. It is each student's responsibility to secure and review a copy of the policy. Failure to be aware of the rules will not be cause for granting any exceptions to them. A copy of the policy is available from the Admissions Office or the Registrar's Office. It is important to bear in mind that each residency determination is based on the unique set of facts found in each individual's case. Students participating in the Western Undergraduate Exchange or the National Student Exchange programs are not eligible to gain residency. If you have questions concerning your particular case, be sure to contact the unit to which you are applying for admission or at which you are already enrolled. Generally, the Admissions Office or the Registrar's Office will be able to assist you.

With certain exceptions, in order to be eligible for in-state status, a person must meet a 12-month durational residency test. You will have to demonstrate a bona fide intent to become a Montana resident. The 12-month period does not start until some act indicative of intent to establish residency is taken. Mere presence in Montana, enrollment at a unit or rental agreements will not serve to start this period. Sufficient acts to start the period are registration to vote, obtaining a Montana driver's license, registration of a motor vehicle in Montana, purchase of a home in Montana or filing of a resident Montana tax return. The 12-months must be completed by the 15th instructional day to qualify for that term.

Your actions during the 12 month waiting period will be used to determine whether you are in the state as a bona fide resident or merely for educational purposes. The decision on your residency will not generally depend on just one factor. The following are the things you need to do that will support a claim of bona fide residency.

1. Register to vote if you are a voter
2. License a vehicle if you operate one in Montana
3. Obtain a driver’s license if you drive
4. Be physically present in Montana, not out of the state of Montana, for more than a total of 30 days
5. Can Not be claimed as a tax exemption by residents of another state or file taxes as a resident of another state
6. Provide at least 51% of your own financial support (this means you will need to document to us that you have contributed approximately $6000 towards your support during the twelve month waiting period)
7. File a Montana resident income tax return (this is important for all who claim residency in Montana, regardless of the amount of earnings)
8. Only register for six (6) credits or less per semester (including summer school) during the twelve month waiting period. Registering for more than 6 credits creates a strong presumption that you are here for educational purposes, and may disqualify you from achieving in-state status.

Be certain to secure the Board of Regents residency Policy and questionnaire from the Registrar’s Office in the Lommasson Center 201 or at the Registration Counter in Griz Central . At the end of your twelve month waiting period you must complete the residency questionnaire and attach copies of your driver’s license, vehicle registration, voter’s registration and proof of your earnings for the twelve months and return it to the Registrar’s Office for review. This documentation can be submitted to the Registrar’s Office up to 30 days in advance of the petitioners start date and not later than the 15h instructional day of the semester for which the status is sought. When a student petitions or meets the requirements after the 15th instructional day, a change in classification, if granted, will not be retroactive and will become effective for the next term. Reclassification is not automatic and will not occur unless the individual so petitions. It is the student’s responsibility to meet any filing deadlines that are imposed by the appropriate unit of the System. All students should check with the appropriate office to determine the time limits for filing. The appeal process is given in the Regents' policy.

Costs of On-Campus Services

»Housing and Dining Services

Students living in University residence halls are required to contract for a meal plan with Dining Services. Room and board rates are the same for in-state and out of-state students. Occupants may select any meal plan to obtain the number of meals preferred and choose from a variety of room options.

Students who are approved to move out of the residence halls and terminate their meal plan contract will receive a prorated refund based upon the days remaining in the semester less the cancellation fee.

Residence Halls

Rates subject to change

2014-2015 Autumn/Spring Semester room rates in University residence halls are:

Residence Hall	Room Type				
	Double Room	Triple Room	Single Room	3-Person Pod	4-Person Suite
Aber Hall	$1,747	NA	NA	NA	NA
Craig Hall	$1,872	$1,747	NA	NA	NA
Duniway Hall	$1,747	NA	$2,156	NA	NA
Elrod Hall	$1,747	$1,747	Standard - $1,991 Large - $2,156	NA	NA
Jesse Hall	$1,747	NA	NA	NA	NA
Knowles Hall	$1,747	$1,747	NA	NA	NA
Miller Hall	$1,747	NA	$2,277	$2,277	NA
Pantzer Hall	NA	NA	$2,461	NA	$2,461
Turner Hall	$1,872	NA	$1,991	NA	NA

Rates include $6.00 per semester social fee.

Early arrival prior to opening day costs an additional $20.00 per day.

»Dining Services

Dining Services meal plan prices 2012-2013 academic year.

*The prices below are subject to approval by the Board of Regents and may change.

Meal Plan	Autumn/Spring Semester
All Campus	$2,148.00
Food Zoo Plus	$1,938.00
Food Zoo	$1,833.00

Students living in residence halls are required to contract for one of the two meal plans. All meal plans are available to off-campus students, faculty and staff.

Lewis and Clark Village

Rent is $452.00 per month per person regardless of which size apartment you are assigned to. Each resident will be responsible for their own rent payment. Residents may choose to pay either by the semester or by the month. Rent includes a furnished apartment with all utilities paid including cable TV. You must make your own arrangements for telephone service.

»University Villages

Rates subject to change

University Villages housing is available. An application together with $25 processing fee should be submitted to Residence Life Office, 101 Turner Hall, Missoula, MT 59812. A $300 deposit will be required when apartment is assigned.

Housing Apartment Rates (monthly)

Apartment Type	**University Village Building**		
	Craighead and Sisson	**Elliot**	**Toole**
	(All Utilities paid)	(Tenant pays Heat & Elec.)	(Tenant pays Heat & Elec.)
Studio	$567.00	$361.00	$454.00
1-Bedroom	$630.00	$430.00	$599.00
2-Bedroom	$759.00	$533.00	$724.00
3-Bedroom	$852.00	$593.00	$819.00
4-Bedroom	$897.00	None	None

NOTE: These rates are monthly and effective July 1, 2014 through June 30, 2015. All rates include cable TV, water, garbage, and sewer. Tenants are responsible for telephone service and utilities.

Vehicle Registration Fee

All vehicles parking on campus must display current campus vehicle registration between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday year round. Students, staff or faculty may purchase window or hanger decals for $185.00 per year. Students have the option of purchasing semester decals for $92.50. Reserved parking is available on a first come, first serve basis for $555.00 a year. Car pools of three or more commuting drivers may register for $10.00 per person for the year.

Motorcycles are issued decals at $35.00 per year. Day passes (all day parking) for $3.00 per day may be purchased from the Office of Public Safety or the University Center and are valid in all "A" decal required lots only. Hourly pay parking is available for $1.00 per hour. The above prices are subject to change pending approval by the Board of Regents.

Partial refunds on decal are available only through the 15th class day. No refunds will be given on motorcycle, car pool or half semester vehicle registrations.

If a vehicle is sold, transferred or destroyed, the parking decal must be removed and returned to the Office of Public Safety for replacement. There is a $10 replacement fee for all decals lost, stolen or not returned.

More information can be found at the UM Police parking web page.

Other Campus Services

On campus there are other services provided such as the swimming pool, laundry facilities, locker rental, a full service bookstore, prescription pharmacy, testing programs, etc. The rates charged for these services are too varied to present in this publication. If more information is required concerning these services, contact the department providing the service.

Veterans' Benefits for Education Assistance Under Public Law 95-202 and Public Law 815

For Veteran information visit the UM Veterans website.

Financial Aid

Financial aid services are available from two campus locations: the South Avenue location of the Missoula College (MC), and Financial Aid Station located on the second floor of the Lommasson Center Building in Griz Central. Students specific information including the status of the student's aid application is available in CyberBear. General financial aid information including forms, policies and scholarship information is available at the Financial Aid Office website.

Missoula College students:

Enrollment Services-Financial Aid Office

909 South Avenue West
Missoula, MT 59801
(406) 243-7886
Fax (406) 243-7901

All students:

Enrollment Services-Financial Aid
Lommasson Center - Griz Central
Missoula, MT 59812-1254
(406)243-5373
Fax (406) 243-4930
Both offices are fully accessible.

Notice: Any policy is subject to change without advance notice if required by federal or state law, Board of Regents, or Enrollment Services-Financial Aid Office.

Acceptance to UM

Students must be accepted for admission (or readmission) to the University in a degree seeking program before financial aid requests are considered. Students accepted into non-degree categories are not eligible for any financial aid.

Presidential Leadership Scholarships

This award is open to incoming freshmen who have demonstrated high academic achievements, leadership and promise for success through their high school experiences. The award is renewable for four years based on meeting eligibility requirements. The application is available from Enrollment Services-Admissions, the Davidson Honors College, and high school counselors in Montana. The application is also available on-line on the Davidson Honors College website. The application deadline is December 31.

Campus-Wide Scholarships

The University offers a campus-wide scholarship program. Students should apply each year as most scholarships are awarded on an annual basis. Students holding a UM General renewable scholarship will have their awards automatically renewed if they continue to meet the eligibility criteria so need not submit an application again in subsequent years..

Requests for applications for continuing UM students, beginning November 1st, may be directed to the Enrollment Services-Financial Aid Office. The application is also located on line on the Financial Aid Office website. The filing deadline is February 1. Students are notified in March.

New, incoming students who have applied for admission to UM by December 31 will be considered for any scholarships that may be applicable. Notification will be done in March.

The Western Undergraduate Exchange (WUE) scholarship may be available for applicants from participating states. Application for a WUE scholarship is accomplished by applying for admissions to UM. Contact Enrollment Services-Admissions for further information.

Departmental Scholarships

Many departments, including the Missoula College, offer scholarships based on skill or academic potential. Students should contact their major departments for deadlines and more information.

Financial Aid Application

All students who wish to receive any federal funds, including federal parent loans, need based or most non-need based assistance, must file the Free Application for Federal Student Aid (FAFSA). The application is available on the Federal Student Aid (FAFSA) website. Students whose FAFSAs are received and processed by the Department of Education by February 15, and who complete all other documentation requirements are given priority for limited funds. Those who complete requirements later are considered only for federal loan programs and federal Pell Grants.

Determination of Eligibility

Eligibility for need-based financial aid is determined by subtracting the Expected Family Contribution (as determined from filing the FAFSA), scholarships, and other educational assistance from private or public agencies from the Cost of Attendance.

Financial Aid Package

Packages of need-based aid can include a combination of grants, loans and work-study. Students using the FAFSA automatically apply for all possibilities with one application. The types of aid offered will include federal subsidized and unsubsidized student loans for graduate or undergraduate students and federal Pell Grants for undergraduates if qualified. For those who file the FAFSA early and complete all requirements for additional documentation promptly, additional campus aid will be considered. This aid includes federal and state grants for undergraduate students. Federal Perkins loans and either federal or state work study will be considered for all early filers for both degree-seeking undergraduates and graduate students.

Non-need based aid, in the form of unsubsidized federal loans, for students and parents of dependent students will be considered for those families who file the FAFSA and accept these loans.

Distribution of Aid

All financial aid is awarded by the Enrollment Services-Financial Aid Office and distributed through Business Services, usually by crediting aid to the student's account. Aid is disbursed beginning the week before classes to students who have accepted their aid, submitted all required documents weeks in advance of the date and have finalized their registration in Cyberbear. Loans may be canceled under certain conditions if the student no longer desires the debt. Students who are offered work study must obtain employment and complete additional paperwork at the Enrollment Services-Financial Aid Office. Students who work are paid bi-weekly based on the timecard submitted by students and the supervisors.

Additional Requirements for Loans

In order to meet federal requirements, students who receive a federal student loan at the University of Montana must complete an entrance interview requirement and sign a promissory note before a loan will be disbursed. Instructions for entrance and exit counseling and the promissory notes are available on the Enrollment Services-Financial Aid Office website for the University of Montana-Missoula. Select the "Loans" link.

Study Abroad and Financial Aid

Students who desire to study abroad and who enroll in courses that are approved by The University of Montana should contact the Enrollment Services-Financial Aid Office. Instructions will be provided for using financial aid with this type of study.

Other Requirements and Guidelines for Retaining Financial Aid

Financial aid for full-time is based on maintaining a minimum of twelve (12) credits each term.

Students enrolled for less than full-time may receive financial aid. Most grants will be pro-rated based on credit load. Loans are not pro-rated but require a minimum of six credits.

Students enrolling for fewer than six credits are not considered for financial aid with two exceptions; (1) undergraduates who are seeking their first degree may be eligible for a reduced federal Pell Grant, and (2) tuition waivers may be available for those who qualify.

Students can only receive aid for credits that are required for their degree programs. If a student chooses to repeat a course for which they previously received a passing grade that course can only be counted toward their aid enrollment status one more time.

Employment

The Enrollment Services-Financial Aid Office coordinates federal and state work study programs. Open positions are posted on the electronic job board located on the Career Services Student Employment web page.

Non-work study student employment positions are also posted electronically at Career Services Student Employment web page.

Satisfactory Progress

Any student receiving financial aid is required to make satisfactory academic progress in a program leading to a degree. Students must maintain a minimum cumulative grade point average (GPA) and complete a minimum of 70% of all credits attempted. The minimum GPA for undergraduate, Law and Pharmacy students is a 2.0.

Physical Therapy doctoral students need to maintain at least a 2.5 GPS. Graduate students need to maintain at least a 3.0 GPA.

A student must also be able to complete their degree within 150% of the length of their program measured in credits attempted. For instance, a student pursuing a 120 credit bachelor's degree would need to complete their degree prior to attempting 180 credits.

Complete information is available in the Enrollment Services-Financial Aid Office or at the Financial Aid Office website. Select the "Maintaining eligibility" link.

Short Term Loans

Limited short term loan money may be available to registered students who are eligible and submit complete applications. Among other conditions the student must have pending financial aid that will result in a refund to the student to qualify for the loan.

»Tuition Waivers

The Montana Board of Regents has authorized the waiver of tuition for certain categories of students. Applications for any of the tuition waivers listed must be made in writing to the Enrollment Services-Financial Aid Office. The request must be made prior to the start of the semester in which students expect the waiver.

Minimum academic standards are necessary to receive tuition waivers. Other requirements and limitations may apply. Contact the Enrollment Services-Financial Aid Office for application forms or more information.

Montana Veterans Tuition Waiver

- bonafide resident of the State of Montana for fee purposes
- Honorable Discharge
- at one time qualified for veterans benefits under Title 38 of the U.S. Code, but are no longer eligible
- served during a time of war as determined by the Attorney General (World War II, 12-7-41 to 9-2-45; Korean War, 6-22-50 to 1-31-55; Vietnam War, 1-1-64 to 5-7-75; or post-Vietnam world conflicts under certain conditions. Contact the Enrollment Services-Financial Aid Office for further information.)

»American Indian Student Tuition Waivers

- resident of the State of Montana for one year immediately prior to enrollment at The University of Montana-Missoula
- documentation proving at least one-quarter degree blood
- meet admissions guidelines of the University
- must have financial need as determined by the Enrollment Services-Financial Aid Office
- meet satisfactory academic progress according to the standards of the Enrollment Services-Financial Aid Office

»Senior Citizens Tuition Waiver

- permanent resident of the State of Montana
- 65 years of age or older

»University of Montana Employees

- instate resident
- employed at least three-quarter time on the date of registration and for the entire semester
- must be after probationary employment period
- approval from department head & Human Resources every semester

Montana University System Honors Scholarship

- awarded by Board of Regents to top graduating high school seniors in Montana
- student must submit form received from the Regents to The University of Montana Enrollment Services-Financial Aid Office for activation of this waiver

Other

There are several other tuition waivers including war orphans, MUS employees' families, surviving dependents of a Montana National Guard Member, and surviving spouse or children of any Montana firefighter or peace officer killed in the line of duty. Contact the Enrollment Services-Financial Aid Office for details.

All students are afforded the opportunity to apply for two, three and four year scholarships provided by Army ROTC. The scholarships pay for all mandatory tuition and fees, a monthly stipend and $450.00 per semester for books. The monthly stipend for scholarship students is $300.00 in the freshman year; $350.00 in the sophomore year; $450.00 in the junior year and $500.00 in the senior year.

Additional financial assistance opportunities are provided to students that are interested in joining the U.S. Army Reserve or the Montana State National Guard. These programs are referred to as the Simultaneous Membership Program, since the student is involved in the National Guard or Reserves at the same time they are involved in ROTC. These programs have financial benefits that range from $15,000 for a two year program to $50,000 for a four year program. These benefits are very complex and are best understood by stopping in to visit with the Military Science Enrollment Officer.

Students have the opportunity to enroll in both the basic and advance courses offered by the Department of Military Science in the College of Arts and Sciences. The Basic Course is simply the Freshman and sophomore level courses offered by Army ROTC Instructors and no financial benefits are received for enrolling unless the student is on a scholarship. The Advanced Course refers to our junior and senior level courses. All advanced course students are contracted and receive financial benefits. We welcome student involvement in Land Navigation and Drill and Conditioning courses but no benefits are provided for enrollment in these classes.

Residence Life and UM Dining

Residence Halls

The University of Montana-Missoula residence halls are a part of the University and Missoula communities. The campus is a center for educational, cultural, and social activities. Residing in residence halls places the student at the center of these activities. Our mission is to provide safe, clean, healthy and affordable living and learning facilities that foster an inclusive community living environment for students, staff, faculty, and guests. Services provided in these facilities support and nurture educational experiences and personal development at the University of Montana. The University houses nearly 2,300 students in nine residence halls on campus. The residence halls staff is made up of resourceful people. Sharing ideas, observations, or questions with them will benefit residents. Resident assistants offer help and resources when students experience problems with University life. The residence hall room rate includes a furnished room with all utilities, use of laundry facilities, Internet access, and cable TV.

The Montana Board of Regents requires all freshmen and students who have earned fewer than 30 semester credits to reside in the University's residence halls. Students are required to continue living in the residence halls for two semesters or until the student earns 30 semester credits. Any student who moves in to the residence halls at the beginning of the semester is required to reside in the residence halls for the entire semester. Students must be enrolled for at least seven credits to be eligible to live in a residence hall unless they have prior approval from the Director of Residence Life. Exceptions to residence hall living may be made for students who reside with a family member and for students who are married or are single parents. Other exceptions are made under special circumstances on an individual basis. Any student requesting an exception to the residency requirements must submit a request in writing, accompanied by supporting documentation, to the Director of Residence Life. Students are not released from the residency requirements until they receive an official notification from the Director of Residence Life. Students who have earned 30 semester credits or more are not subject to the residency requirements, but are encouraged to live on campus. Housing in the residence halls is assigned on an Academic Year basis, including Fall Semester and Spring Semester. Students requestion to move out during the semester or at the end of Fall Semester must be approved. Housing is available for Spring Semester only for newly admitted students for Spring Semester. All students living in the residence halls are required to contract for one of the on-campus meal plans with UM Dining.

Rooms in residence halls are assigned in order of application completion. The residence halls application is accompanied by a $225.00 fee. $25.00 is a non-refundable processing fee, and $200.00 is a prepayment for housing. Application forms, cacellation policies, and additional information may be obtained from the Residence Life Office website.

UM Disability Services for Students and Residence Life work together to ensure that students with disabilities can participate in all Residence Life programs. If you have a disability and will need to request reasonable modifications for housing, please indicate the type of modifications you are requesting on the housing application and contact Disability Services for Students. Medical documentation may be required. Please note that timely housing applications and requests for accessibility are critical if you wish to have accessible housing when you arrive on campus. To contact Disability Services for Students, please call 406-243-2243.

Lewis & Clark Village

(Upperclass and Graduate Housing)

Lewis & Clark Village offers two and three-bedroom apartments designated for single students without dependents at the University of Montana who will have accumulated at least 60 credit hours by the time they move into the apartments. Lewis & Clark Village is also available to single students who have acquired 30-59 credits and have a 3.0+ GPA with no prior conduct. The apartments are located off campus just south of Dornblaser Stadium on South Higgins Avenue. They are within easy walking or biking distance from the University and are adjacent to the Park n' Ride, which provides free and easy transportation to the UM campus. The apartments are furnished with all utilities paid including cable TV and Internet access.

Prospective tenants may submit applications together with a requested roommate(s). If a tenant does not have a roommate preference, the Residence Life Office will assign roommates based on like gender. As space allows, we will attempt to take in to consideration other living preferences such as age, smoking, alcohol tolerance, and length of agreement.

Applications for the Lewis & Clark Village are available from the Residence Life Office website. Your application must be accompanied by $375.00, $25.00 of which is a non-refundable processing fee, and $350.00 of which is a security deposit.

A complete set of policies, photos, and a site map are available on the Residence Life Office website.

University Villages

The University has 566 apartments for married students, single students with dependents, and students with disabilities who have a live-in care attendant. All apartments are within walking distance of the campus. University Villages consists of three villages with units ranging from studio to four-bedroom apartments.

Housing is assigned according to the date of application and notification is given approximately twenty (20) days before housing becomes available. All applications must be updated every six (6) months in order for applicants to remain on the assignment list. A $350.00 security deposit must be submitted when an apartment is assigned. The security deposit is refundable when the rental agreement is terminated provided the apartment rental fees are current and no damage or cleaning fees are assessed. The security deposit is forfeited if the student cancels after accepting the assigned apartment.

Due to the demand for University Villages housing, applications for University Villages should be submitted well in advance before the desired movi-in date. Applications mus be accompanied by a $25.00 non-refundable processing fee. To apply for University Villages or for additional information on eligibility and policies, visit the Residence Life Office website.

Personal Property

The University of Montana-Missoula is not responsible, by state law, for damage to, or theft of, the personal property of students on campus (for example: damage to clothing or a stereo due to fire, smoke or water). Students are encouraged to adequately insure their personal property and to protect their property by locking their room/apartment and car and taking other simple precautions to prevent theft and damage.

Dining Services

Winner of 22 international dining awards and home to nationally renowned chefs, University Dining Services (UDS) is dedicated to bringing you a variety of delicious, well-balanced meals at reasonable prices. Our extensive selection of dining options include: the Food Zoo, the Cascade Country Store, La Peak, Biz Buzz, Think Tank, Recess, Doc's Sandwiches, Garden City Greens, Soups N Such, Pizza Hut, Wing Street, Famous Dave’s BBQ, Ui-Cha! (Vietnamese), Byte Me Burgers, Eson Gib Sushi, Casa Nina and two Jus Chilln' restaurants. All University Dining Services and Jus Chilln' locations accept cash, checks, Visa/Mastercard, UMoney and appropriate meal plans.

The Food Zoo, located in the Lommasson Center, is our buffet style restaurant which features an ever-changing choice of entrees, homemade soups, an extensive salad bar, daily pastas and gourmet pizzas, fresh fruits, Bear Claw Bakery desserts, cooked-to-order specials, and vegetarian and vegan options.

The Cascade Country Store, located at the west end of the Lommasson Center, boasts a bright, food-court style atmosphere with pizzas, Mexican specialties, grilled favorites and a fresh deli. Soups, salads, Bear Claw Bakery pastries, a wide variety of grocery items, organic products, and health and beauty aids are just some of the options available. The expansive outside deck is a popular stop for many students.

La Peak, located in the Cascade Country Store , features Craven's gourmet coffee and espresso drinks, fresh crepes, breakfast sandwiches and Bear Claw Bakery goodies. The lodge-like atmosphere makes La Peak a great place to socialize with friends.

The University Center Food Court, located on the second floor of the University Center, features a contemporary, open atmosphere, and exceptional cuisine. Food choices include Pizza Hut, Garden City Greens, Soups N Such, Ui-Cha! (Vietnamese), Wing Street, Famous Dave’s BBQ, Doc's Sandwiches, Eson Gib Sushi and the award winning Casa Nina.

Biz Buzz, located on the lower level of the Gallagher Business Building can help you jump start your day with a fresh cup of Craven's coffee, espresso, or Chai tea. They also serve delicious hot paninis, fresh baked pastries from Bear Claw Bakery, bagels, sandwiches, soups and salads.

The Think Tank, located above the Urey Lecture Hall, offers Liquid Planet gourmet coffee, espresso, Chai tea, Italian soda, ice-cold beverages, and grab and go items like sandwiches, soups, salads, and snacks. Whether you need that morning boost or a lunch on the go, the Think Tank has you covered.

Recess is our newest coffee shop. Located in the Phyllis J. Washington Education Building, Recess offers Liquid Planet gourmet coffee and espresso, Chai teas, bagels, Bear Claw Bakery pastries, sandwiches and Italian sodas. For a satisfying break between classes, stop by Recess.

There are two Jus Chilln' locations on the main campus. One is located on the first floor of the University Center. The other can be found at the Fitness & Recreation. Both restaurants feature Liquid Planet gourmet coffees, smoothies, baked goods and grab and go items. Enjoy delicious soups and sandwiches at the UC location.

Meal Plans

To ensure you have healthy and nutritious food options, The University of Montana requires students living in a residence hall to purchase a meal plan. A meal plan is a pre-paid purchase of meals for the entire semester. UM Dining Services offers two meal plans designed for students living on campus: the ALL CAMPUS and the LOMMASSON PLUS. Each plan provides a Weekly Meal Plan Fund designed to ensure that meals can be purchased for the entire semester. Food purchases are deducted from your Weekly Meal Plan Fund and may be used as quickly or as modestly as you choose. Weekly Meal Plan Funds reset every Sunday morning; unused Weekly Meal Plan Funds are NOT carried forward from one week to the next. For full details, visit the UM Dining Servcies website and click on "Meal Plans" or call 406-243-6325. The ALL CAMPUS Meal Plan provides campus-wide dining flexibility and is accepted at all Dining Services locations. The LOMMASSON PLUS Meal Plan is accepted at the Lommasson Center restaurants *(The Food Zoo, Cascade Country Store),* La Peak, and Jus' Chill'n located in the Campus Fitness and Recreation Center.

A student may convert their meal plan from ALL CAMPUS to the LOMMASSON PLUS Meal Plan only once during the first two weeks of the semester. Upgrades, from the LOMMASSON PLUS Meal Plan to the ALL CAMPUS Meal Plan, are accepted throughout the semester.

The COMMUTER MEAL PLAN is designed for students living off the main campus who want the convenience of pre-purchased campus dining. Open your COMMUTER MEAL PLAN account with as little as $20.00. For deposits of $50.00 or more UDS will add a 10% premium to your account. COMMUTER MEAL PLAN funds may be used at any of UDS' 14 restaurants, both Jus Chill'n locations on the main campus and the College of Technology snack bars. Make additional deposits anytime ($20 minimum). Payment methods include cash, check, credit card UMoney and Cyberbear/student account (some restrictions apply, call 406-243-6325 for details).

For more information on meal plans and other special dining services, please contact the University Dining Services main office at (406)243-6325 or visit the UM Dining Servcies website.

Career Services

The Office of Career Services assists prospective, current and alumni students in developing viable career objectives, choosing academic majors and creating the plans necessary to achieve those goals. Assistance is also provided to students who wish to modify their career and academic goals to improve their employment options. Career Services provides a wide array of services designed to facilitate the transition from education to employment, including: career counseling and assessments; workshops on resume writing, interviewing and job search strategies; taped mock interviews; on-campus interviews with employers; Griz eRecruiting, UM's on-line recruitment system; and student employment.

Career Services maintains an extensive on-line library of current resources on general and specific career and educational options, resume, interviewing and job search reference materials and employment resources.

A variety of employment and career fairs are hosted each year to bring students and employers together to discuss volunteer, internship, research, part-time and full-time employment opportunities. The Student Employment Fair, Big Sky Career and Academic Enrichment Fair and Health Professions Fair are held each Fall semester. The Educators' Career Fair is open to teaching, administrative, school counseling, speech language pathology, and school psychology professionals and is held each spring semester.

All UM students are eligible to establish a free Griz eRecruiting account which allows students to post their resumes on the web for viewing by and referral to employers, participate in the on-campus recruiting program and view and apply for current job and internship vacancies in the online jobs database.

For additional information, contact the Office of Career Services at 154 Lommasson Center, call (406) 243-2022, e-mail: careers@umontana.edu or visit the UM Career Services website.

Student Employment

Student Employment is an online job posting system for employers and online job search and application process for students. This makes it possible to post jobs for on-and off-campus, work-study, non-work-study, and volunteer employment. Student Employment works closely with Financial Aid and Student Payroll to assure students are being hired and paid within the established guidelines. Student Employment hosts a free Student Employment Fair during the first week of classes every fall. We also coordinate National Student Employment Week and the Student Employee of the Year (SEOTY) Award.

For additional information, contact the office of Student Employment at 154 Lommasson Center, call (406) 243-2239, email studentjobs@umontana.edu or visit the UM Student Employment website.

Testing Services

The Office of Testing Services is a member of the National College Testing Association and Consortium of College Testing Centers and is recognized as a NCTA certified test center. Testing Services subscribes to the NCTA professional standards and guidelines, providing the administration of educational, professional licensing, and certification exams. Examples of our services include:

- National standardized academic admissions exams (ACT, GRE, GMAT, MCAT, LSAT, PCAT, MAT, TOEFL, etc.)
- Professional certification exams (CPA, PRAXIS, NREMT, PTCE, DANB, MPRE, ACSM, ACE, Microsoft Office, etc.)
- Information technology certifications (CompTIA, Adobe, Cisco, Microsoft, etc.)
- College credit by examination through CLEP and DSST
- Proctoring services for UM students, online, and distance learning programs

For additional information, contact Testing Services at Lommasson Center, Suite 154, call (406) 243-2175, or testingservices@umontana.edu, or visit the UM Testing Services website.

Internship Services

The University of Montana offers internships in most disciplines. Internships can be part- or full-time, paid or unpaid, and generally run the length of an academic semester. Internships are supervised by key faculty members and allow students to work in positions related to their academic and career goals while utilizing knowledge, theory, and skills learned in the classroom. Learning objectives complemented by faculty-assigned reflective learning projects or reports distinguish and showcase internships as essential educational experiences. Internships are available locally, state-wide, and throughout the nation in various settings, including non-profit agencies, small businesses, multi-national corporations, and city, state, and federal government offices. International internships are also available, many through a partnership with IE3 Global Internships. More detailed information is available at Internship Services, Lommasson Center 154; (406) 243-2815; fax (406)243-5866; or visit the website at: www.umt.edu/internships.

Disability Services for Students

Students with disabilities can expect access at the University of Montana-Missoula. Wherever possible, the University exceeds mere compliance with the civil rights laws of Section 504 of the Rehabilitation Act, the Americans with Disabilities Act, and the Montana Human Rights Act. The University's programs are readily accessible to and usable by people with disabilities. The campus assures Program access is delivered to the maximum extent feasible and in the most integrated manner possible.

Disability Services for Students, a student affairs office, leads the University's program access efforts for students. Disability Services provides and coordinates reasonable modifications and advocates for an accessible and hospitable learning environment. We encourage self-determination and self-reliance by students with disabilities. Examples of services include priority registration, physical accessibility arrangements, academic adjustments, auxiliary aids (readers, scribes, sign language interpreters, etc.), alternative testing, conversion of print textbooks to e-text, assistive technology assistance, and other reasonable modifications. To achieve equal access, Disability Services vigorously pursues the removal of informational, physical, and attitudinal barriers to all University programs.

Students with disabilities should plan ahead and get in touch with Disability Services prior to arriving on campus. For additional information, contact Disability Services for Students in Lommasson Center 154, by phone at (406) 243-2243 (Voice/Text), by video phone at (406) 203-0591, or or by email at dss@umontana.edu. Please visit the UM Disability Services for Students website to find details on our services.

The UM Veteran's Education and Transition Services (VETS) Office

The University of Montana's Veteran’s Office has moved to the new Veteran's Education and Transition Services (VETS) location. The VETS Office is located on the Southeast corner of the Mountain Campus at 1000 E. Beckwith Avenue, where Beckwith Ave. becomes Campus Drive. The office serves all UM veterans and their family members, including those attending the Missoula College. VETS Office hours are M-F 8 a.m. - 5 p.m.

Contact information:

UM VETS Office
1000 E. Beckwith Avenue
veterans@umontana.edu
UM Vets Office website
406-243-2744 Phone
406-243-5444 Fax

Foreign Student and Scholar Services

The office of Foreign Student and Scholar Services (FSSS) assumes responsibility for the general welfare of foreign students at the University of Montana from admission to gradation and practical training. It provides direct support services, consultation, and liaison. The office assists in the reception and orientation of foreign students and helps with their integration into the University and community. It interprets immigration regulations and laws and assists students in maintaining legal status and obtaining benefits related to their visa status. Staff members provide advising for academic and personal concerns, cultural adjustment, financial problems, and other concerns that arise.

The staff works with the International Student Association and other student groups, as well as the Missoula International Friendship Program to sponsor cultural activities, a speaker's bureau, a community hospitality program for students, leadership opportunities for students, and the annual International Culture and Food Festival. FSSS coordinates the UM Global Partner Program, a campus peer-mentioning program. It offers educational fields trips; winter and summer break activities, as well as initial and on-going orientation and educational programs on relevant topics. FSSS manages the campus' International House, an activity center for inter-cultural events.
Foreign Student and Scholar Services works closely with other service and advising offices on campus to optimize those services and their visibility to foreign students.

Foreign Student and Scholar Services prepares certificates or petitions for the Exchange visitor J-1 visa and advises foreign scholars who need to change or extend their visa status, travel temporarily out of the United States or bring dependents to this country. Finally, the office serves as liaison to federal agencies dealing with foreign student and scholar concerns, such as the US Citizenship and Immigration Service, Department of Labor, Department of State, Internal Revenue Service and Social Security Administration. For more information visit the Foreign Student and Scholar Services website or contact us at fsss@umontana.edu.

Office of International Programs

The Office of International Programs (OIP) promotes and provides international life-changing experiences and related educational opportunities, serving as a resource that contributes to the culture of a globally-minded community through its several different sections. The OIP is responsible for the recruitment of all international students to UM through a variety of programs including Study Abroad, Partner Programs, English Language Institute, Undergraduate Pathway (UP) Program, and Full Admissions. The OIP works with its partners to receive sponsored international students and administer their programs. The English Language Institute (ELI) department of the OIP serves international students who wish to improve their English language and academic skills in order to pursue studies at UM or another higher education institution. The OIP also offers students the exciting opportunity to study abroad in one of over 50 countries through three different UM sponsored programs: Faculty-Directed Programs, Partner Universities, and International Student Exchange Programs (ISEP). Global Gateway, an innovative educational service portal within the OIP, develops partnerships with the UM campus, local schools, and community organizations that promote cultural awareness and sharing foreign cultures, traditions, and customs. For additional information, visit OIP in the International Center, call (406) 243-2288, email oip@umontana.edu, or visit the International Programs website.

English Language Institute

UM offers an intensive English program through the English Language Institute. Students are enrolled in 20 hours of class each week. ELI's curriculum addresses the needs of international students whose scores are below UM language requirement scores of 525 ITP/ 70iBT. ELI courses also address the needs of students who want to raise their English language proficiency in order to gain admission to a university or college where English is the language of instruction. Through this program, ELI students can begin their university studies at UM in several ways. They can successfully participate in the ELI/UM Bridge Program, show their academic readiness through ELI coursework, or meet the TOEFL requirements. For more information, visit the English Language Institute website.

Curry Health Center

406-243-2122

Curry Health Center provides affordable, accessible, high quality, student-centered health services to University of Montana students to enhance student learning, promote personal health and development and teach important life skills.

Curry Health Center is YOUR campus based health care center, with services designed to meet the needs of college students and the campus community.

General Information

The Curry Health Fee is paid at registration by students who enroll for seven credits or more (excluding distance only students). Students taking less than seven credits per semester may elect to pay the Health Fee at any time during the semester. The Curry Health Center provides a wide range of primary health care and health

promotion services at discounted rates well below what students would generally find in the Missoula community.

Services in Wellness and Student Advocacy Resource Center (SARC) are available to all students. Services in Medical, Counseling and Dental are available only to students who pay the Curry Health Fee.

We recognize the busy nature of student schedules and seek to provide accessibility for both urgent needs and more routine care via appointments or walk-ins. We are happy to coordinate care with providers "back home" or assist with referral to community resources for problems beyond the scope of the Curry Health Center.

Medical Services

406-243-4330

Curry Health Center provides both primary health care services as well as walk-in care services to the University of Montana student population.

- Traveler's Health (Traveler's Health Services are also available to UM Faculty and Staff)
- Allergy Shots
- Appointment & Walk-In Care
- Preventive Care
- Injury & Illness
- Women’s & Men’s Health
- Saturday Clinic
- Lab & X-ray

Counseling

406-243-4711

Mental Health Crisis Line

800-273-TALK

Counseling provides rapid access and brief therapy for University of Montana students.

- Individual & Groups
- Psychiatry
- Crisis Services

Behavioral Health Options

- Alcohol Classes
    - Out-Patient Counseling
    - Substance Use Counseling

Dental

406-243-5445

Dental care is available to students who have paid the Curry Health Fee. The Dental Clinic's primary focus is on urgent and preventative care. While urgent care is given priority, routine dental care is also provided as time allows. Charges for dental services are set at a substantially lower rate than the private sector.

Services Provided

1. Urgent dental care.
2. Fillings, root canals, simple extractions, crown and bridge procedures (as time permits).
3. Teeth cleaning, periodontal scaling, and oral hygiene instructions.
4. Routine exams and X-rays (‘checkups') on a limited basis-one per year.
5. Night guards for TMJ disorders and protection from grinding.

Referrals to specialists or other dentists are provided for students whose dental needs are beyond the scope/capabilities of the clinic, e.g., oral surgery, complex root canals, orthodontics, dentures, etc. Charges incurred at private offices are the student's responsibility.

The Student Insurance plan does **not** cover dental charges.

Wellness

406-243-2809

Wellness at Curry Health Center provides health education and wellness services to students to help them stay safe and healthy, now and in the future.

- Safer Sex Resources
  - Tobacco Quit Kits
  - Personal Health Coaching
  - Stress Management
  - Peer Educator Training

Student Advocacy Resource Center (SARC)

406-243-5244

24- Hour Crisis Support Line

406-243-6559

Our advocates and staff provide support to anyone who has experienced sexual assault, relationship violence, stalking, and discrimination. The goal of our confidential advocacy services is to help ensure client safety and support personal autonomy, worth, dignity and power.

Our services are comprehensive and we actively listen, believe in, assist and support our clients. SARC interns and professional staff provide brief counseling services for students who have experienced sexual assault or relationship violence. Based upon your decisions and choices, we also provide referrals and connections within the justice, medical, and social service systems.

Your communications with SARC are confidential. Law enforcement, University administration, faculty, and/or family members will not be contacted by SARC unless you request us to do so. Additionally, you have the option of being completely anonymous in your interactions with SARC.

Services provided

- Drop-in Support Center and 24-hour Support Line
- Crisis Intervention and Case Management
- Academic, Medical, and Law Enforcement Advocacy
- Individual and Group Counseling

Health Services Pharmacy

406-243-5171

The Health Services Pharmacy, located in the Curry Health Center building, offers students a complete prescription service and accepts many 3rd party insurance plans at very reasonable rates. The pharmacy is operated by the School of Pharmacy in cooperation with Curry Health Center and is used for training pharmacy students under the supervision of registered pharmacists.

Insurance Billing

406-243-2844

Because of your privacy rights and concerns, Curry Health Center will not automatically bill your insurance plan for services received at Curry Health Center. If you would like to file an insurance claim for services received at Curry Health Center, you must request this through the clinic that you received services from. Curry Health Center will provide a “Walkout Statement” to you that you can send to your insurance. Because your insurance company reimburses you directly, you are responsible for paying charges incurred at Curry Health Center, not your insurance company.

Curry Health Center is not a Medicare/Medicaid provider, nor do we accept direct payments from insurance companies.

UM Police Department

The UM Police Department is composed of the UMPD Police and UMPD-Parking Division. Both areas of UMPD work in partnership with the campus community to provide the most professional, effective public safety services possible. From parking management to crime prevention, the University of Montana Police Department is dedicated to supporting an environment which is safe and conducive to learning.

UMPD - Police

The University of Montana Police Department (UMPD) serves and protects the students, staff, faculty, and all people and property within the University of Montana campus and properties.

Both Police Dispatchers and Officers are on duty 24 hours a day, every day of the year. Our Police Officers and Dispatchers are certified and trained by the Montana Law Enforcement Academey (MLEA). UM Police Officers have the exclusive responsibility to act upon law-enforcement matters and perform police functions for the UM

Main Campus and the Missoula College. UM Police Officers investigate all crimes and enforce federal, state, and local laws as well as University of Montana policies.

All sworn UMPD officers have successfully completed training at the Montana Law Enforcement Academy (MLEA) or equivalent training recognized by the Montana Peace Officer Standards and Training council. Our officers have the same authority and powers of arrest as any officer in the state In addition to the MLEA training, UMPD officers receive additional training throughout the year.

UMPD - Parking Division

The Parking Division of UMPD is dedicated to managing a shared resource to provide the best alternatives and access to the University of Montana campus. Parking is limited. To help alleviate some of this congestion UMPD helps fund ASUM Transportation and Mountain Line Transportation. This helps provide free alternative transportation options to our students, faculty, and staff.

All surface parking lots as well as street parking require permits specific to the area from 7 a.m. to 5 p.m., Monday through Friday. Although permits are not required by UMPD after hours and on weekends, Quick Stops, Service and Delivery, and ADA spots are enforced 24 hours. Events on campus may also charge for parking after hours. **Caution: Read signs carefully.** Each surface parking lot is signed at the entrance and further restrictions are usually designated within the lot.

Visitors here for special events are advised to make arrangements with the department with which they have business prior to their visit.

For more information, visit the UM Police Department website.

University Center

The University Center enriches campus life by providing student-focused opportunities, programs, services, and space.

- The University Center is student-focused. We provide students from diverse backgrounds with the guidance and resources to define and participate in their own learning and development. Student learning, discovery, and engagement are at the core of our work.
- The University Center is committed to providing a broad range of opportunities that enrich the university experience. Through activities, governance, employment, and volunteerism students develop life-long leadership and professional skills.
- The University Center designs programs and activities that appeal to a wide variety of student interests. Our core values – learning, leadership, diversity, and fun – reflect our commitment to relevant and intentional programs that enhance students' overall educational experience.
- The University Center offers a myriad of convenient services including an art gallery, hi-tech study lounge, game room, theater, conferencing services, shipping and mail center, bank and ATMs, copy center, full-service hair salon, bookstore, market, food court, and campus OneCard.
- The University Center provides an inclusive, clean, well-maintained, and environmentally-conscious space for the campus and greater community to meet, study, and interact.

Visit us online at the University Center website.

Sports and Recreation

Organized sports and recreational activities are an important part of academic and leisure life at the University.

Intercollegiate Athletics

The University of Montana-Missoula is a Division I member of the National Collegiate Athletic Association and the Big Sky Conference. The athletic program consists of 15 varsity teams. The men's program includes competition in basketball, cross country, football (Football Championship Subdivision), indoor and outdoor track, and tennis. The women's program offers competition in basketball, cross country, tennis, indoor and outdoor track, volleyball, golf, softball, and soccer. Athletic scholarships are offered in all sports.

Campus Recreation

The Campus Recreation Department offers a wide variety of services to the students, faculty and staff of The University of Montana. A comprehensive intramural sports program provides opportunities for men's, women's and co-recreational team competition and individual events. An outstanding Fitness Program offers yoga, pilates, strength training and other sports specific conditioning.

Recreational facilities include gymnasiums, weight rooms, and indoor running track, handball and racquetball courts, multipurpose fitness studios, tennis courts, indoor swimming pool, indoor climbing wall, and a golf course. Sports equipment such as balls, bats, gloves, etc. can be checked out for free and other equipment such as volleyball, nets, badminton sets, and horseshoes require a cash deposit.

The Outdoor Program offers services to students, faculty, staff and the general public, supplying information, training, and education about outdoor pursuits and sports. Classes are offered on a non-credit basis for activity credits through the Health and Human Performance Department. The Outdoor Program also organizes outdoor trips and hosts high adventure and educational films and lectures.

University Golf Course

The University of Montana-Missoula has a picturesque nine/eighteen hole golf course open to students, faculty, and staff, as well as the general public. It is located approximately one-half mile south of the main campus.

The course has a clubhouse restaurant, driving range, putting and chipping green. The pro shop is well-stocked and club and cart rentals are available. Private lessons are offered by appointment with an assortment of rate structures.

Grizzly Pool

The University of Montana Grizzly Pool is a 7-lane, 25-yard indoor pool. Present programs include: fitness swims, recreational swims, classes for all ages (infant to adult), life guarding and WSI classes, pool rentals, Swim Shop, and competitive skills lessons.

Facilities

Information Technology

Information Technology (IT) provides computing, network, and telecommunications infrastructure, supports enterprise level software, and offers a range of technology support services for the Missoula campus. The organization also coordinates with the other Montana University System campuses, the local community, and the State of Montana to ensure consistency of offerings and policy. IT at the University of Montana is led by a Chief Information Officer (CIO), who reports to UM's President and sits on the President's cabinet and council of vice presidents.

Central IT is organized into five major units of service delivery:

- **Enterprise Information Systems,** responsible for Banner deployment, including student, finance and Human Resource modules.
- **Central Computing Services,** responsible for IT facilities, servers and database administration.
- **Network and Telecommunication Services,** responsible for the campus network infrastructure, telephone system and UM's network connectivity across Montana.
- **Directory Services,** responsible for central authentication, directory and email services.
- **Technology Support Services** , responsible for a variety of client support services including contracted support services, UM’s helpdesk, web application development, web content support services, software licensing, classroom technology support and computer lab management.

For more information, visit the IT website or call (406) 243-4357.

Montana Forest and Conservation Experiment Station

The Montana Forest and Conservation Experiment Station was established by the Montana Legislature in 1937 and is devoted to scientific investigation of natural resource problems. The station serves as a research unit of The Montana University System with the Dean of the College of Forestry and Conservation functioning as station director. The station seeks, through its research; demonstration; and outreach, to enhance public understanding of forestry and conservation and to contribute to responsible management of Montana’s natural resources.

The Shafizadeh Rocky Mountain Center for Wood and Carbohydrate Chemistry

The Center is a research facility in the Department of Chemistry and Biochemistry specializing in development of new chemical products from carbohydrates (monosaccharides to polysaccharide) found in grains and wood. Targeted applications include consumer products and environmentally-safe industrial products such as biodegradable synthetic polymers, pharmaceutical components, and materials for industrial processing.

Stella Duncan Memorial Research Institute

The Institute was created initially by a bequest from an alumna of the University; her original interest was in the causes and treatment of bronchial asthma. Asthma is intimately associated with immune response, which involves Somatic Hypermutation. Our work focuses on the *in vivo* mechanism of mutagenesis associated with Somatic Hypermutation, in the tumor suppressor gene *p53*, responsible for about half of human cancers, and in other mutable systems. We have recently published a manuscript on this mechanism in the journal, Carcinogenesis. Our basic research in this area has led to a deeper understanding of the immune response, which could open the way for new treatments that counteract or modify hypersensitive responses occurring in allergic asthma.

Institute for Tourism and Recreation Research

In 1987, the Institute for Tourism and Recreation Research (ITRR) was established to conduct objective research in tourism and recreation and serves as the research arm for Montana's tourism and recreation industry. ITRR is housed in the College of Forestry and Conservation. ITRR's mission is to provide leadership, direction, and information to assist the tourism and recreation industry in making informed decision about planning, marketing, policy, and management. Furthermore, it is ITRR's mission to conduct valid, reliable, and objective research designed to assist public agencies, businesses, and non-profit firms who provide visitor services or manage parks, recreation areas, and other facilities used by visitors.

Wilderness Institute

The Wilderness Institute seeks to further the understanding of wilderness, natural resources, protected areas, and public lands through education, research, and stewardship.

The Institute administers the Wilderness and Civilization program, an interdisciplinary program in natural resources conservation that offers students courses in environmental policy, ecological literature, Native American studies, field studies, and conservation ecology through in-depth small-class discussions, field trips, service projects, and public lecture series. Students receive a minor in Wilderness Studies upon completion of the program.

Services

Use the links at the lower left to navigate to pages featuring various University of Montanan services and organizations, detailed information regarding expenses, and more.

Community Services

Bureau of Business and Economic Research

The Bureau of Business and Economic Research has been providing information about Montana's state and local economies for over 60 years and is proud to be the most comprehensive economic analysis center in the state.

House on the campus of The University of Montana-Missoula, the Bureau is the research and public service branch of the School of Business Administration. On an ongoing basis, the Bureau:

- analyzes local, state, and national economies
- provides annual income, employment and population forecasts
- conducts extensive research on forest products, manufacturing, health care and Montana Kids Count
- designs and conducts comprehensive survey research at its on-site call center
- presents annual economic outlook seminars in cities throughout Montana
- publishes the award-winning Montana Business Quarterly

Montana Cooperative Wildlife Research Unit

The Montana Cooperative Wildlife Research Unit performs research designed to address the needs of cooperators, bridging the gap between applied and basic wildlife science. Our studies provide new insights useful to management and conservation, based on understanding the ecological mechanisms that underlie habitat requirements and demography of individual and coexisting wildlife species. Research emphases within the Unit include ecology and management of carnivores, applied landscape ecology, management of large game, interactions between forest management and wildlife, environmental influences (predators, habitat, ungulates) on demography and diversity of birds, habitat requirements and community ecology of birds, and comparative demography and life history strategies of birds in differing environmental and geographical contexts. Other research topics are addressed as needed, in keeping with the Cooperative Research Program's mission to best meet the needs of the cooperators by remaining flexible and open to new areas of inquiry. When Cooperator's needs occur outside Unit expertise, the assistance of appropriate University faculty will be recruited.

Unit staff will advance the training and education of graduate students at the University of Montana by teaching up to one graduate-level course per year in wildlife science, chairing graduate committees of Unit students, and serving on graduate committees of non-Unit students. Technical support and training will be provided to Cooperators and other agencies as the need exists.

Objectives of Coop Units

- Conduct research into the ecology of renewable natural resources, and to investigate the production, utilization, management, protection, and restoration of such resources. This research will be relevant to the needs of the State, the geographical region, and the Nation.
- Provide technical and professional education on the graduate and professional levels, in the fields of renewable natural resource sciences.

- Make available to resource managers, land owners, other researchers, and other interested public, such facts, methods, literature, and new findings discovered through research.
- To disseminate research findings through the publication of reports, bulletins, circulars, films, and journal and magazine articles.

Montana Campus Compact

The University of Montana is a member in good standing of The Montana Campus Compact. MTCC is a statewide coalition of college presidents and chancellors committed to renewing the public purposes of higher education by promoting campus-community collaborations and civic engagement activities. Since 1993, these campus leaders have represented two-and four-year, public, private, religiously affiliated, community, and tribal colleges across Montana. MTCC supports and encourages activities such as volunteering, community service, and service-learning through its programs, which include:

- MTCC Campus Corps
- Service-Learning Workshops and Faculty Development
- MTCC VISTA Project
- Compact Service Corps
- Montana Athletes in Service Award
- Careers in the Common Good Scholarships

For more information regarding MTCC member benefits and services, please contact the MTCC headquarters office at (406) 243-5177 or online at the Montana Campus Compact website. For MTCC services at UM, please contact the Office for Civic Engagement at (406) 243-5531 or see their listing under The Office For Civic Engagement.

The Office for Civic Engagement

The Office for Civic Engagement (OCE) is honored to serve as The University of Montana's primary agent of community activism and civic responsibility. It is our mission to cultivate civic competency through curricular and community-based experiences. We accomplish this by collaborating to build networks of reciprocity and partnership between campus and community, engaging people in service to connect people to place to provide for engaged participation in a democratic society, and enriching student learning and scholarly pursuits. The OCE is a unit of the Davidson Honors College and operates as an affiliate of the statewide Montana Campus Compact (MTCC) organization (see separate listing). The OCE is located in the Davidson Honors College, room 015, and can be reached at (406) 243-5531 or the Office for Civic Engagement website.

OCE Programs:

- Student Volunteer Programs - Throughout the school year, OCE coordinates several community service programs for students to get actively involved in the community including Service Saturdays, Alternative Breaks, Adopt-A-Family and more. The OCE hosts the Volunteer Fair each semester to connect students with local nonprofit organizations and volunteer opportunities.
- Pathways of Service Leadership Program - This new program is designed to develop students as leaders through an inclusive process that revolves around service as the vehicle for leadership development and social change in preparation for social impact careers after graduation.
- AmeriCorps* VISTA - The OCE provides students and recent graduates with the opportunity to engage in national service.
- Nonprofit Administration Programs - The OCE facilitates the minor in nonprofit administration and the Nonprofit Leadership Alliance national certificate program in nonprofit administration. Both are degree enhancement programs designed to assist students to achieve skills and abilities in preparation for careers in the nonprofit sector. The OCE also coordinates the Online Professional Certificate Program in Nonprofit Administration, a series of short courses designed for busy professionals who want to hone their skills in specific areas such as grant writing, financial management and fund raising, and serves as the primary advising office for MPA students in the nonprofit administration track.
- Service Learning - Service learning is an innovative method of teaching and learning in which students, faculty, and community partners work together to enhance student learning by applying academic knowledge in a community-based setting. The OCE works with faculty and departments to create meaningful service learning partnerships with community organizations and attain service learning designation status for their courses. Students can search for these courses using the service learning attribute in CyberBear.

Nonprofit Leadership Alliance

The University of Montana is an affiliate of the national Nonprofit Leadership Alliance (NLA). The NLA program at UM is designed to be a degree enhancement certification program that complements a student's major. The program provides students with academic and extra-curricular opportunities to gain skills and abilities in

preparation for professional careers in the nonprofit sector. All Nonprofit Leadership Alliance students acquire knowledge and skills in general nonprofit management, fund-raising principles and practices, board committee development, program planning, and grant writing. Upon completion of the NLA requirements, students receive the national Certified Nonprofit Professional (CNP) credential. The Office for Civic Engagement operates the Nonprofit Leadership Alliance program in addition to the minor in non-profit administration. For more information contact (406) 243-5159 or browse the Nonprofit Leadership Alliance website.

The Clinical Psychology Center

The Clinical Psychology Center (CPC) is operated by the Department of Psychology at the University of Montana. The CPC provides confidential assessment, consultation, intervention, and psychotherapy services. We are able to support children, adolescents, adults, couples, families, and groups.

The CPC is a training clinic, staffed by doctoral students in Clinical Psychology and School Psychology. Although we are located on the University of Montana campus, the CPC serves the entire Missoula community. Our services are provided by student clinicians under direct supervision of licensed clinicians from the Department of Psychology faculty.

You may contact the clinic at (406) 243-2367 or by email at CPCFrontDesk@mso.umt.edu. For more information, visit the Clinical Psychology Center website.

UM Physical Therapy Clinic

The Nora Staael Evert Physical Therapy Clinic at the University of Montana provides services that include physical therapy and wellness to University of Montana students, faculty, and staff and active individuals of all ages in the community. In addition to physical therapy services, the UMPT Clinic also provides physical therapy and fitness programs for people with physical limitations, disabilities, and chronic illnesses. Programs and services include neurology and chronic disease PT services, sports and orthopedic PT services, and the New Directions Wellness Center.

For more information, you may contact the clinic at (406) 243-4006 or visit the offices in the Skaggs Building, room 129.

Organizations

Alumni Association

The University of Montana Alumni Association, established in 1901 by Eloise Knowles, represents more than 85,000 graduates, former students, and friends around the world. The mission of the Association, with offices in Brantly Hall, is to "identify and serve the needs of this University, its alumni, students and friends." The Alumni Association sponsors and helps coordinate Homecoming, Charter Day, Distinguished Alumni awards, Senior Recognition Day, scholarships, internships, and commencement reunions. The Association also connects alumni with currently enrolled students who are exploring career options. Visit the Alumni website for more information.

Associated Students of the University of Montana (ASUM)

Associated Students of the University of Montana (ASUM) Student Government

The Associated Students of the University of Montana is the recognized representative body for both undergraduate and graduate students at the University of Montana. Through ASUM, UM students can voice their opinions and concerns, establish new programs and services for the benefit of all UM students, volunteer on a variety of influential committees, and fund almost 200 student groups on campus. As the only elected, legitimate voice for all UM students, the ASUM Senate meets weekly to discuss topics and find solutions to issues pertinent to students at UM. ASUM offers a variety of beneficial services to students that have paid the student activity fee, and works in the best interest of all UM students. For more information, please contact ASUM at 243-2451, check out the ASUM website, or stop by the ASUM office at UC 104.

ASUM Child Care Preschool and Family Resources

The ASUM Childcare Preschool and Family Resources operates five child care and early education centers. Child care is available to students, faculty, and staff. The centers are open for children 18 months to 6 years old. The program provides referrals to private residences providing child care for children ages new born to 12 years as well as a variety of family resources. For more information, please contact us at 243-2542, the ASUM Child Care Preschool and Family Resources website, or stop by the Child Care office at UC 119.

ASUM Legal Services

ASUM Legal Services provide limited, low-cost legal services to activity fee paying students at The University of Montana and Missoula College. For more information, please contact us at 243-6213, the ASUM Legal Services website, or stop by ASUM Legal at UC 112.

ASUM Off-Campus Renter Center

The Renter Center provides counseling for student renters experiencing issues with their landlord, encourages positive neighborhood relationships, assists students with finding housing, and advocates for renters. Additionally, the agency maintains the Off-Campus Housing Finder and a Rate Your Landlord Application located on the agency website. The Renter Center also runs the Neighborhood Ambassador Program, which works to improve the quality of life in the neighborhoods surrounding the UM campus by bridging the communication gap between student renters and permanent residents. For more information, please contact us at 243-2017, the ASUM Off-Campus Renter Center website, or stop by the Off-Campus Renter Center at UC 118.

ASUM Transportation

The ASUM Office of Transportation promotes and provides transportation options to the University of Montana campus community. Getting to campus and finding a parking space can be frustrating and expensive, and the Office of Transportation offers several convenient alternatives. The UDASH bus operates 3 daytime transit routes: from UM to ride lots and student housing at South Campus every 5-10 minutes (Red Line); between Missoula College and UM every 15 minutes (Blue Line); and between Russell and Wyoming Streets and UM via 5th and 6th Streets every 30 minutes (Purple Line). UDASH also operates late night bus service between downtown, UM, and South Campus student housing with service every 15-30 minutes (Gold Line). The Office of Transportation also provides information and personalized trip planning for Mountain Line, Missoula's city bus. Both bus services are free and open to the public.

In addition to bus service, the Office of Transportation provides interest-free bike loans up to $1,000 for 18 months, bike repair stations around campus, bike tune-up classes and events, and low-cost semester-long bike rentals. The office also operates the Yellow UBike program offering free-two day bike checkouts through the Mansfield Library.

More information is available on the Office of Transportation website, by phone at 243-4599, or in person in UC 105.

KBGA Radio

KBGA College Radio, 89.9 FM, is the student-run, college radio station for The University of Montana. Also available streaming online on the KBGA Radio website, we provide a diverse format of music and talk programming 24 hours a day. We are a non-commercial, educational station, so everyone is welcome to become a DJ. For more information, please contact us at 243-6759, the KBGA Radio website, or stop by the KBGA office at UC 208.

Montana Kaimin

The Montana Kaimin is the University's student-run newspaper. Published since 1899, it has worked hard to serve, entertain, and inform students with issues that are important to them. Publication begins the first week of school and it is printed on Wednesdays during the fall and spring semesters. The Kaimin website is updated daily during fall and springe semesters. For more information and past editions, please contact us at (406) 243-6646, through the Montana Kaimin website, or at our offices in Don Anderson Hall, 208.

UM Productions

UM Productions is a student-run/student-funded organization whose goal is to bring quality events to The University of Montana and the Missoula community. UM Productions strives to provide students with hands-on experiences and employment opportunities and bring concerts and events that are focused on diversity with a strong dedication to the arts. Check out our website for upcoming events and job opportunities. For more information please contact us at 243-4981, on the UM Productions website, or stop by the office at UC 104.

Student Political Action Office

The Student Political Action office is a resource for students who have a desire to participate in the political process at the local, state and federal levels. Through a student committee, the SPA office works to represent student interests by working with City Council, the State Legislature and the Montana Delegation. For more information, please contact us at 243-2451, the Student Political Action Committee website, or stop by the ASUM office UC 105.

ASUM Student Resolution Officer

The Student Resolution Officer is your representative for handling student complaints against a faculty member or university administrator that cannot be resolved informally. The Student Resolution Office advocates for students in a three-step dispute resolution process. For more information, please contact the Resolution Officer at 406-243-5431, the ASUM Student Resolution Officer website, or stop by the ASUM office at UC 105.

ASUM Student Clubs and Organizations

ASUM recognizes and offers funding for 200 student organizations and special interest clubs. Find out about a student group that interests you and the many benefits student groups receive by checking out the ASUM Student Groups website or stopping by the ASUM office at UC 105.

Fraternities and Sororities

The Greek Community of The University of Montana provides a comprehensive educational, social, and living experience for members through the promotion of friendship, leadership, personal development, academics, and services to the University and the Missoula community. The Greek members donate their time and support to over 50 recognized philanthropies. Additionally, they involve themselves in a wide variety of campus leadership organizations, such as Residence Life Staff, PRO's, ASUM Senate, Advocates, Peer Advising, and Mortar Board.

The Greek system has six (6) national fraternities (Sigma Alpha Epsilon, Sigma Chi, Sigma Nu, Kappa Sigma and Sigma Phi Epsilon) and four national sororities (Alpha Phi, Delta Gamma, Kappa Alpha Theta and Kappa Kappa Gamma). Information about Greeks can be obtained in the Office of Greek Life (UC 209B), or by visiting the greek life website, or calling 243-2005.

Peace Corps

Peace Corps service is a life-defining leadership experience. The Peace Corps is a 27-month commitment during which volunteers provide technical assistance in six program areas: education, agriculture, environment, health, youth and community development, business and information and communications technology. Peace Corps volunteers live, learn, and work with a community in one of more than 70 countries overseas.

The Peace Corps Office provides support to students and community members interested in pursuing service with the United States Peace Corps. During walk-in hours and scheduled appointments, Returned Peace Corps Volunteers provide guidance about the application process, as well answer questions about their first-hand experiences living, learning and working with a community overseas. In addition, Peace Corps staff table on-campus and in the community, visit classrooms, and host information sessions, application workshops, and Returned Peace Corps Volunteer panels. For additional information, please visit the Peace Corps Campus Representative at 154 Lommasson Center, call (406) 243-2839, e-mail: peacecorps@umontana.edu or visit the Peace Corps website.

Expenses

Search

The offerings listed below are for undergraduate and professional programs.

For detailed information about The Graduate School and graduate programs offered at the University of Montana visit the Graduate School Programs webpage. To find out more about a specific graduate program, please contact the department.

search

Colleges

Business Administration

Education and Human Sciences

Forestry and Conservation

Health Professions and Biomedical Sciences

Humanities and Sciences

Journalism

Missoula College

Visual and Performing Arts

Degrees

Associate of Applied Science

Associate of Arts

Associate of Science

Bachelor of Applied Science

Bachelor of Arts

Bachelor of Fine Arts

Bachelor of Music

Bachelor of Music Education

Bachelor of Science

Certificate of Applied Science

Certificate of Art

Master of Arts

Master of Fine Arts

Master of Music

Masters of Athletic Training

Minor

Professional Certificate

Teaching Licensure

Technical Certificate

search

Search Result

Office for Student Success

Office for Student Success

The mission of the Office for Student Success (OSS) is to help students successfully transition to college, progress academically and ultimately become graduates of the University of Montana. OSS initiates and leads collaboration with academic departments, state and local organizations and administrative units across campus to define, implement and assess programs that support students academically, financially and socially.

OSS delivers direct support services to students in the form of academic advising, math and writing tutoring, and freshman/sophomore programming. The Undergraduate Advising Center and the Writing Center are administered by the OSS.

Undergraduate Advising Center

The Undergraduate Advising Center is a university service staffed by professional advisors and peer advising assistants committed to helping undergraduate students achieve a successful college experience. The UAC programs guide students as they transition to college, assisting them in clarifying academic goals and exploring majors.

Advisors in the UAC work with both faculty and full-time advisors in each of the Colleges to assist students in making decisions about major areas of study and to ensure smooth transitions to and from majors. Working collaboratively, the full-time advisors of the Center consult with academic departments to provide new and creative opportunities for students to explore majors and careers that align with their abilities, interests, and strengths.

UAC advisors are the advisor of record for first year students who plan to major in Business, Pre-Nursing, Psychology, or Communication Studies and all students who have not yet declared a major.

The Writing Center

The Writing Center administers programs to help undergraduate and graduate students in all disciplines become more independent, versatile, and effective writers, readers, and thinkers. Writing Center tutors engage students in structured discussions about writing, challenging them to develop as writers and thinkers who contribute to local and global conversations. Focused on the development of the writer, tutors help students to recognize their strengths and weaknesses as communicators and to practice strategies appropriate to various writing contexts.

The Writing Center also collaborates with faculty to positively impact student performance. These collaborations include delivery of discipline-specific writing workshops across the curriculum and professional development opportunities such as workshops on how to design writing assignments and how to provide students with effective feedback on their writing. In an effort to support all writers at the University of Montana, the Writing Center also supports faculty and staff writers by providing one-to-one consultations on their professional writing projects.

Four Bear Four-Year Graduation Plan

The Four Bear Four Year Graduation program is designed for students committed to completing their degree at the University of Montana within four years. Four Bear participants are provided with registration priority after signing the Four Bear contract in the first year. The program pays tuition and mandatory fees past the planned graduation time provided the student has met all of the requirements for continued participation. Pharmacy is an exception to the four-year plan; students are given five or six years to complete this degree.

Most department sections in the catalog include a suggested four-year course of study to complete a major. Four-Bear students must meet with their advisors in order to customize a plan to fit individual circumstances and academic.

The courses listed under the Missoula College section are those taught exclusively on the Missoula College campuses, however Missoula College also offers lower division courses from the Mountain Campus.

Accreditation

Montana University System Mission

Montana University System Mission

University of Montana - Missoula Mission

University of Montana Missoula - Mission

University of Montana - Missoula Strategic Goals

University of Montana - Missoula Strategic Goals

Registrar's Office

University of Montana Catalog (2016-2017)
Lommasson Center 201
Phone: (406) 243-2995
Fax: (406) 243-4807