

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. Please go to the Resource Conservation website (<http://www.cfc.umt.edu/rc>) for more information on different curricular tracks within the Resource Conservation major. 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

W.A Franke College of Forestry & Conservation

Degree Specific Credits: 43

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

General Education Requirements

Information regarding these requirements can be found in the General Education Section (<http://catalog.umt.edu/academics/general-education-requirements>) of the catalog.

Summary

| | |
|---|------|
| Professional Writing | 3 |
| Chemistry | 3 |
| Quantitative and Spatial Analysis | 9-12 |
| Biology | 3-4 |
| Communication | 3 |
| Physical Science | 3 |
| Ecology | 3 |
| Policy | 3 |
| Social Science | 3 |
| Ethics | 3 |
| Additional Required Courses | 46 |
| Writing | 15 |
| Math | 3-4 |
| Exception to the Modern/Classical Languages Requirement | 3-4 |
| Expressive Arts | 3 |

| | |
|---------------------------|---------|
| Ethical & Human Values | 3 |
| Natural Sciences in Major | 6 |
| Total Hours | 115-121 |

Professional Writing

Rule: Must take the following course

| | | |
|-------------|--------------------------------|---|
| NRSM 200 | Nat.Resource Professional Wrtg | 3 |
| Total Hours | | 3 |

Minimum Required Grade: C-

Chemistry

Rule: Must take the following course

| | | |
|-------------|-----------------------------------|---|
| CHMY 121N | Introduction to General Chemistry | 3 |
| Total Hours | | 3 |

Minimum Required Grade: C-

Quantitative and Spatial Analysis

Rule: Three courses are required

Note: FORS 250 is highly recommended

| | |
|------------------------------|--|
| Select one of the following: | 3-4 |
| FORS 201 | Forest Biometrics |
| STAT 216 | Introduction to Statistics |
| SOCI 202 | Social Statistics |
| Select two of the following: | 6-8 |
| FORS 250 | Intro to GIS for Forest Mgt (highly recommended) |
| M 115 | Probability and Linear Mathematics |
| M 121 | College Algebra |
| M 122 | College Trigonometry |
| M 151 | Precalculus |
| M 162 | Applied Calculus |
| Total Hours | 9-12 |

Minimum Required Grade: C-

Biology

Select one of the following: 3-4

| | |
|-------------|-----------------------------------|
| BIOB 160N | Principles of Living Systems |
| & BIOB 161N | and Prncpls of Living Systems Lab |
| BIOB 170N | Prncpls Biological Diversity |
| BIOE 172N | Introductory Ecology |
| BIOO 105N | Introduction to Botany |
| Total Hours | 3-4 |

Minimum Required Grade: C-

Communication

| | | |
|--------------|--------------------------|---|
| COMX 111A | Intro to Public Speaking | 3 |
| or THTR 120A | Introduction to Acting I | |
| Total Hours | | 3 |

Minimum Required Grade: C-

Physical Science

Rule: Must take the following course

| | | |
|-------------|--------------------------|---|
| NRSM 210N | Soils, Water and Climate | 3 |
| Total Hours | | 3 |

Minimum Required Grade: C-

Ecology

| | | |
|------------------------------|-------------------|---|
| Select one of the following: | | 3 |
| BIOE 370 | General Ecology | |
| FORS 330 | Forest Ecology | |
| NRSM 462 | Rangeland Ecology | |
| Total Hours | | 3 |

Minimum Required Grade: C-

Policy

| | | |
|------------------------------|--------------------------------|---|
| Select one of the following: | | 3 |
| NRSM 370S | Wildland Conserv Pol/Govrnance | |
| NRSM 422 | Nat Res Policy/Administration | |
| WILD 410 | Wildlife Policy & Biopolitics | |
| Total Hours | | 3 |

Minimum Required Grade: C-

Social Science

| | | |
|------------------------------|--------------------------------|---|
| Select one of the following: | | 3 |
| NRSM 379 | Collab in Nat Res Decisions | |
| NRSM 424 | Community Forestry & Conservtn | |
| NRSM 426 | Climate and Society | |
| NRSM 475 | Environment & Development | |
| PTRM 300 | Recreation Behavior | |
| Total Hours | | 3 |

Minimum Required Grade: C-

Ethics

| | | |
|--------------|--------------------------------|---|
| NRSM 449E | Climate Change Ethics/Policy | 3 |
| or NRSM 389E | Ethics Forestry & Conservation | |
| Total Hours | | 3 |

Minimum Required Grade: C-

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 103X, 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 451, PTRM 482.

| | | |
|---|---|---|
| Select at least three of the following: | | 9 |
| BIOE 428 | Freshwater Ecology | |
| FORS 330 | Forest Ecology | |
| FORS 341 | Timber Harvesting & Roads | |
| FORS 347 | Multiple Resource Silviculture | |
| FORS 349 | Practice of Silviculture | |
| FORS 440 | Forest Stand Management | |
| FORS 499 | Senior Thesis | |
| NASX 403 | Contmp Tribal Resource Issues | |
| NRSM 200 | Nat.Resource Professional Wrtg | |
| NRSM 379 | Collab in Nat Res Decisions | |
| NRSM 389E | Ethics Forestry & Conservation | |
| NRSM 426 | Climate and Society | |
| NRSM 449E | Climate Change Ethics/Policy | |
| NRSM 462 | Rangeland Ecology | |
| NRSM 475 | Environment & Development | |
| NRSM 495 | Ecosystem Science and Restoration Practicum | |
| NRSM 499 | Senior Thesis | |
| PTRM 300 | Recreation Behavior | |
| WILD 410 | Wildlife Policy & Biopolitics | |
| WRIT 101 | College Writing I | |
| Total Hours | | 9 |

Minimum Required Grade: C-

Math

Select one of the following: 3-4

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|-------|------------------------------------|
| M 115 | Probability and Linear Mathematics |
| M 121 | College Algebra |
| M 122 | College Trigonometry |
| M 151 | Precalculus |
| M 162 | Applied Calculus |

Total Hours 3-4

Minimum Required Grade: C-

Exception to the Modern/Classical Languages Requirement

Rule: The Resource Conservation major has been granted an exception to the Modern/Classical Language Requirement. Must take one of the following courses to will satisfy this requirement.

Select one of the following: 3-4

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|----------|----------------------------|
| FORS 201 | Forest Biometrics |
| SOCI 202 | Social Statistics |
| STAT 216 | Introduction to Statistics |

Total Hours 3-4

Minimum Required Grade: C-

Expressive Arts

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|--------------|--------------------------|---|
| COMX 111A | Intro to Public Speaking | 3 |
| or THTR 120A | Introduction to Acting I | |

Total Hours 3

Minimum Required Grade: C-

Ethical & Human Values

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|--------------|--------------------------------|---|
| NRSM 449E | Climate Change Ethics/Policy | 3 |
| or NRSM 389E | Ethics Forestry & Conservation | |

Total Hours 3

Minimum Required Grade: C-

Natural Sciences in Major

Rule: Must take all courses

| | | |
|-----------|-----------------------------------|---|
| CHMY 121N | Introduction to General Chemistry | 3 |
| NRSM 210N | Soils, Water and Climate | 3 |

Total Hours 6

Minimum Required Grade: C-

Tracks

These are advising tracks only and not official programs 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.

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 (<http://www.cfc.umt.edu/rc>) : www.cfc.umt.edu/rc (<http://www.cfc.umt.edu/rc>) . Students in this track typically complete the Climate Change Minor (<http://www.cfc.umt.edu/ccs>) (www.cfc.umt.edu/ccs) (<http://www.cfc.umt.edu/ccs>) . Please talk with your faculty advisor about which courses to take in this track.

| | | |
|-------------|--------------------------------|-------|
| CCS 103X | Intro Climate Change:Sci & Soc | 3 |
| CCS 352 | Climate Field Studies | 3 |
| CCS 398 | Clmt Change Internship/SERV | 2-4 |
| COMX 349 | Comm Consump & Climate | 3 |
| ECNS 445 | Int Env Econ & Clim Change | 3 |
| FORS 232 | Forest Insects & Diseases | 2 |
| FORS 333 | Fire Ecology | 3 |
| GPHY 335 | Water Policy | 3 |
| NRSM 379 | Collab in Nat Res Decisions | 3 |
| NRSM 385 | Watershed Hydrology | 3 |
| NRSM 408 | Global Cycles and Climate | 3 |
| NRSM 415 | Environmental Soil Science | 3 |
| NRSM 418 | Ecosystem Climatology | 3 |
| NRSM 426 | Climate and Society | 3 |
| NRSM 449E | Climate Change Ethics/Policy | 3 |
| PSCI 324 | Climate Policies: China & U.S. | 3 |
| Total Hours | | 46-48 |

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.

| | | |
|-----------|--|---|
| BIOB 170N | Princpls Biological Diversity | 3 |
| BIOB 272 | Genetics and Evolution | 4 |
| BIOB 480 | Conservation Genetics | 3 |
| BIOE 370 | General Ecology | 3 |
| BIOE 428 | Freshwater Ecology | 5 |
| BIOE 449 | Plant Biogeography | 3 |
| BIOO 320 | General Botany | 5 |
| BIOO 335 | Rocky Mountain Flora | 3 |
| BIOO 433 | Plant Physiology | 3 |
| CHMY 123 | Introduction to Organic and Biochemistry | 3 |
| ECNS 201S | Principles of Microeconomics | 3 |
| FORS 240 | Tree Biology | 2 |
| FORS 241N | Dendrology | 3 |
| FORS 330 | Forest Ecology | 3 |
| FORS 347 | Multiple Resource Silviculture | 3 |
| GEO 101N | Introduction to Physical Geology | 3 |

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| M 162 | Applied Calculus | 4 |
| NRSM 265 | Elements of Ecological Restora | 3 |
| NRSM 385 | Watershed Hydrology | 3 |
| NRSM 408 | Global Cycles and Climate | 3 |
| NRSM 415 | Environmental Soil Science | 3 |
| NRSM 418 | Ecosystem Climatology | 3 |
| NRSM 455 | Riparian Ecology & Management | 3 |
| NRSM 462 | Rangeland Ecology | 3 |
| PHSX 205N | College Physics I | 4 |
| PHSX 206N | College Physics I Laboratory | 1 |
| STAT 216 | Introduction to Statistics | 4 |
| WILD 275 | Wildlife Conservation | 2 |
| Total Hours | | 88 |

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.

| | | |
|-------------|-----------------------------------|----|
| ECNS 201S | Principles of Microeconomics | 3 |
| ECNS 202S | Principles of Macroeconomics | 3 |
| ECNS 433 | Economics of the Environment | 3 |
| ENST 367 | Environmental Politics & Policies | 3 |
| ENST 382 | Environmental Law | 3 |
| FORS 320 | Forest Environmental Economics | 3 |
| GPHY 335 | Water Policy | 3 |
| GPHY 465 | Planning Principles & Processes | 3 |
| GPHY 466 | Environmental Planning | 3 |
| NRSM 121S | Nature of Montana | 3 |
| NRSM 379 | Collab in Nat Res Decisions | 3 |
| NRSM 389E | Ethics Forestry & Conservation | 3 |
| NRSM 422 | Nat Res Policy/Administration | 3 |
| NRSM 424 | Community Forestry & Conservtn | 3 |
| NRSM 425 | Nat Res & Envir Economics | 3 |
| NRSM 449E | Climate Change Ethics/Policy | 3 |
| PSCI 210S | Intro to American Government | 3 |
| PSCI 332 | Global Environmental Pol. | 3 |
| PSCI 361 | Public Administration | 3 |
| PSCI 461 | Administrative Law | 3 |
| WILD 275 | Wildlife Conservation | 2 |
| WILD 410 | Wildlife Policy & Biopolitics | 3 |
| Total Hours | | 65 |

Minimum Required Grade: C-

International Conservation

Rule: Can take these track courses

Note: Students in this track typically complete the International Development Studies Minor (<http://hs.umt.edu/ids>) (www.cas.umt.edu/

IDS (<http://www.cas.umt.edu/IDS>)). More detailed information about the International Conservation track can be found on our website (<https://www.cfc.umt.edu/rc>): www.cfc.umt.edu/rc (<http://www.cfc.umt.edu/rc>). Please talk with your faculty advisor about which courses to take in this track.

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|-------------|--|-------|
| ENST 225 | Community & Environment | 3 |
| ENST 396 | Supervised Internship (PEAS) | 10 |
| ENST 480 | Food, Agriculture, Environment | 3 |
| ENST 487 | Globalization, Justice & Environment | 3 |
| ENST 493 | Study Abroad: Environmental Justice Latin America | 3 |
| GPHY 432 | Human Role Environmental Change | 3 |
| GPHY 434 | Food and Famine | 3 |
| NRSM 170 | International Envir. Change | 3 |
| NRSM 379 | Collab in Nat Res Decisions | 3 |
| NRSM 424 | Community Forestry & Conservtn | 3 |
| NRSM 475 | Environment & Development | 3 |
| PTRM 345X | Sustaining Human Soc & Nat Env | 3-6 |
| PTRM 353 | Tourism, Livelihoods and Sustainability in Mountains | 3 |
| PTRM 451 | Tourism & Sustainability | 3 |
| WILD 460 | Internat Wildlife Cons Issues | 2 |
| Total Hours | | 51-54 |

Minimum Required Grade: C-

Natural Resource Economics

Rule: Can take these track courses

Note: Suggested courses in Natural Resource Economics. Please see more detailed description of this track online and talk with your faculty advisor about which courses to take in this track.

| | | |
|-----------|--|---|
| ANTY 326E | Indigenous Peoples & the Ethics of Development | 3 |
| ECNS 201S | Principles of Microeconomics | 3 |
| ECNS 202S | Principles of Macroeconomics | 3 |
| ECNS 217X | Issues in Economic Development | 3 |
| ECNS 301 | Intermediate Micro with Calc | 3 |
| ECNS 302 | Intermediate Macroeconomics | 3 |
| ECNS 403 | Introduction to Econometrics | 4 |
| ECNS 433 | Economics of the Environment | 3 |
| ECNS 445 | Int Env Econ & Clim Change | 3 |
| ENST 230H | Nature and Society | 3 |
| ENST 480 | Food, Agriculture, Environment | 3 |
| FORS 320 | Forest Environmental Economics | 3 |
| FORS 436 | Project Appraisal | 3 |
| GPHY 323S | Economic Geography of Rural Areas | 3 |
| M 162 | Applied Calculus | 4 |
| NRSM 121S | Nature of Montana | 3 |
| NRSM 379 | Collab in Nat Res Decisions | 3 |
| NRSM 389E | Ethics Forestry & Conservation | 3 |
| NRSM 424 | Community Forestry & Conservtn | 3 |
| NRSM 425 | Nat Res & Envir Economics | 3 |

| | | |
|-------------|-------------------------------|----|
| SOCI 101S | Introduction to Sociology | 3 |
| SOCI 470 | Environmental Sociology | 3 |
| SOCI 471 | Gender and Global Development | 3 |
| WILD 275 | Wildlife Conservation | 2 |
| Total Hours | | 73 |

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.

| | | |
|-----------|--|---|
| BIOE 370 | General Ecology | 3 |
| BIOE 447 | Terrestrial Ecosystem Ecology | 3 |
| BIOE 458 | Forest and Grassland Ecol | 3 |
| BIOO 105N | Introduction to Botany | 3 |
| BIOO 335 | Rocky Mountain Flora | 3 |
| BIOO 433 | Plant Physiology | 3 |
| ECNS 201S | Principles of Microeconomics | 3 |
| FORS 230 | Fire Management & Environmental Change | 3 |
| FORS 250 | Intro to GIS for Forest Mgt | 3 |
| FORS 333 | Fire Ecology | 3 |
| GPHY 335 | Water Policy | 3 |
| NRSM 121S | Nature of Montana | 3 |
| NRSM 265 | Elements of Ecological Restora | 3 |
| NRSM 360 | Rangeland Mgt (equiv 260) | 3 |
| NRSM 379 | Collab in Nat Res Decisions | 3 |
| NRSM 385 | Watershed Hydrology | 3 |
| NRSM 462 | Rangeland Ecology | 3 |
| WILD 275 | Wildlife Conservation | 2 |

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.

| | | |
|-----------|--|---|
| COMX 347 | Rhetoric Nature & Environmtlsm | 3 |
| ECNS 433 | Economics of the Environment | 3 |
| ENST 225 | Community & Environment | 3 |
| ENST 480 | Food, Agriculture, Environment | 3 |
| ENST 489S | Environmental Justice Issues & Solutions | 3 |
| GPHY 323S | Economic Geography of Rural Areas | 3 |
| GPHY 432 | Human Role Environmental Change | 3 |
| GPHY 468 | Community & Regional Analysis | 3 |
| NRSM 170 | International Envir. Change | 3 |
| NRSM 379 | Collab in Nat Res Decisions | 3 |
| NRSM 424 | Community Forestry & Conservtn | 3 |

| | | |
|-------------|-------------------------------|----|
| NRSM 475 | Environment & Development | 3 |
| PHL 422 | Environmental Philosophy | 3 |
| PTRM 451 | Tourism & Sustainability | 3 |
| SOCI 220S | Race, Gender & Class | 3 |
| SOCI 270 | Intro Development Sociology | 3 |
| SOCI 350 | The Community | 3 |
| SOCI 443 | Sociology of Poverty | 3 |
| SOCI 470 | Environmental Sociology | 3 |
| SOCI 471 | Gender and Global Development | 3 |
| Total Hours | | 60 |

Minimum Required Grade: C-

Water Resources

Rule: Can take these track courses

Note: Suggested courses in Water Resources. Please see more detailed description of this track online and talk with you faculty advisor about which courses to take in this track.

| | | |
|-------------|--------------------------------------|----|
| BIOE 428 | Freshwater Ecology | 5 |
| GEO 101N | Introduction to Physical Geology | 3 |
| GEO 102N | Introduction to Physical Geology Lab | 1 |
| GEO 420 | Hydrogeology | 4 |
| GEO 421 | Hydrology | 3 |
| GEO 460 | Process Geomorphology | 4 |
| GPHY 335 | Water Policy | 3 |
| M 172 | Calculus II | 4 |
| M 171 | Calculus I | 4 |
| NRSM 385 | Watershed Hydrology | 3 |
| NRSM 415 | Environmental Soil Science | 3 |
| PHSX 205N | College Physics I | 4 |
| PHSX 206N | College Physics I Laboratory | 1 |
| PHSX 207N | College Physics II | 4 |
| PHSX 208N | College Physics II Laboratory | 1 |
| Total Hours | | 47 |

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 (<http://www.cfc.umt.edu/wc>) see www.cfc.umt.edu/wc (<http://www.cfc.umt.edu/wc>) . Please talk to a faculty advisor about additional coursework in this track.

| | | |
|-----------|--------------------------------|-----|
| ARTZ 394A | Seminar- Environmental Drawing | 3 |
| LIT 280L | Ecology of Literature | 3 |
| MUSI 304A | Sound in the Natural World | 3 |
| NASX 303E | Ecol Persp in Nat Amer Trad | 3 |
| NRSM 271N | Conservation Ecology | 3 |
| NRSM 273 | Wilderness/Civ Field Stds | 1-3 |
| NRSM 370S | Wildland Conserv Pol/Govrnance | 3 |

| | | |
|----------|-------------------------------|-----|
| NRSM 371 | Wilderness Issues Lect Series | 1 |
| NRSM 373 | Wilderness and Civilization | 3 |
| NRSM 398 | Internship | 1-6 |

Minimum Required Grade: C-

Wildland Fire Management

Rule: Can take these track courses

Note: Student in this track typically complete the Wildland Fire Sciences & Management Minor (<http://www.cfc.umt.edu/FireSciences>) (www.cfc.umt.edu/FireSciences (<http://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.

| | | |
|-------------|--|----|
| ECNS 201S | Principles of Microeconomics | 3 |
| ERTH 303N | Weather and Climate | 3 |
| FORS 202 | Forest Mensuration | 3 |
| FORS 232 | Forest Insects & Diseases | 2 |
| FORS 230 | Fire Management & Environmental Change | 3 |
| FORS 241N | Dendrology | 3 |
| FORS 320 | Forest Environmental Economics | 3 |
| FORS 331 | Wildland Fuel Management | 3 |
| FORS 333 | Fire Ecology | 3 |
| FORS 341 | Timber Harvesting & Roads | 3 |
| FORS 347 | Multiple Resource Silviculture | 3 |
| FORS 351 | Env Remote Sensing | 3 |
| FORS 481 | Forest Planning | 3 |
| FORS 495 | Wildland RxFire Practicum | 3 |
| FORS 533 | Use Fire Wildland Mgmt | 3 |
| GEO 101N | Introduction to Physical Geology | 3 |
| NRSM 265 | Elements of Ecological Restora | 3 |
| NRSM 385 | Watershed Hydrology | 3 |
| NRSM 422 | Nat Res Policy/Administration | 3 |
| PHSX 205N | College Physics I | 4 |
| PHSX 206N | College Physics I Laboratory | 1 |
| Total Hours | | 61 |

Minimum Required Grade: C-
