COMPUTER SCIENCE B.S.

Bachelor of Science - Computer Science

College Humanities & Sciences

Degree Specific Credits: 87

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

Computer Science Core Courses	33
Degree Electives	18
Communication	3
Mathematics	18
Science Core	8-10
Biology	
Chemistry	
Physics	
Science Electives	6-10
Total Hours	86-92

Computer Science Core Courses

Rule: Must complete all of the following courses:

Note: 100-level CSCI courses other than CSCI 106, CSCI 135-CSCI 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 106	Careers in Computer Science	1
CSCI 135	Fund of Computer Science I	3
or CSCI 250	Computer Mdlng/Science Majors	
CSCI 136	Fund of Computer Science II	3
CSCI 205	Programming Languages w/ C/C++	4
CSCI 232	Data Structures and Algorithms	4
CSCI 315E	Computers, Ethics, and Society	3
CSCI 323	Software Science	3
CSCI 332	Design/Analysis of Algorithms	3
CSCI 361	Computer Architecture	3
CSCI 426	Adv Prgrmng Theory/Practice I	3
CSCI 427	Adv Prgrmng Theory/Practice II	3
Total Hours		33

Minimum Required Grade: C-

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 CSCI 498.

Select 18 credits from the following:		18
CSCI 340	Database Design	
CSCI 390	Research	
CSCI 391	Special Topics	
CSCI 394	Seminar	
CSCI 398	Internship	
CSCI 411	Advanced Web Programming	
CSCI 412	Game and Mobile App	
CSCI 441	Computer Graphics Programming	
CSCI 443	User Interface Design	
CSCI 444	Data Visualization	
CSCI 446	Artificial Intelligence	
CSCI 447	Machine Learning	
CSCI 448	Pattern Recognition	
CSCI 451	Computational Biology	
CSCI 460	Operating Systems	
CSCI 466	Networks	
CSCI 477	Simulation	
CSCI 490	Research	
CSCI 491	Special Topics	
CSCI 494	Seminar	
CSCI 498	Internship	
CSCI 499	Senior Thesis/Capstone	
Total Hours		18

Minimum Required Grade: C-

Communication

Rule: Must complete 1 of the following courses

COMX 111A	Intro to Public Speaking	3
or COMX 242	Argumentation	
Total Hours		3

Minimum Required Grade: C-

Mathematics

Rule: Take the following:

M 171	Calculus I	4
M 172	Calculus II	4
M 221	Introduction to Linear Algebra	4
M 225	Introduction to Discrete Mathematics	3
STAT 341	Introduction to Probability and Statistics	3
Total Hours		18

Minimum Required Grade: C-

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

BIOB 160N	Principles of Living Systems	3
BIOB 161N	Prncpls of Living Systems Lab	1
BIOB 170N	Princpls Biological Diversity	3
BIOB 171N	Princpls Biological Dvrsty Lab	2
Total Hours		9

Minimum Required Grade: C-

Chemistry
Rule: May complete the following sequence

CHMY 141N & CHMY 142N	College Chemistry I and College Chemistry I Lab	5
CHMY 143N & CHMY 144N	College Chemistry II and College Chemistry II Lab	5
Total Hours		10

Minimum Required Grade: C-

Physics
Rule: May complete the following sequence

PHSX 215N	Fund of Physics w/Calc I	4
PHSX 216N	Physics Laboratory I w/Calc	1
PHSX 217N	Fund of Physics w/Calc II	4
PHSX 218N	Physics Laboratory II w/Calc	1
Total Hours		10

Minimum Required Grade: C-

CHMY 143N	College Chemistry II	
FORS 201	Forest Biometrics	
GEO 101N & GEO 102N	Introduction to Physical Geology and Introduction to Physical Geology Lab	
GEO 225	Earth Materials	
PHSX 215N & PHSX 216N	Fund of Physics w/Calc I and Physics Laboratory I w/Calc	
PHSX 217N & PHSX 218N	Fund of Physics w/Calc II and Physics Laboratory II w/Calc	
PHSX 343 & PHSX 444	Modern Physics and Advanced Physics Lab	
Total Hours		6-10

Minimum Required Grade: C-

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.

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.

Select two of the following:		6-10
ASTR 131N & ASTR 134N	Planetary Astronomy and Planetary Astronomy Lab	
ASTR 132N & ASTR 135N	Stars, Galaxies, and the Universe and Stars, Galaxies, and the Universe Lab	
BIOB 160N & BIOB 161N	Principles of Living Systems and Prncpls of Living Systems Lab	
BIOB 170N & BIOB 171N	Princpls Biological Diversity and Princpls Biological Dvrsty Lab	
BIOM 250N & BIOM 251	Microbiology for Hlth Sciences and Microbiology Hlth Sciences Lab	
CHMY 141N	College Chemistry I	