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

Note: COMX 242 is recommended.

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOB 160N</td>
<td>Principles of Living Systems</td>
<td>3</td>
</tr>
<tr>
<td>BIOB 161N</td>
<td>Prncpls of Living Systems Lab</td>
<td>1</td>
</tr>
<tr>
<td>BIOB 170N</td>
<td>Princpls Biological Diversity</td>
<td>3</td>
</tr>
<tr>
<td>BIOB 171N</td>
<td>Princpls Biological Dvrsty Lab</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Hours: 9

Minimum Required Grade: C-

Chemistry

Rule: May complete the following sequence

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHMY 141N   &amp; CHMY 142N</td>
<td>College Chemistry I and College Chemistry I Lab</td>
<td>5</td>
</tr>
<tr>
<td>CHMY 143N   &amp; CHMY 144N</td>
<td>College Chemistry II and College Chemistry II Lab</td>
<td>5</td>
</tr>
</tbody>
</table>

Total Hours: 10

Minimum Required Grade: C-

Physics

Rule: May complete the following sequence

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHSX 215N</td>
<td>Fund of Physics w/Calc I</td>
<td>4</td>
</tr>
<tr>
<td>PHSX 216N</td>
<td>Physics Laboratory I w/Calc</td>
<td>1</td>
</tr>
<tr>
<td>PHSX 217N</td>
<td>Fund of Physics w/Calc II</td>
<td>4</td>
</tr>
<tr>
<td>PHSX 218N</td>
<td>Physics Laboratory II w/Calc</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Hours: 10

Minimum Required Grade: C-

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTR 131N   &amp; ASTR 134N</td>
<td>Planetary Astronomy and Planetary Astronomy Lab</td>
</tr>
<tr>
<td>ASTR 132N   &amp; ASTR 135N</td>
<td>Stars, Galaxies, and the Universe and Stars, Galaxies, and the Universe Lab</td>
</tr>
<tr>
<td>BIOB 160N   &amp; BIOB 161N</td>
<td>Principles of Living Systems and Prncpls of Living Systems Lab</td>
</tr>
<tr>
<td>BIOB 170N   &amp; BIOB 171N</td>
<td>Princpls Biological Diversity and Princpls Biological Dvrsty Lab</td>
</tr>
<tr>
<td>BIOM 250N   &amp; BIOM 251</td>
<td>Microbiology for Hlth Sciences and Microbiology Hlth Sciences Lab</td>
</tr>
<tr>
<td>CHMY 141N</td>
<td>College Chemistry I</td>
</tr>
</tbody>
</table>

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.