BIOLOGY MINOR

Minor - Biology

College Humanities & Sciences

Degree Specific Credits: 25

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

Summary

Biology/Microbiology Lower Division Core 17
Upper Division Biology Requirement for the Minor 8
Total Hours 25

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/BIOB 161N or BIOB 170N/BIOB 171N.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</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>Prncpls Biological Dvrsty Lab</td>
<td>2</td>
</tr>
<tr>
<td>BIOB 260</td>
<td>Cellular and Molecular Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOB 272</td>
<td>Genetics and Evolution</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Hours 17

Minimum Required Grade: C-

Upper Division Biology Requirement for the Minor

Rule: Complete 8 credits of Upper Division in Biology (BIOB, BIOE, BIOH, BIOL, or BIOM).

Note: These eight credits may not include BIOC, BCH, or BIOM courses.

Minimum Required Grade: C-

8 Total Credits Required

Teaching Biology Track

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 (http://www.coehs.umt.edu/departments/currinst/undergradprograms/seced/default.php)
- Licensure Degree Requirements (http://catalog.umt.edu/colleges-schools-programs/education-human-sciences/teaching-learning/lic-secondary-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.

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.

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.

Upper Division Core Courses Required by the Biology Teaching Minor

Rule: All of the following courses are required.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOM 360</td>
<td>General Microbiology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BIOM 361</td>
<td>General Microbiology Lab</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours 5

Minimum Required Grade: C-

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).

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>M 162</td>
<td>Applied Calculus</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>or M 171</td>
<td>Calculus I</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Hours 4

Minimum Required Grade: C-

Mathematics - Statistics

Rule: The following course is required

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 216</td>
<td>Introduction to Statistics</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours 4

Minimum Required Grade: C-

Chemistry

Rule: All of the following courses are required

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHMY 121N</td>
<td>Introduction to General Chemistry</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CHMY 123</td>
<td>Introduction to Organic and Biochemistry</td>
<td>3.000</td>
<td></td>
</tr>
</tbody>
</table>
Biology Minor

CHMY 485  Laboratory Safety  1
Total Hours  7
Minimum Required Grade: C-

Environmental Geosciences
Rule: Complete one of the following courses

GEO 105N  Oceanography  3
or GEO 103N  Introduction to Environmental Geology
Total Hours  3
Minimum Required Grade: C-

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.

EDU 497  Teaching and Assessing  4
Total Hours  4
Minimum Required Grade: C-

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 (http://catalog.umt.edu/colleges-schools-programs/education-human-sciences))