### Summary

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biology/Microbiology Lower Division Core</strong></td>
<td></td>
<td></td>
</tr>
<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>
<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>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

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 BIOD)

**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>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOM 360</td>
<td>General Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 361</td>
<td>General Microbiology Lab</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

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>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>M 162</td>
<td>Applied Calculus</td>
<td>4</td>
</tr>
<tr>
<td>or M 171</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

Minimum Required Grade: C-

### Mathematics - Statistics

**Rule:** The following course is required

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 216</td>
<td>Introduction to Statistics</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

Minimum Required Grade: C-

### Chemistry

**Rule:** All of the following courses are required
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHMY 121N</td>
<td>Introduction to General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHMY 123</td>
<td>Introduction to Organic and Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHMY 485</td>
<td>Laboratory Safety</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

Minimum Required Grade: C-

**Environmental Geosciences**

**Rule:** Complete one of the following courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 105N</td>
<td>Oceanography</td>
<td>3</td>
</tr>
<tr>
<td>or GEO 103N</td>
<td>Introduction to Environmental Geology</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 497</td>
<td>Teaching and Assessing</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>4</strong></td>
</tr>
</tbody>
</table>

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