Genetics Minor

Genetics is a fundamental topic in biology and an important component of many biological disciplines. Montana State University offers a wide variety of genetics courses taught by faculty in five departments (Animal and Range Science, Cell Biology and Neuroscience, Ecology, Microbiology and Immunology, and Plant Sciences and Plant Pathology). A Genetics Minor is available to students majoring in these departments.

In order to earn a Genetics Minor, a student must take 13 units of required courses and 15 units of elective courses (see below) and must earn a grade of at least C- in every course. Students interested in this minor should consult the genetics advisor within each department to decide whether the Genetics Minor is appropriate for them and to help select specific courses. Course requirements for the Genetics Minor are consistent across all departments.

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOB 160 or BIOB 260</td>
<td>Principles of Living Systems or Cellular and Molecular Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOB 375 or BIOH 320</td>
<td>General Genetics or Biomedical Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIOB 480 or BIOB 484</td>
<td>Conservation Genetics or Population Genetics</td>
<td>3</td>
</tr>
<tr>
<td>STAT 216Q or BIOB 318</td>
<td>Introduction to Statistics or Biometry</td>
<td>3</td>
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</tbody>
</table>

**Elective Courses**

Choose 15 credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AGSC 441</td>
<td>Plant Breeding &amp; Genetics</td>
<td>(3)</td>
</tr>
<tr>
<td>ANSC 322</td>
<td>Principles of Animal Breeding and Genetics</td>
<td>(3)</td>
</tr>
<tr>
<td>BCH 444R</td>
<td>Biochemistry &amp; Molecular Biology Methods</td>
<td>(3)</td>
</tr>
<tr>
<td>BIOB 420</td>
<td>Evolution</td>
<td>(3)</td>
</tr>
<tr>
<td>BIOB 428</td>
<td>Molecular Evolution</td>
<td>(3)</td>
</tr>
<tr>
<td>BIOB 430</td>
<td>Plant Biotechnology</td>
<td>(3)</td>
</tr>
<tr>
<td>BIOB 476R</td>
<td>Gene Construction</td>
<td>(4)</td>
</tr>
<tr>
<td>BIOB 477</td>
<td>Genome Science and Gene Expression</td>
<td></td>
</tr>
<tr>
<td>BIOB 480</td>
<td>Conservation Genetics (3 if not taken as a requirement)</td>
<td></td>
</tr>
<tr>
<td>BIOB 484</td>
<td>Population Genetics (3 if not taken as a requirement)</td>
<td></td>
</tr>
<tr>
<td>BIOH 420</td>
<td>Molecular Genetics</td>
<td></td>
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<tr>
<td>BIOH 422</td>
<td>Genes and Cancer</td>
<td>(3)</td>
</tr>
<tr>
<td>BIOH 455</td>
<td>Molecular Medicine</td>
<td>(3)</td>
</tr>
<tr>
<td>BIOH 465R</td>
<td>Gene Expression Lab: From Genes to Proteins to Cells</td>
<td>(3)</td>
</tr>
<tr>
<td>BIOM 410</td>
<td>Microbial Genetics</td>
<td>(3)</td>
</tr>
<tr>
<td>BIOM 415</td>
<td>Microbial Diversity, Ecology, and Evolution</td>
<td>(3)</td>
</tr>
<tr>
<td>BIOM 435</td>
<td>Virology</td>
<td></td>
</tr>
<tr>
<td>BIOM 450</td>
<td>Microbial Physiology</td>
<td>(3)</td>
</tr>
<tr>
<td>BIOM 455R</td>
<td>Research Mthds in Microbiology</td>
<td>(4)</td>
</tr>
<tr>
<td>BIOO 435</td>
<td>Plant Systematics</td>
<td>(3)</td>
</tr>
</tbody>
</table>

**Total Credits**

28

Requirements for Admission to Upper Division Courses in Biology

For admission to upper division (numbered 300 or higher) Biology (BIOB, BIOE, BIOO, BIOM) and Fish and Wildlife Management (WILD) courses, students must have completed at least 45 total university credits with a cumulative GPA of at least 2.5 for all courses and have also earned a "C-" or better for any prerequisite courses. Limited exceptions may be made by consent of instructor. Any student who obtains enrollment in an upper division biology course without satisfying these requirements will be required to withdraw from the course. Specific courses may have additional prerequisites.
Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Times was used instead of Adobe Garamond Pro.

The editor may contact Leepfrog for a draft with the correct fonts in place.