AQUATIC WILDLIFE BIOLOGY

Chad Bishop, Wildlife Biology Director

The Wildlife Biology Program combines the best features of a liberal arts curriculum with scientific preparation in wildlife conservation. The Program provides students with an extensive knowledge in ecology, population biology, conservation biology, and critical thinking and quantitative skills. Our students receive a strong academic and scientific background with an emphasis on hands-on, experiential learning. The educational requirements for certification by The Wildlife Society can be met within the framework of the undergraduate program.

While some employment opportunities exist in wildlife conservation for students with the baccalaureate degree, we encourage students to continue their education through the master’s degree to qualify for most state, federal, and private positions.

Two concentrations are offered in the Wildlife Biology Program: terrestrial and aquatic. They both follow the same schedule of courses for the freshman and most of the sophomore year and then pursue different curricula for the last two years. Each leads to a B.S. in Wildlife Biology. The University is well-suited for instruction in wildlife biology because of the excellent opportunities for field instruction and research at Lubrecht Experimental Forest, Flathead Lake Biological Station, and the Theodore Roosevelt Memorial and Bandy ranches. The Montana Forest and Conservation Experiment Station, the Division of Biological Sciences, and the Montana Cooperative Wildlife Research Unit facilitate research.

High School Preparation: In addition to general University admission requirements, the student should elect four years of mathematics and three years of science, including biology, chemistry and physics.

Wildlife Biology Honors Track
The honors curriculum is designed particularly for students with strong academic records who intend to do graduate work. Entrance into this emphasis is open only to students who, at the beginning of the junior year of the wildlife biology program, have a grade-point average of 3.5 or above and who petition the faculty for entrance.

Honors students must complete either WILD 370, WILD 470 and WILD 494 (terrestrial option) or BI00 340, BIOE 428 and WILD 494 (aquatic option). Honors students are encouraged to enroll also in WILD 499. The balance of the coursework for the junior and senior years will be developed in consultation with the honors student’s faculty advisor.

All students in the honors emphasis are required to meet with their faculty advisor prior to autumn semester registration of their junior and senior years to work out their course schedules.

Bachelor of Science - Wildlife Biology; Aquatic Concentration

W.A Franke College of Forestry & Conservation

Degree Specific Credits: 84

Required Cumulative GPA: 2.5

Catalog Year: 2017-2018

Note: Experiential Learning is required - Students have several options to fulfill this requirement - list is available from the Wildlife Advisor in Forestry 103C

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

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Required Courses</td>
<td>20-21</td>
</tr>
<tr>
<td>Outside Major Required Courses</td>
<td>24-26</td>
</tr>
<tr>
<td>Major Required Courses</td>
<td>46</td>
</tr>
<tr>
<td>Writing Requirement</td>
<td>12-18</td>
</tr>
<tr>
<td>Mathematics Requirement</td>
<td>4</td>
</tr>
<tr>
<td>Symbolic Systems</td>
<td>8</td>
</tr>
<tr>
<td>Expressive Arts</td>
<td>3</td>
</tr>
<tr>
<td>Natural Sciences Requirement</td>
<td>12</td>
</tr>
<tr>
<td>Total Hours</td>
<td>129-138</td>
</tr>
</tbody>
</table>

Major Required Courses

Rule: Must take all courses

Note: Can take WRIT 325 (Honors) in place of NRSM 200

One out of the four is required: BIOE 406/BIOE 409, BIOM 427/BIOM 428, BIOO 462, WILD 485

Select one of the following: 3-4

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOE 406</td>
<td>Behavior &amp; Evolution</td>
</tr>
<tr>
<td>&amp; BIOE 409</td>
<td>and Behavior &amp; Evolution Discussion</td>
</tr>
<tr>
<td>BIOM 427</td>
<td>General Parasitology</td>
</tr>
<tr>
<td>&amp; BIOM 428</td>
<td>and General Parasitology Lab</td>
</tr>
<tr>
<td>BIOO 462</td>
<td>Entomology</td>
</tr>
<tr>
<td>WILD 485</td>
<td>Aquatic Invertebrate Ecology</td>
</tr>
<tr>
<td>BI0B 160N</td>
<td>Principles of Living Systems</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td>BI0B 161N</td>
<td>Prncpls of Living Systems Lab</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>BI0B 260</td>
<td>Cellular and Molecular Biology</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td>BI0B 272</td>
<td>Genetics and Evolution</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td>NRSM 200</td>
<td>Nat.Resource Professional Wrtg</td>
</tr>
<tr>
<td>or WRIT 325</td>
<td>Science Writing</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td>WILD 180</td>
<td>Careers in Wildlife Biology</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Total Hours 20-21

Minimum Required Grade: C-

Outside Major Required Courses

Rule: Must take all courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOE 406</td>
<td>Behavior &amp; Evolution</td>
<td>4</td>
</tr>
<tr>
<td>&amp; BIOE 409</td>
<td>and Behavior &amp; Evolution Discussion</td>
<td></td>
</tr>
<tr>
<td>BIOM 427</td>
<td>General Parasitology</td>
<td>4</td>
</tr>
<tr>
<td>&amp; BIOM 428</td>
<td>and General Parasitology Lab</td>
<td></td>
</tr>
</tbody>
</table>
BIOO 462  Entomology  4
WILD 485  Aquatic Invertebrate Ecology  3
CHMY 121N  Introduction to General Chemistry  3
CHMY 123  Introduction to Organic and Biochemistry  3
CHMY 124  Introduction to Organic and Biochemistry Lab  2
COMX 111A  Intro to Public Speaking  3
M 162  Applied Calculus  4
NRSM 200  Nat.Resource Professional Wrtg  3
STAT 216  Introduction to Statistics  3
or WILD 240  Intro to Biostatistics  3-4
WRIT 101  College Writing I  3
Total Hours  39-40

Minimum Required Grade: C-

Major Required Courses
Rule: Must take all courses

BIOE 370  General Ecology  3
BIOE 371  Gen Ecology Lab (equiv to 271)  2
BIOE 428  Freshwater Ecology  5
BIOM 427  General Parasitology  2
BIOM 428  General Parasitology Lab  2
BIOO 320  General Botany  5
BIOO 340  Biology and Mgmnt of Fishes  4
BIOO 462  Entomology  4
NRSM 385  Watershed Hydrology  3
WILD 346  Wildlife Physiological Ecology  3
WILD 408  Advanced Fisheries  3
WILD 410  Wildlife Policy & Biopolitics  3
or NRSM 422  Nat Res Policy/Administration  3
WILD 480  The Upshot--Appld Wildlife Mgt  3
WILD 485  Aquatic Invertebrate Ecology  3
WILD 494  Senior Wildlife Seminar  1
Total Hours  46

Minimum Required Grade: C-

Writing Requirement
Rule: Must complete the following subcategories
12-18 Total Credits Required

Lower Division Writing
Rule: Complete all of the following courses

WRIT 101  College Writing I  3
Select one of the following:

NRSM 200  Nat.Resource Professional Wrtg  3
WRIT 325  Science Writing (honors)  3
WRIT 201  College Writing II  3
Total Hours  6

Minimum Required Grade: C-

Upper Division Writing
BIOE 371  Gen Ecology Lab (equiv to 271)  2
Select two of the following:

BIOE 428  Freshwater Ecology  3
BIOO 320  General Botany  4
BIOO 470  Ornithology  3
BIOO 475  Mammalogy  3
WILD 408  Advanced Fisheries  3
WILD 470  Conserv of Wildlife Populatns  3
WILD 499  Thesis  3
Total Hours  6-12

Minimum Required Grade: C-

Mathematics Requirement
Rule: must take the following course

M 162  Applied Calculus  4
Total Hours  4

Minimum Required Grade: C-

Exception to the Modern/Classical Languages Requirement
Rule: The Wildlife Biology major has been granted an exception to the Modern/Classical Language Requirement. Must take one of the following courses to satisfy this requirement.

Must take one of the following:

M 162  Applied Calculus  3-4
STAT 216  Introduction to Statistics  3
WILD 240  Intro to Biostatistics  3
Total Hours  3-4

Minimum Required Grade: C-

Expressive Arts
Rule: Must take the following course

COMX 111A  Intro to Public Speaking  3
Total Hours  3

Minimum Required Grade: C-

Natural Sciences Requirement
Rule: Must take all courses

BIOB 160N  Principles of Living Systems  3
BIOB 161N  Prncpls of Living Systems Lab  1
CHMY 121N  Introduction to General Chemistry  3
CHMY 123  Introduction to Organic and Biochemistry  3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHMY 124</td>
<td>Introduction to Organic and Biochemistry Lab</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Hours  12

Minimum Required Grade: C-