Biology - Natural History

Bachelor of Arts - Biology; Natural History Concentration

College Humanities & Sciences

Degree Specific Credits: 73
Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

Note: The natural history concentration is designed for students who seek an interdisciplinary science program. This concentration is not research-oriented, and is not considered a preparatory program for traditional research-based graduate programs. It is, however, designed for students seeking careers in environmental education, science writing or illustration, natural history or wildlife film-making, or natural history centers or museums. There is enough latitude in the requirements to allow for a minor or even a double major in a related field of interest (e.g. journalism, art, media arts, etc.).

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
Biology/Microbiology Lower Division Core 17
Upper Division Core Courses Required by Natural History Concentration 20
Additional Upper Division Major Courses Required for Natural History Concentration 4
Required Courses Outside of the Major 32
Chemistry and Geology
Cognate Electives
Upper Division Writing Expectation for the Major 6-7
Total Hours 79-80

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 major courses.

AP Biology credit may be substituted for either BIOB 160N/BIOB 161N or BIOB 170N/BIOB 171N.

BIOB 160N Principles of Living Systems 3
BIOB 161N Pncples of Living Systems Lab 1
BIOB 170N Princps Biological Diversity 3
BIOB 171N Princpls Biological Dvrsty Lab 2
BIOB 260 Cellular and Molecular Biology 4
BIOB 272 Genetics and Evolution 4
Total Hours 17

Minimum Required Grade: C-

Upper Division Core Courses Required by Natural History Concentration
Rule: All of the following courses are required.

Select one of the following: 5

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOE 370</td>
<td>General Ecology</td>
<td></td>
</tr>
<tr>
<td>&amp; BIOE 371</td>
<td>and Gen Ecology Lab (equiv to 271)</td>
<td></td>
</tr>
<tr>
<td>BIOE 342</td>
<td>Field Ecology (taken at the Flathead Lake Biological Station)</td>
<td></td>
</tr>
<tr>
<td>BIOE 406</td>
<td>Behavior &amp; Evolution</td>
<td>3</td>
</tr>
<tr>
<td>BICO 320</td>
<td>General Botany</td>
<td>5</td>
</tr>
<tr>
<td>BICO 335</td>
<td>Rocky Mountain Flora</td>
<td>3</td>
</tr>
<tr>
<td>BICO 462</td>
<td>Entomology</td>
<td>4</td>
</tr>
</tbody>
</table>
Total Hours 20

Minimum Required Grade: C-

Additional Upper Division Major Courses Required for Natural History Concentration
Rule: Complete one of the following courses

BIOO 470 or BIOO 475
Ornithology
Mammalogy

Total Hours 4

Minimum Required Grade: C-

Required Courses Outside of the Major
Minimum Required Grade: C-

Chemistry and Geology
Rule: Complete all of the following courses

CHMY 121N Introduction to General Chemistry 3
CHMY 123 Introduction to Organic and Biochemistry 3
CHMY 124 Introduction to Organic and Biochemistry Lab 2
GEO 101N Introduction to Physical Geology 3
GEO 102N Introduction to Physical Geology Lab 1

Total Hours 12

Minimum Required Grade: C-

Cognate Electives
Rule: Complete 20 credits from the following disciplines (maximum of 10 credits/discipline): ANTY, ASTR, CHMY (excluding CHMY 121N, CHMY 123, CHMY 124), GPHY, GEO (excluding GEO 101N, GEO 102N), FORS, M, PHSX, STAT, or WILD

Note: Students should plan on taking M 121 or higher level M course (prerequisite for BIOB 272 and GER math requirement) and STAT 216 (pre- or co-requisite for BIOE 371).

Students interested in combining the Natural History concentration with another subject area may, with the advisor’s permission, substitute 20
credits in English - writing, journalism, photography, art, foreign language, business management, or other appropriate field.

---

**Advanced College Writing Requirement for the Major**

**Rule:** Complete the equivalent of a full writing course (either three 1/3 writing courses or one 2/3 writing course + one 1/3 writing course or one complete writing course).

**Note:** To meet the Advanced College Writing Requirement, Biology students take 2 or 3 partial writing courses (either three 1/3 writing courses or one 1/3 writing course and one 2/3 writing course) or one complete writing course. The Natural History concentration requires one 2/3 writing course (BIOE 371) and several 1/3 writing courses (BIOO 320, BIOO 470 or BIOO 475). No additional writing courses must be taken to meet this requirement.

Minimum Required Grade: C-

---

**Exception to the Modern/Classical Languages Requirement**

**Rule:** Choose one of the following Math courses

**Note:** The Division of Biological Sciences has been granted an exception to the Modern/Classical Language Requirement. Either of these Calculus courses will satisfy this requirement. The Natural History concentration does not require a calculus course; the Natural History student may choose to take one year of a modern or classical language, or they may take one of these calculus courses (which will count towards a cognate elective).

<table>
<thead>
<tr>
<th>Course</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>
</tbody>
</table>

Total Hours: 4

Minimum Required Grade: C-