Biology

Master of Biology, Directed Study track
This degree map is based on the 2023-24 Academic Catalog and is subject to change. Students should meet with their academic advisor each semester and use Degree Works to monitor their individual progress toward degree completion. The time it takes to earn a degree will vary based on several factors including summer/winter enrollment, dual enrollment and number of courses successfully completed each semester.

Sample 2 Year Plan- Full Time – Spring Start

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
<th>Summer Courses</th>
<th>Credits</th>
<th>Fall Courses</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Elective</td>
<td>3</td>
<td>Summer Courses</td>
<td></td>
<td>Research Methods or Bioinformatics</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td></td>
<td></td>
<td>Elective</td>
<td>3</td>
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<tr>
<td>Identify Directed Study and mentor</td>
<td>3</td>
<td>Directed Study Proposal</td>
<td>0</td>
<td>Semester Total 6</td>
<td></td>
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<tr>
<td>Semester Total 6</td>
<td></td>
<td>Semester Total 0</td>
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<td>Semester Total 6</td>
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<table>
<thead>
<tr>
<th>Second Year</th>
<th>Credits</th>
<th>Summer Courses</th>
<th>Credits</th>
<th>Fall Courses</th>
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</thead>
<tbody>
<tr>
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<td>Summer Courses</td>
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<tr>
<td>BIOL 593 Directed Study in Biology</td>
<td>3</td>
<td>Elective</td>
<td>3</td>
<td>Presentation of Directed Study</td>
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<tr>
<td>Oral Examination</td>
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<tr>
<td>Semester Total 6</td>
<td>6</td>
<td>Semester Total 0</td>
<td>0</td>
<td>Semester Total 6</td>
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</tr>
</tbody>
</table>

Total Credits: 30
Part- time or Full-time completion options are available.

Degree Requirements
This course map indicates full-time matriculation and a Spring semester start. However, the review of applications and acceptance into this program is in a rolling basis. A student can start in any semester and can choose a part-time option as well. An adviser will establish a course map for you if you decide to start in Spring/Summer semesters or decide to take a part-time option.

Students must complete all 30 credits and all course requirements for the selected major. Meet with your advisor and consult Degree Works to monitor your progress and for all graduation requirements.

A minimum GPA of 3.0 is required to maintain enrollment in the program.

Campus Locations

- Bloomsburg: Online; In-person; Blended
- Lock Haven: Online; In-person; Blended
- Mansfield: Online; In-person; Blended
- Clearfield: Online; In-person; Blended
# Curriculum Checklist

**A. Biological Research Methods OR Biostatistics (3 credits)**

**___**BIOL 586 Analysis and Communication of Biological Data

**___**STAT 546 Biostatistics

**B. Directed Study (3 credits)**

**___**BIOL 594 Master of Science Thesis

**C. Topic Specific Electives (24 credits)**

**___**BIOL 500 Dendrology (3)

**___**BIOL 501 Entomology (3)

**___**BIOL 519 Ecosystems (3)

**___**BIOL 520 Global Change Bio (3)

**___**BIOL 530 Evolution (3)

**___**BIOL 531 Mycology (3)

**___**BIOL 532 Ornithology (3)

**___**BIOL 533 Ichthyology (3)

**___**BIOL 534 Herpetology (3)

**___**BIOL 535 Conservation Genetics (3)

**___**BIOL 538 Environmental Policies (3)

**___**BIOL 539 Hum Dim in Fisheries Mg (3)

**___**BIOL 541 Mg of Lg Impoundments (3)

**___**BIOL 543 Molecular Biology (3)

**___**BIOL 544 Molecular Biology lab (1)

**___**BIOL 545 Pharmacology (3)

**___**BIOL 546 Immunology (3)

**___**BIOL 547 Immunology lab (1)

**___**BIOL 548 Advanced Parasitology (3)

**___**BIOL 550 Developmental Biology (3)

**___**BIOL 551 Conservation Biology (3)

**___**BIOL 552 Freshwater Ecology (3)

**___**BIOL 553 Freshwater Entomology (3)

**___**BIOL 554 Algae of Freshwater Eco (3)

**___**BIOL 555 Community Ecology (3)

**___**BIOL 556 Enviro Toxicology (3)

**___**BIOL 560 Plants, Animals, Natural History of PA (3)

**___**BIOL 561 Animal Behavior (3)

**___**BIOL 562 Cancer Biology (3)

**___**BIOL 565 Medical Genomics (3)

**___**BIOL 566 Bioinformatics (3)

**___**BIOL 567 Plant Physiology (3)

**___**BIOL 569 Special Topics in Biology (3)

**___**BIOL 570 Tissue Culture (1)

**___**BIOL 571 Endocrinology (3)

**___**BIOL 573 Environmental Physiology (3)

**___**BIOL 574 Human Physiology (3)

**___**BIOL 575 Animal Cell Physiology (3)

**___**BIOL 576 Neurophysiology (3)

**___**BIOL 577 Comparative Animal Physiology (3)

**___**BIOL 580 Integrated Physiology lab (1)

**___**BIOL 586 Analysis & Comm of Bio Data (3)

**___**BIOL 587 Genomics and Genetic Engineering (2)

**___**BIOL 589 Internship in Biology (3-6crs)

*Take with BIOL 587