Bachelor of Science in Biology

Program Curriculum

120 credits

DSU General Education Requirements

All DSU General Education requirements must be fulfilled. A previously earned degree may fulfill those requirements, but courses must be equivalent to DSU’s minimum General Education standards in American Institutions, English, and Mathematics.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Education Core Requirements (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)</td>
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<tr>
<td>English</td>
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<td>Mathematics</td>
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<td>American Institutions</td>
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<tr>
<td>Life Sciences</td>
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<td>Physical Sciences</td>
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<td>Laboratory Science</td>
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<tr>
<td>Fine Arts</td>
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<tr>
<td>Literature/Humanities</td>
<td>3</td>
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<tr>
<td>Social &amp; Behavioral Sciences</td>
<td>3</td>
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<tr>
<td>Exploration</td>
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Biology Program Requirements

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<tr>
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<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CHEM 1210 &amp; CHEM 1215</td>
<td>Principles of Chemistry I (PS) and Principles of Chemistry I Lab (LAB)</td>
<td>5</td>
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<tr>
<td>CHEM 1220 &amp; CHEM 1225</td>
<td>Principles of Chemistry II and Principles of Chemistry II Lab</td>
<td>5</td>
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<tr>
<td>CHEM 2310 &amp; CHEM 2315</td>
<td>Organic Chemistry I and Organic Chemistry I Lab</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 2320 &amp; CHEM 2325</td>
<td>Organic Chemistry II and Organic Chemistry II Lab</td>
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<tr>
<td>MATH 1210</td>
<td>Calculus I (MA)</td>
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</table>

Complete one of the following series of courses:

Series 1:
- PHYS 2010 & PHYS 2015: College Physics I (PS) and College Physics I Lab (LAB)
- PHYS 2020 & PHYS 2025: College Physics II and College Physics II Lab

Series 2:
- PHYS 2210 & PHYS 2215: Physics/Scientists Engineers I (PS) and Physics/Scientists Engineers Lab (LAB)
- PHYS 2220 & PHYS 2225: Physics/Scientists Engineers II and Physics/Scientists Engineers II Lab

Biology Core Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOL 1610 &amp; BIOL 1615</td>
<td>Principles of Biology I (LS) and Principles of Biology I Lab (LAB)</td>
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<tr>
<td>BIOL 1620 &amp; BIOL 1625</td>
<td>Principles of Biology II and Principles of Biology II Lab</td>
<td>5</td>
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<tr>
<td>BIOL 3010</td>
<td>Evolution</td>
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<tr>
<td>BIOL 3030</td>
<td>Principles of Genetics</td>
<td>4</td>
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<tr>
<td>Code</td>
<td>Title</td>
<td>Hours</td>
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<tr>
<td>BIOL 3040</td>
<td>General Ecology</td>
<td>4</td>
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<tr>
<td>&amp; BIOL 3045</td>
<td>and General Ecology Lab</td>
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<tr>
<td>BIOL 3150</td>
<td>Biostatistics and the Scientific Method</td>
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<tr>
<td>&amp; BIOL 3155</td>
<td>and Biostatistics and the Scientific Method Lab</td>
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Complete one of the following sets of courses:

<table>
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<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>BIOL 3450</td>
<td>General Microbiology</td>
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<tr>
<td>&amp; BIOL 3455</td>
<td>and General Microbiology Lab</td>
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<tr>
<td>BIOL 3550</td>
<td>Eukaryotic Cell Biology</td>
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<tr>
<td>&amp; BIOL 3555</td>
<td>and Eukaryotic Cell Biology Lab</td>
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Complete one of the following courses:

<table>
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<th>Title</th>
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<tr>
<td>BIOL 4910</td>
<td>Senior Seminar I</td>
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<tr>
<td>BIOL 4920</td>
<td>Senior Seminar II</td>
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### Biology Elective Requirements

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<th>Title</th>
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Complete one of the following sets of courses:

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOL 4500</td>
<td>Comparative Vertebrate Physiology</td>
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<tr>
<td>&amp; BIOL 4505</td>
<td>and Comparative Vertebrate Physiology Lab</td>
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<tr>
<td>BIOL 4600</td>
<td>Plant Physiology</td>
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<tr>
<td>&amp; BIOL 4605</td>
<td>and Plant Physiology Lab</td>
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Complete one of the following courses or sets of courses:

<table>
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<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOL 3200</td>
<td>Invertebrate Zoology</td>
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<tr>
<td>&amp; BIOL 3205</td>
<td>and Invertebrate Zoology Lab</td>
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<tr>
<td>BIOL 4200</td>
<td>Plant Taxonomy</td>
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<tr>
<td>&amp; BIOL 4205</td>
<td>and Plant Taxonomy Lab</td>
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<tr>
<td>BIOL 4260</td>
<td>Herpetology</td>
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<tr>
<td>&amp; BIOL 4265</td>
<td>and Herpetology Lab</td>
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<tr>
<td>BIOL 4270</td>
<td>Ichthyology</td>
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<tr>
<td>&amp; BIOL 4275</td>
<td>and Ichthyology Lab</td>
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<tr>
<td>BIOL 4280</td>
<td>Marine Biology</td>
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<tr>
<td>BIOL 4380</td>
<td>Ornithology</td>
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<tr>
<td>&amp; BIOL 4385</td>
<td>and Ornithology Lab</td>
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<tr>
<td>BIOL 4411</td>
<td>Mammalogy</td>
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<tr>
<td>&amp; BIOL 4415</td>
<td>and Mammalogy Lab</td>
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<tr>
<td>BIOL 4440</td>
<td>General Entomology</td>
<td></td>
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<tr>
<td>&amp; BIOL 4445</td>
<td>and General Entomology Lab</td>
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Complete 14-15 credits from the following or from any upper-division BIOL course listed above not already used to fulfill a requirement:

<table>
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<th>Code</th>
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<tbody>
<tr>
<td>BIOL 3000R</td>
<td>Rural Health Scholars (2 cr. max.)</td>
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<tr>
<td>BIOL 3100</td>
<td>Bioethics</td>
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<tr>
<td>BIOL 3110</td>
<td>Scientific Writing</td>
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<tr>
<td>BIOL 3140</td>
<td>Comparative Vertebrate Anatomy</td>
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<tr>
<td>&amp; BIOL 3145</td>
<td>and Comparative Vertebrate Anatomy Lab</td>
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</tr>
<tr>
<td>BIOL 3230R</td>
<td>Cadaver Practicum</td>
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</tr>
<tr>
<td>BIOL 3250</td>
<td>Cancer Biology</td>
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<tr>
<td>BIOL 3340</td>
<td>Plant Anatomy</td>
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<tr>
<td>&amp; BIOL 3345</td>
<td>and Plant Anatomy Lab</td>
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<tr>
<td>BIOL 3360</td>
<td>Developmental Biology</td>
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<tr>
<td>BIOL 4190</td>
<td>Mammalian Histology</td>
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<tr>
<td>&amp; BIOL 4195</td>
<td>and Mammalian Histology Lab</td>
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<tr>
<td>BIOL 4240</td>
<td>Virology</td>
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<tr>
<td>&amp; BIOL 4245</td>
<td>and Virology Lab</td>
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<tr>
<td>BIOL 4300</td>
<td>Molecular Biology</td>
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<tr>
<td>&amp; BIOL 4305</td>
<td>and Molecular Biology Laboratory</td>
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<tr>
<td>BIOL 4350</td>
<td>Animal Behavior</td>
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<tr>
<td>&amp; BIOL 4355</td>
<td>and Animal Behavior Lab</td>
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<tr>
<td>Course</td>
<td>Title</td>
<td>Hours</td>
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<tr>
<td>BIOL 4400</td>
<td>Pathophysiology</td>
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<td>BIOL 4460</td>
<td>Plant Ecology</td>
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<td>&amp; BIOL 4465</td>
<td>and Plant Ecology Lab</td>
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<tr>
<td>BIOL 4810R</td>
<td>Independent Research I</td>
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<tr>
<td>BIOL 4820R</td>
<td>Independent Research II</td>
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<tr>
<td>BIOL 4830R</td>
<td>Independent Research III</td>
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<tr>
<td>BIOL 4930R</td>
<td>Senior Thesis</td>
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**Note:**
A course may only be used to fulfill one program requirement.

**Advising Note:**
Pre-health professionals should complete CHEM 3510 Biochemistry I and a diversity course.

**Graduation Requirements**
1. Complete a minimum of 120 college-level credits (1000 and above).
2. Complete at least 40 upper-division credits (3000 and above).
3. Complete at least 30 upper-division credits at DSU for institutional residency.
4. Cumulative GPA 2.0 or higher.
5. Grade C or higher required (not C-) in each Program Requirement, Core Discipline Requirement, and Biology Elective Requirement course.
6. Maximum 6 total credits of BIOL 4810R, BIOL 4820R, BIOL 4830R, and/or BIOL 4930R may be used toward Biology requirements.

**Graduation Plan**

### 1st Year

#### Fall Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>SSC 1010</td>
<td>Trailblazer Connections</td>
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<td>BIOL 1610</td>
<td>Principles of Biology I (LS)</td>
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<tr>
<td>&amp; BIOL 1615</td>
<td>and Principles of Biology I Lab (LAB) (meets General Education (Life Sciences) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext))</td>
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<tr>
<td>CHEM 1210</td>
<td>Principles of Chemistry I (PS)</td>
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<td>&amp; CHEM 1215</td>
<td>and Principles of Chemistry I Lab (LAB) (meets General Education (Physical Sciences) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext))</td>
<td>5</td>
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<tr>
<td>ENGL 1010</td>
<td>Introduction to Writing (EN)</td>
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#### Spring Semester

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<tr>
<td>BIOL 1620</td>
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<td>&amp; BIOL 1625</td>
<td>and Principles of Biology II Lab</td>
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<tr>
<td>CHEM 1220</td>
<td>Principles of Chemistry II</td>
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<td>&amp; CHEM 1225</td>
<td>and Principles of Chemistry II Lab</td>
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<td>ENGL 2010</td>
<td>Interim Writing Selected Topics: (EN)</td>
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### 2nd Year

#### Fall Semester

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<tr>
<td>BIOL 3030</td>
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<td>CHEM 2310</td>
<td>Organic Chemistry I</td>
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<tr>
<td>&amp; CHEM 2315</td>
<td>and Organic Chemistry I Lab</td>
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</tr>
<tr>
<td>General Education (Literature/Humanities) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)</td>
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<tr>
<td>MATH 1210</td>
<td>Calculus I (MA)</td>
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<tr>
<td></td>
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#### Spring Semester

<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOL 3010</td>
<td>Evolution</td>
<td>3</td>
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<tr>
<td>BIOL 3040</td>
<td>General Ecology</td>
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<tr>
<td>&amp; BIOL 3045</td>
<td>and General Ecology Lab</td>
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<td>Year</td>
<td>Semester</td>
<td>Course(s)</td>
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<tr>
<td>3rd</td>
<td>Fall</td>
<td>CHEM 2320                   Organic Chemistry II</td>
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<td>&amp; CHEM 2325                 and Organic Chemistry II Lab</td>
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<tr>
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<td>General Education (Social &amp; Behavioral Sciences)</td>
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<td><strong>Total Hours</strong></td>
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<td>Spring</td>
<td>BIOL Requirement (Approved Micro course/ Lab)</td>
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<td>BIOL Elective (Upper-division Biology elective)</td>
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<td>PHYS (Required Physics I course/ Lab) meets General Education (Exploration)</td>
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<td>General Education (American Institutions)</td>
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<tr>
<td>4th</td>
<td>Fall</td>
<td>BIOL 3150                   Biostatistics and the Scientific Method</td>
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<td>PHYS (Required Physics II course/ Lab)</td>
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<td>General Elective</td>
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<tr>
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<td>Spring</td>
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<td>or BIOL 4920                 or Senior Seminar II</td>
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<td></td>
<td>BIOL Requirement (Organismal course)</td>
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<td></td>
<td>BIOL Elective (Upper-division Biology elective)</td>
</tr>
<tr>
<td></td>
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<td>General Elective</td>
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<tr>
<td></td>
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<td>General Elective</td>
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<td></td>
<td></td>
<td><strong>Total Hours</strong></td>
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<tr>
<td></td>
<td>Spring</td>
<td>BIOL 4910                   Senior Seminar I</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or BIOL 4920                 or Senior Seminar II</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BIOL Elective (Upper-division Biology elective)</td>
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<tr>
<td></td>
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<td>BIOL Elective (Upper-division Biology elective)</td>
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<td>General Elective(s)</td>
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<tr>
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<td></td>
<td><strong>Total Hours</strong></td>
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<tr>
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<td><strong>Total Hours</strong></td>
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