# Program Requirements

## Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 520</td>
<td>Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>or BIOL 540</td>
<td>Mammalian Physiology</td>
<td></td>
</tr>
<tr>
<td>BIOL 547</td>
<td>Molecular Biology I</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 570</td>
<td>Ecology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 597</td>
<td>Research in Biological Literature</td>
<td>1</td>
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</table>

## Electives and Culminating Experience

### Biology Areas of Emphasis

Select 16-19 credits from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 500</td>
<td>Introductory Molecular Cell Biology</td>
</tr>
<tr>
<td>BIOL 510</td>
<td>Biology Pedagogy for Secondary Teachers</td>
</tr>
<tr>
<td>BIOL 512</td>
<td>Topics in Modern Genetics</td>
</tr>
<tr>
<td>BIOL 513</td>
<td>Instrumentation and Techniques for Biological Science</td>
</tr>
<tr>
<td>BIOL 514</td>
<td>Graduate Seminar in Biology</td>
</tr>
<tr>
<td>BIOL 518</td>
<td>Strategies for Teaching College Biology</td>
</tr>
<tr>
<td>BIOL 520</td>
<td>Plant Physiology</td>
</tr>
<tr>
<td>BIOL 521</td>
<td>Field Studies of Flowering Plants</td>
</tr>
<tr>
<td>BIOL 522</td>
<td>Plant Pathology</td>
</tr>
<tr>
<td>BIOL 529</td>
<td>Advanced Herpetology</td>
</tr>
<tr>
<td>BIOL 532</td>
<td>Advanced Entomology</td>
</tr>
<tr>
<td>BIOL 533</td>
<td>Advanced Cell Biology</td>
</tr>
<tr>
<td>BIOL 540</td>
<td>Mammalian Physiology</td>
</tr>
<tr>
<td>BIOL 542</td>
<td>Advanced Endocrinology</td>
</tr>
<tr>
<td>BIOL 543</td>
<td>Advances in Immunology</td>
</tr>
<tr>
<td>BIOL 544</td>
<td>Advanced Comparative Animal Physiology</td>
</tr>
<tr>
<td>BIOL 545</td>
<td>Experimental Endocrinology</td>
</tr>
<tr>
<td>BIOL 546</td>
<td>Topics in Physiology</td>
</tr>
<tr>
<td>BIOL 548</td>
<td>Molecular Biology II</td>
</tr>
<tr>
<td>BIOL 549</td>
<td>Topics in Developmental Biology</td>
</tr>
<tr>
<td>BIOL 550</td>
<td>Topics in Microbiology</td>
</tr>
<tr>
<td>BIOL 551</td>
<td>Intermediate Metabolism I</td>
</tr>
<tr>
<td>BIOL 552</td>
<td>Biology of Lipids</td>
</tr>
<tr>
<td>BIOL 554</td>
<td>Microbial Physiology</td>
</tr>
<tr>
<td>BIOL 555</td>
<td>Medical Genetics</td>
</tr>
<tr>
<td>BIOL 556</td>
<td>Molecular Biology of Proteins</td>
</tr>
<tr>
<td>BIOL 557</td>
<td>Virology</td>
</tr>
<tr>
<td>BIOL 558</td>
<td>Microbial Genetics</td>
</tr>
<tr>
<td>BIOL 560</td>
<td>Molecular Genetics</td>
</tr>
<tr>
<td>BIOL 565</td>
<td>Advanced Plant Molecular Genetics</td>
</tr>
<tr>
<td>BIOL 571</td>
<td>Physiological Plant Ecology</td>
</tr>
<tr>
<td>BIOL 574</td>
<td>Behavioral Ecology</td>
</tr>
<tr>
<td>BIOL 576</td>
<td>Biology of Extreme Habitats</td>
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<tr>
<td>BIOL 579</td>
<td>Physiological Ecology of Animals</td>
</tr>
<tr>
<td>BIOL 580</td>
<td>Evolutionary Mechanisms</td>
</tr>
<tr>
<td>BIOL 586</td>
<td>Selected Advanced Topics in Biology</td>
</tr>
<tr>
<td>BIOL 592</td>
<td>Graduate Colloquium</td>
</tr>
<tr>
<td>BIOL 593</td>
<td>Molecular Ecology</td>
</tr>
<tr>
<td>BIOL 594</td>
<td>Signal Transduction</td>
</tr>
<tr>
<td>BIOL 595</td>
<td>Conservation Biology: The Preservation of Biological Diversity</td>
</tr>
<tr>
<td>BIOL 596</td>
<td>Selected Techniques in Biology Science Education</td>
</tr>
<tr>
<td>BIOL 598</td>
<td>Selected Techniques in Molecular Biology</td>
</tr>
</tbody>
</table>

0-4 credits from the following may be used:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIMS 592</td>
<td>Bacteriological Techniques in Marine Sampling</td>
</tr>
<tr>
<td>BIOL 572</td>
<td>Wetland Ecology</td>
</tr>
<tr>
<td>BIOL 573</td>
<td>Shoreline Ecology</td>
</tr>
</tbody>
</table>

0-6 credits from the following may be taken with advisor approval:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 530</td>
<td>Advanced Organic Chemistry</td>
</tr>
<tr>
<td>CHEM 532</td>
<td>Organic Synthesis</td>
</tr>
<tr>
<td>CHEM 570</td>
<td>Advanced Biochemistry</td>
</tr>
<tr>
<td>EAES 502</td>
<td>The Dynamic Earth</td>
</tr>
<tr>
<td>EAES 505</td>
<td>Environmental Geoscience</td>
</tr>
<tr>
<td>EAES 526</td>
<td>Geochemistry</td>
</tr>
<tr>
<td>EAES 545</td>
<td>Paleocology</td>
</tr>
<tr>
<td>EAES 550</td>
<td>Advanced Marine Geology</td>
</tr>
</tbody>
</table>

### Thesis or Non-Thesis Option

Select one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 698</td>
<td>Master's Thesis</td>
</tr>
</tbody>
</table>

Submit the completed Thesis original and one copy to the Graduate Office. See Thesis Guidelines for details.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 599</td>
<td>Introduction to Biological Research</td>
</tr>
</tbody>
</table>

GRAD CMP Comprehensive Examination

In the term that you will sit for exam, register for the section which matches your major & advisor. Successfully pass exam.

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1. BIOL 514 is recommended.
2. Or Biology/Lab Field course approved by Graduate Program Coordinator.