BIOLOGICAL SCIENCES (MS)

A program of study leading to the Master of Science degree in Biology designed for students who:

- Have a strong desire to increase their understanding of the life sciences.
- Plan additional education at the master's level for increased proficiency in teaching and/or research.
- Plan to continue study toward the PhD.

Learning Outcomes

Students will be able to:

- Apply biology knowledge to design a scientific study to test an original hypothesis.
- Distinguish among the diversity of fields and approaches within Biology.
- Critically analyze and evaluate the validity of scientific findings.
- Effectively communicate scientific information in both written and oral form.
- Conduct a novel research study using the scientific method with qualitative and/or quantitative data analysis and explain its relevance and contribution to science.

Degree Requirements

Course Requirements

50 hours of graduate credit including:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Quarter Hours</th>
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</thead>
<tbody>
<tr>
<td>BIO 402</td>
<td>INTRODUCTION TO GRADUATE STUDIES</td>
<td>2</td>
</tr>
<tr>
<td>BIO 403</td>
<td>DEVELOPMENT OF TOPICS FOR RESEARCH</td>
<td>4</td>
</tr>
<tr>
<td>BIO 494</td>
<td>COMMUNICATING SCIENCE</td>
<td>4</td>
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<tr>
<td>BIO 499</td>
<td>THESIS RESEARCH (20 quarter hours)</td>
<td>20</td>
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Select at least one course from each core area:

Ecology, Evolution, and Population Biology

Select at least one course from each core area:

- Select one course from the Ecology, Evolution, and Population biology core area
- Select one course from the Genetics, Cell and Molecular biology core area
- Select one course from the Physiology and Neurobiology core area
- Select two additional courses from any of the core areas

Graduate students are also required to attend all of the seminars presented in the department’s Seminar Series.

Core Areas of Study

Ecology, Evolution, and Population Biology

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<thead>
<tr>
<th>Course</th>
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<th>Quarter Hours</th>
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<tbody>
<tr>
<td>BIO 415</td>
<td>TOPICS IN ECOLOGY</td>
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<tr>
<td>BIO 417</td>
<td>AQUATIC BIOLOGY</td>
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BIO 490, as appropriate, may also be approved in one of the three core areas.

BIO 406 can be taken as an elective.
Advancement to Candidacy
Based upon the results of a qualifying examination taken near the end of the third quarter of the student’s first full year and earning grades of B or better on graduate courses taken during the first year. Participation in undergraduate laboratory instruction is strongly encouraged.

Thesis Requirement
Results based upon an independent laboratory investigation.

Final Examination Requirement
An oral examination, including presentation of a seminar based on the MS thesis research, and a period of questioning on the thesis, the area of research which the thesis addresses, and basic biology as it relates to the thesis area.

Graduation Requirements
In order to graduate, students must satisfy the degree requirements as specified in the course catalog for MS degrees, including but not limited to maintaining a minimum cumulative GPA of 3.00.

Graduation with Distinction
This program does not offer the “With Distinction” designation at the time of graduation.

Time Limitation
Students pursuing a master’s degree must complete all requirements for the master’s degree within a maximum of six years from their first term of enrollment in the program.