Ph.D. in Ecology and Evolutionary Biology

The EEB doctoral program provides a training environment in ecological and evolutionary science for future scientists and societal leaders that focuses on research that challenges and/or improves current theory and knowledge and has the capacity to be relevant to society. Faculty in the EEB program work on scales ranging from molecules to global change, in terrestrial and aquatic systems both regionally and around the world. In particular, our research focuses in two key areas: Biodiversity and Global Change Ecology.

Admission Requirements

1. Bachelor’s degree from an accredited institution in the United States or proof of equivalent education in a foreign institution, with:
   a. Two semesters of Organic Chemistry with lab.
   b. One semester of Calculus.
   c. Coursework in Physiology, Microbiology, Cell Biology, Biochemistry, and Genetics.
2. Competitive scores in the Verbal, Quantitative, and Analytical Writing components of the Graduate Record Examination (GRE).
3. Personal statement of research and professional interests.
4. Three letters of recommendation indicating endorsement of the applicant for doctoral study.
5. Competitive TOEFL score for international applicants whose first language is not English or who have not completed a university degree in the U.S. or at an English-speaking institution. Successful candidates typically have scores above 550.

Degree Requirements

With departmental approval, students entering the program with a master’s degree can count up to 24 semester hours of graduate coursework towards advanced standing in the PhD degree. Students with deficiencies in Cell Biology, Genetics, Ecology, or Evolutionary Theory will be required to take additional coursework to remove the deficiencies.

Admission to Candidacy

The student must pass a qualifying oral examination to advance to candidacy for the doctorate. This exam is designed to assess the candidate's knowledge and understanding of the material covered in the core courses as well as the candidate's ability to rationally discuss the design, implementation, and analysis of a research problem of the student's and the committee's choosing. The Preliminary Examination Committee will determine whether the student displays sufficient breadth of knowledge and understanding of basic principles to undertake original research.

Dissertation

A dissertation demonstrating both the ability to do original independent research and competence in scholarly exposition will be required of all students. The dissertation must present original research and should provide the basis for one or more publishable contributions to the research literature. The dissertation will be supervised by the Dissertation Advisor, in consultation with a Dissertation Committee consisting of at least three additional members, at least one of whom must be a graduate faculty member from outside the Department of Biological Sciences. The candidate will present a dissertation proposal for approval by the Dissertation Committee.

Final Oral Examination

Upon completion of the dissertation, the student must defend, in public, his or her work. The Dissertation Committee will be responsible for administering the final public oral defense and will have the responsibility of determining whether the written dissertation and its oral presentation and defense are acceptable.

Degree Plan

Required Credits: 60

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>BIOL 5130</td>
<td>Seminar (Complete three semesters)</td>
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<tr>
<td>BIOL 5322</td>
<td>Advances/Evolutionary Theory</td>
<td>3</td>
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<tr>
<td>BIOL 5327</td>
<td>Advances in Ecological Theory</td>
<td>3</td>
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<tr>
<td>BIOL 5328</td>
<td>Biostatistics</td>
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<td>BIOL 5301</td>
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PhD in Ecology and Evolutionary Biology (All courses require a grade of C or better)
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>BIOL 5305</td>
<td>Herpetology</td>
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<td>BIOL 5313</td>
<td>Biogeography</td>
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<td>BIOL 5316</td>
<td>Biosystematics</td>
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<tr>
<td>BIOL 5329</td>
<td>Physiology of Bacterial Cell</td>
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<td>BIOL 5340</td>
<td>Structure/Funct Macromolecules</td>
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<tr>
<td>BIOL 5344</td>
<td>Molecular Pathogenesis</td>
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<tr>
<td>BIOL 5351</td>
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<td>BIOL 5360</td>
<td>Limnology</td>
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<td>BIOL 6301</td>
<td>Basic Principles of Toxicology</td>
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<td>BIOL 6304</td>
<td>Physiological Regulatory Mech</td>
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<td>BIOL 6310</td>
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<td>BIOL 6312</td>
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<td>ESE 6301</td>
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<tr>
<td>GEOP 5336</td>
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<td>GEOP 5361</td>
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<td>MATH 5388</td>
<td>Multivariate Data Analysis</td>
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<tr>
<td>MATH 5391</td>
<td>Time Series Analysis</td>
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Select twenty-seven hours from the following: 27

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<td>BIOL 6690</td>
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**Thesis:**

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<td>BIOL 6398</td>
<td>Dissertation</td>
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<tr>
<td>&amp; BIOL 6399</td>
<td>and Dissertation</td>
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**Total Hours** 63