DOCTOR OF PHILOSOPHY (PhD) DEGREE IN THE FIELD OF ECOLOGY AND EVOLUTIONARY BIOLOGY

Program Learning Outcomes for the PhD Degree in the field of Ecology and Evolutionary Biology

Upon completing the PhD degree in the field of Ecology and Evolutionary Biology, students will be able to:

1. Demonstrate comprehensive knowledge of current and past research accomplishments and techniques in ecology and evolutionary biology.
2. Synthesize and critically evaluate scientific literature and concepts in ecology and evolutionary biology.
3. Identify novel and potentially transformative research questions in ecology and evolutionary biology and synthesize credible paths towards answering them.
4. Demonstrate technical proficiency in a range of ecology and evolutionary biology research methods.
5. Demonstrate the effective written communication skills required for scientific publications, grant proposal submissions, and a thesis describing independent research.
6. Demonstrate the effective oral and visual communication skills necessary for articulating scientific findings and significance to diverse audiences.
7. Understand pedagogical methods appropriate for teaching undergraduate students in biology.

Requirements for the PhD Degree in the field of Ecology and Evolutionary Biology

For general university requirements, please see Doctoral Degrees (ga.rice.edu/graduate-students/academic-policies-procedures/regulations-procedures-doctoral-degrees). Students pursuing the PhD Degree in the field of Ecology and Evolutionary Biology must complete the requirements as listed below.

Course Requirements

Most of the formal course studies will be completed in the first year of residence to allow the students to begin thesis research at the end of their second semester at Rice. Entering students will meet with their faculty advisor to form a course of study for the first year. Students should have completed coursework in ecology, evolution (or equivalent), mathematics (including calculus), and statistics prior to admission. Deficiencies in these subject areas should be made up during the first year of residence; some may be waived at the discretion of the EEB Graduate Advising Committee and the EEB Graduate Program Director.

The following Rice courses must be taken if students lack course work in ecology or evolution in their final undergraduate transcript:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIO 325</td>
<td>ECOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>EBIO 334 / BIOC 334</td>
<td>EVOLUTION</td>
<td>3</td>
</tr>
</tbody>
</table>

Summary

Total Credit Hours Required for the PhD Degree in the field of Ecology and Evolutionary Biology

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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Degree Requirements

Required Graduate-Level Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>EBIO 569</td>
<td>CORE COURSE IN ECOLOGY AND EVOLUTIONARY BIOLOGY (course repeatable for credit)</td>
<td>3 credit hours or more</td>
</tr>
<tr>
<td>Select 2 from the following (two semesters of any combination of EBIO &quot;Topics&quot; courses): ¹</td>
<td>2 credit hours or more</td>
<td></td>
</tr>
<tr>
<td>EBIO 561</td>
<td>TOPICS IN EVOLUTION</td>
<td></td>
</tr>
<tr>
<td>EBIO 562</td>
<td>TOPICS IN BEHAVIORAL BIOLOGY</td>
<td></td>
</tr>
<tr>
<td>EBIO 563</td>
<td>TOPICS IN ECOLOGY</td>
<td></td>
</tr>
<tr>
<td>EBIO 568</td>
<td>TOPICS IN BIOLOGICAL DIVERSITY</td>
<td></td>
</tr>
<tr>
<td>EBIO 585</td>
<td>GRADUATE SEMINAR IN ECOLOGY AND EVOLUTIONARY BIOLOGY (required in all years of residency, fall semester)</td>
<td>1 credit hour per year</td>
</tr>
<tr>
<td>EBIO 586</td>
<td>GRADUATE SEMINAR/ECOLOGY AND EVOLUTIONARY BIOLOGY (required in all years of residency, spring semester)</td>
<td>1 credit hour per year</td>
</tr>
<tr>
<td>EBIO 591</td>
<td>GRADUATE TEACHING IN ECOLOGY AND EVOLUTIONARY BIOLOGY (two semesters)</td>
<td>3 credit hours per semester</td>
</tr>
<tr>
<td>EBIO 801</td>
<td>EEB GRADUATE RESEARCH ²</td>
<td>Variable credit hours</td>
</tr>
</tbody>
</table>

Additional Coursework as Approved by Department

Total Credit Hours

Minimum of 90

Footnotes and Additional Information

¹ At least two special topics courses must be completed before candidacy. Students are strongly encouraged to take at least one topics course per semester during all years of residency.

² EBIO 801 Graduate Research credit hours vary depending on the number of other courses the student is taking in a given semester.

Evaluation of Progress in Graduate Study

Students must maintain a minimum grade average of B (3.0 grade points) in courses taken in the department and satisfactory grades in courses taken outside the department. Students must demonstrate satisfactory progress in their degree program in annual reviews by the EEB Graduate Advising Committee. The review process requires that each student:

• presents a public seminar on their research on Graduate Science Day
• prepares a written report on their progress
First-year students must also participate in an interview with the EEB Graduate Advising Committee.

**MS Degree Program**
Although students are not normally admitted to study for an MS, graduate students may earn the MS after obtaining approval of their candidacy for the PhD. In addition to the general university requirements and those listed above, the Master of Science degree in Ecology and Evolutionary Biology requires at least 10 hours of research credit.

**PhD Degree Program**
In addition to the general university requirements and those listed above, the PhD degree in Ecology and Evolutionary Biology requires:

- Passing the admission to candidacy examination given by the dissertation committee. (The committee will be composed of at least four members. At least three must be members of the EEB graduate program faculty and one member has to be a Rice faculty member outside the Biosciences department.)
- Complete an original investigation and a doctoral thesis with at least three chapters with the potential to produce publications in reputable, peer-reviewed scientific journals.
- Present a departmental seminar on the research.
- Publicly defend the doctoral thesis.

**Policies for the PhD Degree in the field of Ecology and Evolutionary Biology**

**Ecology and Evolutionary Graduate Program Handbook**
The General Announcements (GA) is the official Rice curriculum. As an additional resource for students, Ecology and Evolutionary Biology publishes a graduate program handbook, which can be found here: [http://gradhandbooks.rice.edu/2017_18/Ecology_Evolutionary_Biology_Graduate_Handbook.pdf](http://gradhandbooks.rice.edu/2017_18/Ecology_Evolutionary_Biology_Graduate_Handbook.pdf).

**Admission**
Applicants for graduate study in the Ecology and Evolutionary Biology Program must have:

- BA or BS degree or equivalent that provides a strong background in biology
- Strong ability and motivation, as indicated by academic record, Graduate Record Examination (GRE) scores, and recommendations
- Scores from the GRE biology subject exam are optional but can be helpful, particularly for student with nontraditional backgrounds in biology

These requirements do not preclude admission of qualified applicants who have majored in areas other than biology. Although the department offers MA and MS degrees, only on rare occasions are students who do not intend to pursue the PhD admitted to the graduate program. For general university requirements, see Graduate Degrees ([ga.rice.edu/graduate-students/academic-opportunities/degrees](http://ga.rice.edu/graduate-students/academic-opportunities/degrees)).

For additional information, please see the BioSciences website: [http://biosciences.rice.edu/](http://biosciences.rice.edu/)

**Opportunities for the PhD Degree in the field of Ecology and Evolutionary Biology**
All full-time Ecology and Evolutionary Biology graduate students receive funding and full tuition waivers as specified in their offer letters. Information about Student Resources, Attendance at Scientific Conferences, Internships, Graduate Students Awards, the Graduate Student Association, etc. can be found in the Ecology and Evolutionary Biology Graduate Program handbook online at the department website: [http://gradhandbooks.rice.edu/2017_18/Ecology_Evolutionary_Biology_Graduate_Handbook.pdf](http://gradhandbooks.rice.edu/2017_18/Ecology_Evolutionary_Biology_Graduate_Handbook.pdf).

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