

**Guidelines for the Graduate Program  
in Evolution, Ecology, and Behavior**

**2023-2024**

## Overview:

The Department of Evolution, Ecology, and Behavior (EEB) offers graduate work leading to the Doctor of Philosophy degree (PhD) and Masters (MS) degree in Biology. Due to the breadth of modern biological research, students are expected to become proficient in three of six areas:

1. Ecology
2. Evolution
3. Behavior
4. Genetics/Genomics
5. Physiology & Morphology
6. Conservation

Within the first three months of entering the graduate program, the student and their advisor will meet to discuss which three areas are most appropriate for that student. The student is expected to complete advanced coursework in those three areas. The student chooses additional courses in consultation with their advisor and advisory committee. The number and nature of these courses will vary with the research interest and background of the individual. Previous graduate-level coursework can be applied. Although there are no required courses, students are expected to take courses that are deemed necessary to successfully complete the oral and written examinations.

All graduate students are required to hold an annual committee meeting. Failure to complete this requirement can result in denial of future teaching or research appointments. Students must submit any written material (thesis proposal, thesis, etc.) to their committee members at least one week before a scheduled meeting unless other arrangements have been made with an individual committee member. During this meeting, the advisor and committee are to complete the EEB Annual Assessment of Graduate Program Learning Outcomes (an online form).

Students are encouraged to begin research as soon as possible.

All students in the program will receive a copy of the EEB Graduate Student Handbook and the Graduate College Handbook (which outlines many of the rules adopted by EEB). These will be e-mailed to all students and placed in their personal online folders on Box. Students will be held to the expectations of the EEB Grad Handbook that they received upon entering the program. However, they may also choose to adopt the policies of newer versions of the EEB Grad Handbook if they choose.

The EEB Graduate Handbook contains information concerning the requirements for coursework, written and oral exams, proposal defense, teaching requirement, and final defense. In addition, students must fill out an Annual Survey each Spring. This annual survey is mandated by the Graduate College and consists of: (1) A student self-report and assessment of academic progress; (2) A statement prepared by the adviser that assesses student progress, strengths, and weaknesses; (3) A letter summarizing student progress written by either the Department Head or Director of Graduate Studies. Students and their advisors should discuss the review together and are encouraged to discuss the letter with the Department Head or Director of Graduate Studies if there are questions. One faculty meeting each year will be devoted to monitoring the progress of

all students in the program. Students failing to make adequate progress (not taking exams, not conducting research, low GPA, no committee, etc.) may be dismissed from the program.

### ***PhD Students***

**Courses and Credits.** - Doctoral degrees require successful completion of a minimum of 96 semester hours of graduate credit (i.e., credit at the 400- or 500-level). This includes credits received from courses, seminars, reading groups, and research. EEB is very flexible in its course requirements. Students should work with their advisor and graduate committee to develop a coursework plan that prepares them to take their preliminary exams and provides them with the knowledge and tools needed to complete their research.

**Preliminary Exam.** - Following completion of coursework, students will take a preliminary examination. Students are strongly recommended to complete their prelim exams by their fourth or fifth semester of study. Failure to take prelims by the sixth semester (end of year 3) will result in students being placed on academic probation. The examination will consist of written and oral questions and will test the student's general knowledge in the three areas they have declared most relevant to their research (see list of topics) as well as their preparation for thesis research. The written portion of the examination is to be completed within one week and will cover general knowledge. The format is to be determined by the graduate committee, but students are encouraged to devote one day each to the questions proposed by each committee member. During the examination, the student can use whatever literature is necessary to address the question unless committee members wish to assess general background knowledge without students having access to the literature.

Following the written exam, the student will meet with each committee member to discuss the strengths and weaknesses revealed by the written exam. The student will complete an oral exam within two weeks of the written exam. The oral exam will pertain to their responses to the previous written questions and questions about general knowledge in the student's three areas. A realistic preparation timeline would be studying and writing approximately six months prior to the expected prelim date. Students must meet with all committee members before their exams to discuss expectations. The last page of this section contains a form you should take to meet with each committee member. Please bring the signed form with you to the prelim. Students may also circulate a pdf for electronic signature if they wish.

**Proposal Defense.** - Students must also submit and defend a thesis proposal by the end of year 3 of their studies. The general format of the proposal is listed below. The purpose of the thesis proposal defense is twofold. First, the proposal should provide the thesis committee with enough information to determine whether or not successful completion of the proposed research would be sufficient for a PhD in EEB. Second, the proposal should demonstrate that the student is proficient in scientific writing. A passing grade qualifies the student as a PhD candidate. The proposal defense will be approximately one and a half hours.

Recommended Proposal Format for PhD proposals: Students may use a different format provided it has been approved by the advisor and advisory committee. Note that a PhD thesis should have a *minimum* of 3 original data/theory chapters.

8 to 12 pages single-spaced, including figures, 12-point font, 1-inch margins. References are not included in the page limit.

1. Introduction of a broad area of interest (knowledge gaps) leading into aims/objectives  
1-2 pgs. This section is intended to explain to your committee the basic biology and theory grounding your proposal and the areas your work will address.
2. Study system
3. A series of aims and objectives. For each aim and objective:  
Introduction to specific aim 1-2 paragraphs  
Hypotheses  
Data to be collected  
Preliminary results (if applicable)  
Methodology and Analysis- detailing how you will accomplish aims  
Expected Results
4. Synthesis and Significance of Proposed Work  
Students should write a paragraph or two about how these chapters will address knowledge gaps and the overall significance of the work.
5. Broader Impacts. - Students should write a paragraph on how the work will benefit society. This includes knowledge related to health, teaching materials, mentorship, improvements for industry, and/or environmental concerns/regulation.
6. Timeline for completion - short but detailed tables are encouraged
7. References – This must have a uniform format of your choosing.

*Advisory Committee Requirements.* - By policy of the Graduate College, the dissertation committee must be composed of at least four voting members, at least three of whom must be members of the Graduate Faculty; at least two members must be tenured at the University of Illinois at Urbana-Champaign. The student's advisor is also a member of the dissertation committee. Students should assemble committees based on the three areas in which they have chosen to specialize. At least two committee members must be faculty members in EEB, and at least one member must hold an appointment in a department other than EEB. Students are strongly encouraged to form their committee by the end of their 1<sup>st</sup> year. Students must have a committee meeting by the end of their first year. However, it is not necessary to have the committee fully formed for the first meeting. In other words, it is acceptable to have the first committee with only three committee members identified.

*Teaching Requirements.* - Ph.D. students must serve as teaching assistants in undergraduate courses for at least two semesters. If a student has 5+ years of funding from sources other than teaching assistantships (e.g., RA or Fellowship), they can petition the Graduate Admissions Committee to waive this requirement.

*Presentation Requirements.* – PhD students must give two presentations to the EEB community over the course of their PhD. One of these is the thesis defense (see below). Students must also give another presentation at the EEB colloquium or a similar venue. This can be a presentation of work done previously (i.e., MS work), ongoing work, or proposed work.

*Thesis Defense.* - Finally, students must present a public seminar summarizing the results of their dissertation research. A thesis based on original work demonstrating a thorough knowledge of theory and techniques must be defended at the final examination. A successful dissertation will be sufficient in quantity and quality of the original research performed and be written in such a way as to suggest a strong likelihood of publication in scientific journals. Prior to setting the date of the thesis defense, Ph.D. students are required to have submitted, with the approval of their advisor and/or committee, at least one chapter of their dissertation for publication. Students should aim to complete their PhD in five years.

### ***MS Students***

#### *Course Work Requirements.*

- Students must complete a minimum of 32 semester hours of graduate credit, with grades no lower than B or S, to obtain the MS degree.
- At least 12 hours must be at the 500-level or greater and approved for graduate credit. The 12 hours of 500-level credit may be all graduate research credits (i.e., IB 599).
- Students must also take a minimum of 20 or more hours of graduate course credit at the 400 or 500 level. These credits include courses, seminars, and reading groups.

In addition to coursework, graduate requirements include the completion of a thesis that is defended. Student research will be guided and approved by an Advisory Committee of three faculty, including the Major Advisor, who will serve as chair. Membership of the Advisory Committee must be approved by the Director of Graduate Studies for EEB. At least one member of the Advisory Committee must be a faculty member within EEB.

Beyond these requirements, the particular courses recommended by the advisor will depend on the individual student's previous training, experience, and knowledge of the subject matter. All students will be required to develop strong quantitative skills, which may require advanced coursework in statistics or other analytical methods.

Each student is expected to make satisfactory progress towards the MS degree. Satisfactory progress is defined as meeting all degree requirements, including satisfactory grades in coursework, participation in seminars, performance in teaching and research, and passing examinations on or before their scheduled dates. A finding of unsatisfactory progress can be made at any time during the student's participation in the program and will be reported by the Graduate Committee to the student, the major advisor, and the director and result in the student being placed upon probation. A second finding of unsatisfactory progress will be cause for dismissal from the program. Masters students are typically expected to complete their degree within two years, depending on their prior experience. One (or more) high-quality data chapter(s) is considered sufficient for an MS degree.

### ***Transitioning from an MS to a PhD***

Occasionally, students are enrolled in the MS program and subsequently decide that they would like to pursue a Ph.D. in the same lab in EEB. This can be accomplished through two different mechanisms: reapplying to the graduate program as a Ph.D. student or petitioning and getting approval from the Graduate Admissions Committee to transition directly to the Ph.D.

Mechanism #1: After completing their MS, the student can reapply for the PhD program. The student is considered for admission along with other new applicants. If accepted to the PhD program, they are guaranteed five years of funding (as if they were entering the program anew). The data submitted as a part of the MS thesis may not be used for the PhD.

Mechanism #2: A currently enrolled MS student in good standing may petition to be reclassified as a PhD student. In this scenario, the student does not necessarily complete a MS but petitions to transition to the PhD program. As with all PhD students, the student is guaranteed five years of funding, but the years already spent in the program count towards that total. For example, an MS student who has been in EEB for two years and is reclassified as a PhD student will be guaranteed three years of additional funding. Here, the data collected during the first two years may be used for the PhD.

**Annual Evaluation.** Both MS and PhD students are evaluated annually with two different mechanisms. Graduate students are required to complete an annual review form in the spring semester (see below). In addition, at the yearly committee meeting, the advisor and committee will complete the EEB Annual Assessment of Graduate Program Learning Outcomes (see below).

### **Annual Review Form**

Each spring, graduate students will fill out the annual review form stating what they have done in the past year (publications, presentations, experiments, teaching, etc.). Students should explain any setbacks experienced and explain how their advisors can help them. The advisors also complete a portion of the form, which provides feedback to the student and the Department Head. The Department Head then sends each student an annual letter summarizing the student's progress and suggesting steps for future success.

### **EEB Annual Assessment of Graduate Program Learning Outcomes**

This form is online.

<https://forms.illinois.edu/sec/1859005732?referrer=https://shibboleth.illinois.edu/>

Advisors and committee members should fill out the online form during the annual committee meeting. This form is used to convey information to the graduate student. The Graduate College also uses it to evaluate the EEB graduate program. The advisor submits the form, and it is copied to the committee members and the student. The text below indicates the Learning Outcomes that we currently assess.

Learning outcome	Initiated	Attained	Reinforced	Mastered
Student can design and implement independent research which integrates and applies core knowledge of evolution, ecology and/or behavior.				
Student is meeting expectations for mastering the rigorous statistical/analytical methods that typify their area of study.				
Student is publishing their research.				
Student is developing professional skills typical for academic researchers. Examples include: Data management, Citation management, Mentoring, Ethical conduct of research, Networking				
Student has gained teaching experience: Lead Discussions/Lab Activities, Presentations of information/lecture, Meaningful feedback to students, Concern for all students.				
Student is applying for and being awarded grants to support their independent research.				
Student is presenting their research at scientific conferences.				

**Initiated:** Student has begun to develop this skill or is current taking coursework that supports this goal.

**Attained:** Student has developed skills or completed a course in this area, but has not yet begun to extensively demonstrate this skill.

**Reinforced:** Student has completed additional coursework, experience, or training in this area, and is demonstrating advanced performance in this area.

**Mastered:** Student has achieved a high level of performance in this area.

**Specific recommendations for continued development:**

**EEB Pre-prelim Form**

**Name:** \_\_\_\_\_

Each student should meet briefly with each committee member prior to the exams. During this meeting, expectations for both the oral and written exam should be discussed. For each committee member, please indicate which of the six areas (Ecology, Evolution, Behavior, Genetics, Physiology, and Conservation) s/he will cover. All committees should have representation from at least three areas.

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Committee member	Area(s) to be examined	Signature
Date		

Additional Comments:

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Committee member	Area(s) to be examined	Signature
Date		

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Date		

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