

# ECOLOGY, EVOLUTION, & CONSERVATION BIOLOGY, PHD

*for the degree of Doctor of Philosophy in Ecology, Evolution & Conservation Biology*

The Program in Ecology, Evolution and Conservation Biology (PEEC) is an interdepartmental program designed to provide individualized training in preparation for careers in these disciplines. Because of the breadth of fields covered by this program, there will be no fixed course requirements other than attendance at the program's seminar series and annual graduate student symposium. Courses taken by a student and the student's Advisory Committee generally will come from multiple departments. The goal of the program's regulations is to allow maximum flexibility while providing close supervision, with the outcome of producing scientists who are broadly educated and technically competent in ecology, evolutionary biology and associated disciplines. The program offers M.S. and Ph.D. degrees.

### Admission

Prospective candidates must meet the requirements for admission set by the Graduate College of the University of Illinois at Urbana-Champaign. Only applicants who have graduated from an accredited college or university and who hold or will be granted a baccalaureate degree (or its equivalent) comparable in content and completed credit hours to that granted by the University of Illinois will be considered. Applicants must have a minimum grade-point average of 3.0 (A = 4.0) computed from the last two years of undergraduate (and any graduate) work completed. The program will give preference to candidates who hold a degree in biology or a closely related discipline and show promise of excellence in research and teaching. Typically, only students with strong letters of recommendation and a GPA well above the minimum stated above will be admitted. Demonstration of academic excellence by other means (e.g., extensive field or laboratory research experience) will also be considered. The Admissions Committee will make decisions concerning admission. For students whose native language is not English, the Program requires a minimum paper-based TOEFL score of 613 (257 on the computer-based test or 103-104 on the web-based test).

### Financial Aid

Students admitted to the Program are typically offered two years of support for the M.S. degree and five years of support for the Ph.D. Support consists of fellowships, teaching assistantships or research assistantships. Such support typically comes with a waiver of tuition, service fees, or both. Continued offers of assistantships or fellowships each academic year will depend on an evaluation of satisfactory progress by the Director of the Program. Students who require more than two years to complete the M.S. degree or five years to complete the Ph.D. degree must submit a written petition to the Director of the Program, supported by their Advisor, to be considered for an additional year of support.

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All students must register for and attend the weekly PEEC seminar series (IB 546A) each semester in residence. The Director of the Program must approve excuses because of conflicts. An orientation seminar (IB 546B) must be taken the first fall semester in residence.

No later than their second semester in the program, the student in consultation with their Major Advisor will select members of the student's Doctoral Committee, which will meet annually with the student to plan coursework and research and to review and facilitate progress toward the degree.

The faculty constituting a student's Doctoral Committee must come from two or more departments, comprise a minimum of four members (including the Major Advisor), be familiar with the student's area of research interest, and be approved by the Director of the Program. The chair of the Doctoral Committee is typically the Major Advisor, provided that the advisor is both a member of the University's Graduate Faculty and the Program in Ecology, Evolutionary and Conservation Biology. If this is not the case, the Director of the Program will appoint a chairperson who fulfills these requirements from among the committee membership. The Doctoral Committee will be responsible for administering the necessary examinations. No later than their sixth semester in the program, and preferably in their fifth semester, doctoral students must take a Preliminary Examination. For this exam, a member of the Doctoral Committee other than the major advisor will be appointed chair by the Director of the Program. The first part of the three-hour oral exam will be general and cover the student's three core areas of emphasis. The second part of the exam will be a defense of the research proposal. Two weeks prior to the exam, the student must present to the Doctoral Committee a proposal describing the objectives of the research project, the experimental plan and rationale, the results of pilot studies, and a tentative timetable for its completion. The student will present evidence of feasibility and significance of the proposal along with any preliminary results, but the main research for the dissertation shall not have been performed prior to the Preliminary Examination. A detailed report of the exam and a copy of the research proposal shall be submitted to the Director of the Program. A passing evaluation qualifies the student as a Ph.D. candidate. A failing evaluation will require the student to take a second preliminary examination no later than the following semester. A second failure will result in dismissal from the program.

Upon completion of a dissertation and the other requirements of the program, the student shall be subject to a Final Examination, which shall consist of a defense of the dissertation. Copies of the completed dissertation, approved by the Major Advisor, should be submitted to the Doctoral Committee at least two weeks prior to the Final Examination. The dissertation will be judged in relation to published scholarly work in the field, and students are encouraged to begin publishing their results before taking their Final Examination. Passing this exam and presentation of the dissertation by the student at a public seminar sponsored by the program qualifies the student for the Ph.D. degree. Failure will require the student to conduct additional research and to repeat the Final Examination.

*For additional details and requirements refer to the Program's graduate handbook (<http://sib.illinois.edu/peec/current/>) and the Graduate College Handbook (<http://www.grad.illinois.edu/gradhandbook/>).*

### Entering with approved M.S./M.A. degree

Code	Title	Hours
IB 546	Topics in Ecology & Evolution (Section A to be taken each semester of enrollment. Section B if not taken in MS program)	6
Students must complete one course from each core area (p. 2)		
Ecology Core List		
Evolution Core List		

Conservation Biology Core List	
Thesis Hours Required (8 min applied toward degree) (Credit in rubrics other than BIOL, NRES, PBIO or ENT must be petitioned to apply.):	8
<b>Total Hours</b>	<b>64</b>

Other Requirements

Requirement	Description
Other requirements may overlap	
All students must complete at least two semesters of favorably evaluated teaching	
Course work in three core areas with grades no lower than B or S.	
Qualifying Exam Required:	No
Preliminary Exam Required:	Yes
Final Exam/Dissertation Defense Required:	Yes
Dissertation Deposit Required:	Yes
Minimum GPA:	3.0

Entering with B.S./B.A. degree

Code	Title	Hours
IB 546	Topics in Ecology & Evolution (Section A to be taken each semester of enrollment. Section B if not taken in MS program)	6
Students must complete one course from each core area (p. 2)		
Ecology Core List		
Evolution Core List		
Conservation Biology Core List		
Thesis Hours Required (8 min applied toward degree) (Credit in rubrics other than BIOL, NRES, PBIO or ENT must be petitioned to apply.):		8
<b>Total Hours</b>		<b>96</b>

Other Requirements

Requirement	Description
Other requirements may overlap	
All students must complete at least two semesters of favorably evaluated teaching	
Course work in three core areas with grades no lower than B or S.	
Masters Degree Required for Admission to PhD?	No, but Masters level requirements must be met (32 hours min)
Qualifying Exam Required:	No
Preliminary Exam Required:	Yes
Final Exam/Dissertation Defense Required:	Yes
Dissertation Deposit Required:	Yes
Minimum GPA:	3.0

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Code	Title	Hours
<b>Ecology Core Area Course, choose one:</b>		
IB 431	Behavioral Ecology	
IB 439	Biogeography	
IB 442	Evolution of Infectious Disease	
IB 443		
IB 444	Insect Ecology	
IB 447		
IB 450	Stream Ecology	
IB 452	Ecosystem Ecology	
IB 453	Community Ecology	
NRES 419	Env and Plant Ecosystems	
NRES 465	Landscape Ecology	
<b>Evolution and Systematics Core Area Course, choose one:</b>		
IB 405	Evolution of Traits and Genomes	
IB 416	Population Genetics	
IB 426	Env and Evol Physl of Animals	
IB 461	Ornithology	
IB 462	Mammalogy	
IB 463	Ichthyology	
IB 464	Herpetology	
IB 467	Principles of Systematics	
IB 468	Insect Classification and Evol	
IB 471	Fungal Diversity and Ecology	
MCB 435	Evolution of Infectious Disease	
PSYC 433	Evolutionary Neuroscience	
<b>Conservation Biology Core Area Course, choose one:</b>		
ANSC 406	Zoo Animal Conservation Sci	
IB 444	Insect Ecology	
IB 451	Conservation Biology	
NRES 407	Wildlife Population Ecology	
NRES 409	Fishery Ecol and Conservation	
NRES 420	Restoration Ecology	
NRES 423		
NRES 429	Aquatic Ecosystem Conservation	
NRES 474	Soil and Water Conservation	

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Since the subject matter of our Program is interdisciplinary and broad, there is no one set of subject-based learning outcomes that is suitable for the evaluation of our graduate students. Instead, we will focus on appropriate research and professional development skills.

- Design and implement independent research and integrate and apply core knowledge related to their field in 3 core areas out of 6 (behavior, conservation biology, ecology, evolution, genetics/ genomics, physiology/ anatomy).
- Demonstrate effective oral and written communication skills
  - Presentations
  - Publications
  - Grant writing

3. Apply rigorous statistics/analytical methods that typify their area of study
4. Professional skills
  - a. Data management
  - b. Citation management
  - c. Mentoring
  - d. Ethics
  - e. Professionalism
  - f. Networking
5. Teaching experience
  - a. Lead Discussions/Lab Activities Effectively
  - b. Effective in the presentation of information/lecture
  - c. Consistent Grader with meaningful feedback to students
  - d. Genuine concern for the learning outcomes of all students

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#### **Graduate Degree Programs in Ecology, Evolution & Conservation Biology**

Ecology, Evolution & Conservation Biology, MS (<http://catalog.illinois.edu/graduate/las/ecology-evolution-conservation-biology-ms/>)

Ecology, Evolution & Conservation Biology, PhD (p. 1)

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#### **Program in Ecology, Evolution, and Conservation Biology**

Program Director: Angela Kent

Program website (<https://peec.illinois.edu/>)

School of Integrative Biology website (<http://sib.illinois.edu/>)

320 Morrill Hall, 505 South Goodwin Avenue, Urbana, IL 61801

(217) 333-2910

PEEC email ([PEEC-Support@illinois.edu](mailto:PEEC-Support@illinois.edu))

#### **College of Liberal Arts & Sciences**

College of Liberal Arts & Sciences website (<https://las.illinois.edu/>)

#### **Admissions**

Graduate College Admissions & Requirements (<https://grad.illinois.edu/admissions/apply/>)