# ECOLOGY (PHD)

Graduate School

Program Website (https://ecologyandevolution.cornell.edu/graduate)

**CIP:** 26.1301 | **HEGIS:** 0420.00 | **NYSED:** 17110

## Graduate Field

Ecology and Evolutionary Biology (https://catalog.cornell.edu/graduate-school/ecology-evolutionary-biology/)

## Program Description

The graduate program in ecology and evolutionary biology offers students rich opportunities to study organic diversity, including its origins, maintenance, and consequences. The program provides broad exposure to concepts and research approaches in ecology and evolution, alongside in-depth study in one or more subdisciplines. Students pursue research questions that address fundamental issues in basic and applied sciences, spanning a wide range of spatial and temporal scales and employing experimental, observational, theoretical, statistical, molecular, and chemical approaches. Some students focus on discipline-based education research to develop evidence-based knowledge and practices to improve STEM education.

Each student's course of study is tailored to their individual goals and interests. The program emphasizes broad, integrative thinking and encourages students to be both interdisciplinary and independent. It is particularly well suited to those who can take full advantage of Cornell's expansive intellectual and technological resources in the life sciences and related fields.

Excellent laboratory and nearby field facilities are available, along with extensive collections and libraries.

Inquiries from prospective graduate students are welcomed and should be addressed to the graduate field office or to any member of the faculty.

## Concentrations

- Animal ecology
- Applied ecology
- Biogeochemistry
- Community and ecosystem ecology
- Limnology
- Oceanography
- Physiological ecology
- Plant ecology
- Population ecology
- Theoretical ecology
- Vertebrate zoology

## Program Information

- Program Mode of Delivery: In Person
- Program Location: Ithaca, NY

## Program Requirements

- Minimum Semesters for Degree: 9

## Graduate School Milestones

- Responsible Conduct of Research Training: Required
- Open Researcher and Contributor ID (ORCID): Required
- Student Progress Reviews (SPR) begin: First Year
- Examination for admission to candidacy (A Exam): Fall of third year
- Defense of Dissertation (B Exam): Spring of fifth year

## Field Specific Milestones

- Finishing Seminar presented Spring of fifth year
- Two semesters of teaching assistantship required

## Course Requirements

Additional course requirements may be set by the student's Special Committee. Program specific requirements that apply to all students are included below.

- BIOEE 7670 Current Topics in Ecology and Evolutionary Biology, taken in the first semester

## Graduate School Enrollment Requirements

### Course Requirements

- Course requirements are determined by the student's Special Committee.
- Enrollment in a GRAD research course or the equivalent field specific research course is expected of all students each semester through graduation. These courses include:
  - GRAD 8000 In Absentia
  - GRAD 9010 Graduate-Level Research
  - GRAD 9011 Doctoral Dissertation Research
  - GRAD 9012 Master's Thesis Research
  - GRAD 9016 Summer Graduate-Level Research
  - GRAD 9050 Global Hubs: Research Partnerships
  - GRAD 9060 National Science Foundation Graduate Research Fellowship Program

## University Graduation Requirements

### Requirements for All Students

In order to receive a Cornell degree, a student must satisfy academic and non-academic requirements.

#### Academic Requirements

A student's college determines degree requirements such as residency, number of credits, distribution of credits, and grade averages. It is the student's responsibility to be aware of the specific major, degree, distribution, college, and graduation requirements for completing their chosen program of study. See the individual requirements listed by each college or school or contact the college registrar's office (https://registrar.cornell.edu/service-resources/college-registrar-directory) for more information.

#### Non-academic Requirements

**Conduct Matters**. Students must satisfy any outstanding sanctions, penalties or remedies imposed or agreed to under the Student Code of Conduct (Code) or Policy 6.4. Where a formal complaint under the Code or Policy 6.4 is pending, the University will withhold awarding a

degree otherwise earned until the adjudication process set forth in those procedures is complete, including the satisfaction of any sanctions, penalties or remedies imposed.

**Financial Obligations**. Outstanding financial obligations will not impact the awarding of a degree otherwise earned or a student's ability to access their official transcript. However, the University may withhold issuing a diploma until any outstanding financial obligations owing to the University are satisfied.

# Learning Outcomes

- Demonstrate broad-based knowledge in the discipline of ecology, evolutionary biology, organismal biology, or some combination.
- Make an original and substantive research contribution to the subdiscipline.
  -Think originally and independently to develop new knowledge, concepts, and methods.
  -Identify new research questions.
- Demonstrate advanced research skills.
  -Be knowledgeable of historical development and able to articulate, discuss, and synthesize concepts and evidence in the subdiscipline.
  -Be knowledgeable of organisms and ecological or evolutionary systems pertinent to doctoral research.
  -Master observational, experimental, and analytical methods.
  -Adhere to ethical standards of scientific research.
  -Interpret and evaluate research findings.
  -Demonstrate ability to communicate research findings, through oral presentation and written publications.
  -Demonstrate ability to write proposals for fellowships and research funding.
- Demonstrate two or more of the following skills:
  -Effective teaching skills in ecology and evolutionary biology
  -Collaborative skills in research, teaching, or outreach
  -Involvement in departmental and university organizations
  -Involvement in professional activities and organizations related to academic discipline
  -Involvement in outreach activities with students or the broader public

# Admissions

## Application Requirements and Deadlines

### Application Deadlines

Fall, December 1; no spring admission

### Requirements Summary

- all Graduate School requirements (http://www.gradschool.cornell.edu/academics/admissions/applying), including the English language proficiency requirement (https://gradschool.cornell.edu/admissions/prepare/english-language-proficiency-requirement/) for all applicants
- three recommendations

Note: GRE test scores are no longer accepted or reviewed for application to this program.

#### Academic Statement

Please submit an academic statement of purpose that outlines your reasons for pursuing graduate research and explains your academic interests and professional goals along with your broader background, experiences, and skills that can lead to a successful graduate school experience. General suggestions are available on the Cornell Graduate Student Admissions website (https://gradschool.cornell.edu/admissions/prepare/statements-of-purpose/).

We request that you use headings for the following two sections for the academic statement of purpose:

1. Academic background, preparation, and professional goals (500 word-limit): Describe your academic training, skills, research experience, accomplishments, and professional goals relevant to your future graduate work. You may also provide the context around any perceived gaps or weaknesses in your academic record.
2. Future research (within 500 words): What research questions would you like to explore as a graduate student? This is in no way binding —it is only intended to give us an indication of where your research interests and approaches are headed. If you have written a proposal for future research (e.g., NSF predoctoral fellowship), those ideas should be included here.

### Admissions Contact Information

Email: eebgradfield@cornell.edu
Phone: 607-342-0581
Website: https://ecologyandevolution.cornell.edu/graduate