ECOLOGY AND EVOLUTIONARY BIOLOGY, PHD

Ecology is the study of how biodiversity is shaped by interacting species and their environment, and evolutionary biology is the study of how biodiversity is generated over time. Together, ecology and evolutionary biology (EEB) are an interdisciplinary field of study seeking to understand how the diversity of life, at multiple biological levels of organization, is shaped by processes that act over spatial and temporal scales.

UW-Madison has been a national leader in EEB research for a century, ranking highly amongst its peers nationally. The EEB doctoral program draws on faculty broadly drawn from the campus EEB community, while providing a graduate training experience that emphasizes foundational coursework, and a strong community identify. Students enrolled in the program are advised by faculty in departments in the College of Agricultural and Life Sciences, College of Letters & Science, the Nelson Institute for Environmental Studies, the School of Medicine and Public Health, and the School of Veterinary Medicine. The campus EEB community is strongly committed to being welcoming, respectful and inclusive to all individuals, and strives to train the best EEB graduates in the country. The faculty includes a diverse group of researchers who are broadly interdisciplinary and employ cutting edge technology to address a breadth of research of questions. Individual faculty web pages provide in-depth descriptions of the diversity of research in ecology and evolutionary biology.

Dissertation research emphasizes creative and innovative problem-solving through collaboration and academic scholarship. Research projects are individually crafted by students with the guidance of a dissertation committee, who advise the student in professional development and career goals. Students earning a doctoral degree in Ecology and Evolutionary Biology enter a variety of fundamental and applied fields. Graduates will be prepared for careers in biotechnology, agriculture, environmental science, state and federal government service, and non-profit organizations that work in related research.

JOINT DEGREE

Students in the Ecology and Evolutionary Biology PhD may complete a joint degree with another academic program at UW-Madison. A student completing a joint degree in the Graduate School writes one thesis or dissertation and receives one diploma. Joint degrees must comply with UW-Madison Graduate School Policy (https://policy.wisc.edu/library/UW-1214/).

ADMISSIONS

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Please consult the table below for key information about this degree program's admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program's website.

Graduate admissions is a two-step process between academic programs and the Graduate School. ***Applicants must meet* the minimum requirements *(https://grad.wisc.edu/apply/requirements/) of the Graduate School as well as the program(s).*** Once you have researched the graduate program(s) you are interested in, apply online (https://grad.wisc.edu/apply/).

Requirements	Detail
Fall Deadline	December 1
Spring Deadline	This program does not admit in the spring.
Summer Deadline	This program does not admit in the summer.
GRE (Graduate Record Examinations)	Not required but may be considered if available.
English Proficiency Test	Refer to the Graduate School: Minimum Requirements for Admission policy: https://policy.wisc.edu/library/UW-1241 (https://policy.wisc.edu/library/UW-1241/).
Other Test(s) (e.g., GMAT, MCAT)	n/a
Letters of Recommendation Required	3

ADMISSIONS CONSIDERATIONS

Applicants are strongly encouraged to contact faculty members in the program before submitting an application. Generally, after approval by the admissions committee, applicants are admitted directly into a faculty member's lab. New students are not admitted unless financial support for the student is currently in the hands of a faculty member, or is assured by the time a student begins, or a student brings independent funding and has contacted a faculty member who agrees to advise.

APPLICATION COMPONENTS

In addition to the admissions requirements noted in the table above, applicants must also complete a supplemental application noting which prerequisites they have taken and which faculty members they have contacted, a statement of purpose describing why they are interested in the Ecology and Evolutionary Biology PhD (EEB) at UW-Madison, and their transcripts.

PREREQUISITE COURSES

Prior to admission, applicants are expected to have completed coursework in four of the five areas: (1) Ecology, (2) Evolution, (3) Genetics, Cellular, Molecular, or Developmental Biology, (4) Organismal Biology, Systematics, or Biodiversity, and (5) Quantitative Analytical Skills.

Students who do not meet the prerequisites should contact the program with questions.

Examples of courses at UW-Madison that meet the categories above:

1. Ecology category: BOTANY/F&W ECOL/ZOOLOGY 460 General Ecology
2. Evolution category: BOTANY/ANTHRO/ZOOLOGY 410 Evolutionary Biology
3. Genetics, Cellular, Molecular, or Developmental Biology category: GENETICS 466 Principles of Genetics
4. Organismal Biology, Systematics, or Biodiversity category: BOTANY 400 Plant Systematics
5. Quantitative analytical skills category: STAT 311 Introduction to Theory and Methods of Mathematical Statistics I

Questions about admissions requirements can be directed to the Graduate Program Manager or Director of Graduate Studies, whose contact information is listed in the Contact Information box.

FUNDING

FUNDING

GRADUATE SCHOOL RESOURCES

The Bursar's Office provides information about tuition and fees associated with being a graduate student. Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.

PROGRAM RESOURCES

Financial support is available to qualified graduate students in the form of teaching, research, and project assistantships and fellowships. Research and project assistantships are made possible by grants awarded to individual professors for particular research programs. Prospective students should contact faculty mentors to learn about the availability of these assistantships.

Assistantships and fellowships provide eligibility for an excellent health insurance program, an extremely valuable benefit that provides single or family coverage that is more comprehensive than individuals can usually purchase on their own. Fellowships or assistantships that are payrolled through the university and that carry stipends equivalent to at least a 33.3% appointment qualify for remission of nonresident tuition. Tuition remission is conditionally awarded at the start of the semester based on the expectation that actual earnings during the semester will be at least 33.3% of the full-time rate. All students pay segregated fees. The only exception is that fellowships paid through the Graduate School have segregated fees waived in addition to tuition.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (https://guide.wisc.edu/graduate/#policiesandrequirementstext), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

Face to Face	Evening/ Weekend	Online	Hybrid	Accelerated
Yes	No	No	No	No

Mode of Instruction Definitions

Accelerated: Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

Evening/Weekend: Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

Face-to-Face: Courses typically meet during weekdays on the UW-Madison Campus.

Hybrid: These programs combine face-to-face and online learning formats. Contact the program for more specific information.

Online: These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

CURRICULAR REQUIREMENTS

Requirement	Detail
Minimum Credit Requirement	51 credits
Minimum Residence Credit Requirement	32 credits
Minimum Graduate Coursework Requirement	26 credits must be graduate-level coursework. Refer to the Graduate School: Minimum Graduate Coursework (50%) Requirement policy: https://policy.wisc.edu/library/UW-1244 (https://policy.wisc.edu/library/UW-1244/).
Overall Graduate GPA Requirement	3.00 GPA required. Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: https://policy.wisc.edu/library/UW-1203 (https://policy.wisc.edu/library/UW-1203/).
Other Grade Requirements	n/a
Assessments and Examinations	Doctoral students are required to take a comprehensive preliminary/oral examination after they have cleared their record of all Incomplete and Progress grades (other than research and thesis). Deposit of the doctoral dissertation in the Graduate School is required.
Language Requirements	None
Graduate School Breadth Requirement	Breadth is provided via interdisciplinary training. Students are not required to earn a doctoral minor or graduate/professional certificate.

REQUIRED COURSES

Code	Title	Credits
Foundations of Ecology and Evolution		
Students must complete the courses below.		
ENTOM/BOTANY/ GENETICS/ ZOOLOGY 820	Foundations of Evolution	2
ENTOM/BOTANY/ F&W ECOL/ ZOOLOGY 821	Foundations of Ecology	2
Ecology and Evolutionary Processes		
Students must complete one of the following courses.		3
ENTOM/ ZOOLOGY 540	Theoretical Ecology	

ENTOM/ GENETICS/ ZOOLOGY 624	Molecular Ecology	
F&W ECOL/ BOTANY/ ENVIR ST/ F&W ECOL/ ZOOLOGY 651	Conservation Biology	
F&W ECOL/ ZOOLOGY 660	Climate Change Ecology	
Graduate Seminar		
Students must complete at least 2 courses and at least 4 credits from the following courses. At least two courses must be completed prior to reaching dissertator status.		4
BOTANY 950	Seminar-Plant Ecology	
ENTOM 901	Seminar in Organismal Entomology	
F&W ECOL/ ATM OCN/ BOTANY/ ENVIR ST/ GEOG/GEOSCI/ ZOOLOGY 980	Earth System Science Seminar	
GENETICS 993	Seminar in Genetics	
ZOOLOGY 956	Seminar-Ecology	
Electives		
Coursework to meet the elective requirement will be determined through consultation with the student's advisor and members of their committee and will be based on the student's specific educational needs.		6-12
See list of common electives below. (https://next-guide.wisc.edu//graduate/entomology/ecology-evolutionary-biology-phd/#EcologyEvolutionaryBiologyPhDCommonElectives)		
Research		
The remainder of the coursework to meet the minimum credit requirement will be met via research courses selected in consultation with the student's advisor and members of their committee.		28-34
ENTOM 990	Graduate Research and Thesis	
F&W ECOL 990	Research and Thesis	
GENETICS 990	Research	
PL PATH 990	Research	
SOIL SCI 990	Research	
ENVIR ST 990	Research	
GEOG 990	Research and Thesis	
BOTANY 995	Research-Plant Ecology	
ZOOLOGY 990	Research	
Total Credits		**51**

Common Electives

Code	Title	Credits
ENTOM/BOTANY/ ZOOLOGY 473	Plant-Insect Interactions	3
AN SCI/F&W ECOL/ ZOOLOGY 521	Birds of Southern Wisconsin	3
ZOOLOGY 611	Comparative and Evolutionary Physiology	3
BOTANY/ PL PATH 563	Phylogenetic Analysis of Molecular Data	3
ZOOLOGY 541	Course ZOOLOGY 541 Not Found	3
GENETICS/ BIOLOGY 522	Communicating Evolutionary Biology	2-3
GENETICS 633	Population Genetics	3
ENTOM 450	Basic and Applied Insect Ecology	3
F&W ECOL/ BOTANY/ ZOOLOGY 879	Advanced Landscape Ecology	3
ENVIR ST/ ZOOLOGY 510	Ecology of Fishes	3
ENVIR ST/ PHILOS 441	Environmental Ethics	3-4
F&W ECOL/ SURG SCI 548	Diseases of Wildlife	3
F&W ECOL 550	Forest Ecology	3
LAND ARC 668	Restoration Ecology	3

POLICIES

POLICIES

GRADUATE SCHOOL POLICIES

The Graduate School's Academic Policies and Procedures (https://grad.wisc.edu/acadpolicy/) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

MAJOR SPECIFIC POLICIES

PRIOR COURSEWORK

Graduate Credits Earned at Other Institutions

Refer to the Graduate School: Transfer Credits for Prior Coursework (https://policy.wisc.edu/library/UW-1216/) policy.

Undergraduate Credits Earned at Other Institutions or UW-Madison

Refer to the Graduate School: Transfer Credits for Prior Coursework (https://policy.wisc.edu/library/UW-1216/) policy.

Credits Earned as a Professional Student at UW-Madison (Law, Medicine, Pharmacy, and Veterinary careers)

Refer to the Graduate School: Transfer Credits for Prior Coursework (https://policy.wisc.edu/library/UW-1216/) policy.

Credits Earned as a University Special Student at UW-Madison

Refer to the Graduate School: Transfer Credits for Prior Coursework (https://policy.wisc.edu/library/UW-1216/) policy.

PROBATION

Refer to the Graduate School: Probation (https://policy.wisc.edu/library/UW-1217/) policy.

ADVISOR / COMMITTEE

Refer to the Graduate School: Advisor (https://policy.wisc.edu/library/UW-1232/) and Graduate School: Committees (Doctoral/Master's/MFA) (https://policy.wisc.edu/library/UW-1201/) policies.

CREDITS PER TERM ALLOWED

15 credit maximum. Refer to Graduate School: Maximum Credit Loads and Overload Requests (https://policy.wisc.edu/library/UW-1228/) policy.

TIME LIMITS

Refer to the Graduate School: Time Limits (https://policy.wisc.edu/library/UW-1221/) policy.

GRIEVANCES AND APPEALS

College of Agricultural and Life Sciences: Grievance Policy

In the College of Agricultural and Life Sciences (CALS), any student who feels unfairly treated by a member of the CALS faculty or staff has the right to complain about the treatment and to receive a prompt hearing. Some complaints may arise from misunderstandings or communication breakdowns and be easily resolved; others may require formal action. Complaints may concern any matter of perceived unfairness.

To ensure a prompt and fair hearing of any complaint, and to protect the rights of both the person complaining and the person at whom the complaint is directed, the following procedures are used in the College of Agricultural and Life Sciences. Any student, undergraduate or graduate, may use these procedures, except employees whose complaints are covered under other campus policies.

1. The student should first talk with the person at whom the complaint is directed. Most issues can be settled at this level. Others may be resolved by established departmental procedures.
2. If the student is unsatisfied, and the complaint involves any unit outside CALS, the student should seek the advice of the dean or director of that unit to determine how to proceed.
   a. If the complaint involves an academic department in CALS the student should proceed in accordance with item 3 below.
   b. If the grievance involves a unit in CALS that is not an academic department, the student should proceed in accordance with item 4 below.
3. The student should contact the department's grievance advisor within 120 calendar days of the alleged unfair treatment. The departmental administrator can provide this person's name. The grievance advisor will attempt to resolve the problem informally within 10 working days of receiving the complaint, in discussions with the student and the person at whom the complaint is directed.
   a. If informal mediation fails, the student can submit the grievance in writing to the grievance advisor within 10 working days of the date the student is informed of the failure of the mediation attempt by the grievance advisor. The grievance advisor will provide a copy to the person at whom the grievance is directed.
   b. The grievance advisor will refer the complaint to a department committee that will obtain a written response from the person at whom the complaint is directed, providing a copy to the student. Either party may request a hearing before the committee. The grievance advisor will provide both parties a written decision within 20 working days from the date of receipt of the written complaint.
   c. If the grievance involves the department chairperson, the grievance advisor or a member of the grievance committee, these persons may not participate in the review.
   d. If not satisfied with departmental action, either party has 10 working days from the date of notification of the departmental committee action to file a written appeal to the CALS Equity and Diversity Committee. A subcommittee of this committee will make a preliminary judgement as to whether the case merits further investigation and review. If the subcommittee unanimously determines that the case does not merit further investigation and review, its decision is final. If one or more members of the subcommittee determine that the case does merit further investigation and review, the subcommittee will investigate and seek to resolve the dispute through mediation. If this mediation attempt fails, the subcommittee will bring the case to the full committee. The committee may seek additional information from the parties or hold a hearing. The committee will present a written recommendation to the dean who will provide a final decision within 20 working days of receipt of the committee recommendation.
4. If the alleged unfair treatment occurs in a CALS unit that is not an academic department, the student should, within 120 calendar days of the alleged incident, take his/her grievance directly to the Associate Dean of Academic Affairs. The dean will attempt to resolve the problem informally within 10 working days of receiving the complaint. If this mediation attempt does not succeed the student may file a written complaint with the dean who will refer it to the CALS Equity and Diversity Committee. The committee will seek a written response from the person at whom the complaint is directed, subsequently following other steps delineated in item 3d above.

OTHER

n/a

PROFESSIONAL DEVELOPMENT

PROFESSIONAL DEVELOPMENT

GRADUATE SCHOOL RESOURCES

Take advantage of the Graduate School's professional development resources (https://grad.wisc.edu/pd/) to build skills, thrive academically, and launch your career.

CAMPUS RESOURCES

Students in the Ecology and Evolutionary Biology program are strongly encouraged to participate in leadership and outreach activities through the Center for Ecology and the Environment (https://ecology.wisc.edu/) and Wisconsin Evolution (https://evolution.wisc.edu/).

LEARNING OUTCOMES

LEARNING OUTCOMES

1. Evaluate major theories and research approaches in ecology and evolutionary biology
2. Integrate knowledge of ecological and evolutionary processes to interpret patterns across multiple temporal and spatial scales
3. Apply quantitative skills, while using insight and creativity to conduct rigorous original research in one or both fields

4. Demonstrate professional skills, ethical responsibility, and effective communication while teaching or conducting outreach in the fields of ecology and evolution