ZOOLOGY, M.S.

The Zoology Graduate Program provides training in the following broad subject areas: cellular and molecular biology, developmental biology, neuroscience, physiology, ecology, evolution, and animal behavior. There is great flexibility in our graduate program to serve the diverse scholarly interests and cultures in the Department of Integrative Biology. Each student’s course of study is tailored to his or her individual interests, career goals, and needs, and we admit students with diverse academic backgrounds. The path taken by a student results from a deliberative process that involves discussions between the student and the student’s advisor and advisory committee.

The Department of Integrative Biology faculty strongly believes that graduate education should be distinguished from undergraduate education in recognition of individuality and emphasis on responsibility in graduate students. This philosophy requires flexibility and is not well served by the imposition of many formal requirements to be met by all students. Rather, more emphasis is placed on the role of advisory committees in devising programs of breadth and depth appropriate for individual students with due regard to areas outside of biology which are important for the student’s effectiveness in their chosen field.

FACILITIES

Facilities and staff are available for advanced study in a wide variety of biological fields including aquatic and terrestrial ecology, conservation biology, cell/molecular/developmental and neurobiology, endocrinology, ethology, genetics, evolution and systematics, comparative physiology, and physiological ecology.

In addition to a broad range of well-equipped laboratories, research facilities include advanced microscopy facilities (http://www.microscopy.wisc.edu), limnological laboratories on campus (Lake Mendota) and in northern Wisconsin (Trout Lake), the University Arboretum, the Zoological Museum, and a Molecular Systematics Laboratory.

ADMISSIONS

GRADUATE SCHOOL ADMISSIONS

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

FUNDING

GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (https://grad.wisc.edu/funding) is available from the Graduate School. Be sure to check with your program for individual policies and processes related to funding.

PROGRAM RESOURCES

Financial support is available to qualified graduate students in the form of teaching assistantships, research assistantships, and fellowships.

Graduate students who have a teaching or research assistantship of at least a 33.3% appointment (approximately 13.3 hours per week) during the fall or spring semester are eligible to receive remission of full tuition. Fellowships that are payrolled through the university and that carry stipends equivalent to at least a 33.3% research assistantship also qualify for remission of non-resident 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. Segregated fees are approximately $630/semester.
and are used for campus overhead to help pay for the exercise facilities, student unions, student organization funding, etc.

Assistantships and fellowships also 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. Additionally, assistantships and fellowships provide a stipend for living expenses.

**TEACHING ASSISTANTSHIPS**
The most common source of support is a teaching assistantship. To receive a teaching assistantship, candidates for admission must meet the following requirements:

- evidence (usually from the undergraduate transcript) of an appropriate background in the relevant subject matter of the course(s) to which appointment is being considered;
- evidence (usually from letters of recommendation or verbal communication) of the candidate's potential as a teaching assistant;
- an undergraduate GPA of 3.0 or above (on a 4.0 scale); and
- for students whose native language is not English, evidence of competence in spoken English through the SPEAK test that is administered by UW-Madison. International applicants should note that a TA appointment is not normally possible during the first year of graduate study.

Current students who apply for their first teaching assistantship are also subject to the above criteria, as well as their performance as a graduate student. Reappointment as a teaching assistant depends upon satisfactory progress as a graduate student, satisfactory performance as a teaching assistant, and completing the Equity/Diversity TA Training.

Teaching assistants may be eligible for UW-Madison teaching awards (https://grad.wisc.edu/taawards), including the Early Excellence in Teaching Award, Exceptional Service Award, Innovation in Teaching Award, Capstone Ph.D. Teaching Award, and the College of Letters & Science Teaching Fellow Award.

**RESEARCH ASSISTANTSHIPS**
Research assistantships are made possible by grants awarded to faculty for particular research programs. Recipients are selected by the individual professor concerned, and the student’s interests and experience must match the needs of the funding project. Availability of research assistantships varies.

**ADVANCED OPPORTUNITY FELLOWSHIPS**
Advanced Opportunity Fellowships (AOF) are granted to the UW-Madison Graduate School by the State of Wisconsin and are combined with other graduate education funds to support the recruitment and retention of highly qualified underrepresented students in UW-Madison graduate programs. Fellowships are competitive and merit-based. AOF funding is intended to increase the racial and ethnic diversity of the graduate student population, as well as to support economically disadvantaged and first generation college students. AOF fellowships are paid through the Graduate School by the State of Wisconsin and are combined with other graduate-students/cgrs) (CGRS) program.

**EXTERNAL FELLOWSHIPS**
Fellowships from professional societies and outside agencies provide another important source of aid for which students may apply either before or after commencing graduate work at UW-Madison. If necessary, external fellowships can often be supplemented with university funds up to prevailing university fellowship rates.

All qualified students who are U.S. citizens or permanent residents are urged to apply to the National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP). Students apply directly to NSF; the closing date is usually in early November. Please check the NSF (http://www.nsf.gov) website for the application instructions and deadline.

### Requirements

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

#### Major Requirements

##### Mode of Instruction

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<th>Face to Face</th>
<th>Evening/Weekend</th>
<th>Online</th>
<th>Hybrid</th>
<th>Accelerated</th>
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<tr>
<td>Yes</td>
<td>No</td>
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**Mode of Instruction Definitions**

*Evening/Weekend:* These programs are offered in an evening and/or weekend format to accommodate working schedules. Enjoy the advantages of on-campus courses and personal connections, while keeping your day job. For more information about the meeting schedule of a specific program, contact the program.

*Online:* These programs are offered primarily online. Many available online programs can be completed almost entirely online with all online programs offering at least 50 percent or more of the program work online. Some online programs have an on-campus component that is often designed to accommodate working schedules. Take advantage of the convenience of online learning while participating in a rich, interactive learning environment. For more information about the online nature of a specific program, contact the program.

*Hybrid:* These programs have innovative curricula that combine on-campus and online formats. Most hybrid programs are completed on-campus with a partial or completely online semester. For more information about the hybrid schedule of a specific program, contact the program.

*Accelerated:* These on-campus programs are offered in an accelerated format that allows you to complete your program in a condensed time-frame. Enjoy the advantages of on-campus courses with minimal disruption to your career. For more information about the accelerated nature of a specific program, contact the program.

#### Curricular Requirements

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<th>Detail</th>
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<tr>
<td>Minimum</td>
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**Credit Requirement**

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Minimum Graduate Coursework Requirement

Half of degree coursework (15 credits out of 30 total credits) must be completed graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university's Course Guide (https://registrar.wisc.edu/course-guide/).

Overall Graduate GPA Requirement

3.00 GPA required.

Other Grade Requirements

An average record of B or better in all work taken as a graduate student is required by the Department of Integrative Biology (grades of P and S are for this purpose considered to be satisfactory at the B level; grades of Incomplete are considered for this purpose to be unsatisfactory if they are not removed during the following semester of residence).

Assessments and Examinations

In the second semester of the first year, students must complete the Certification of Candidate for a Master's Degree.

Typically the defense of the master's degree occurs no later than the end of the student's sixth semester. A master's degree warrant must be requested from the department prior to the defense.

Language Requirements

To be determined by the advisory committee.

REQUIRED COURSES

In addition to completing a research project, M.S. students must take courses and seminars to fulfill required research credits. Specific Zoology courses (http://guide.wisc.edu/courses/zoology) are approved by the student's advisor or advisory committee and depend on the student's research area, interests, and goals. In keeping with the diverse areas of research and training for students in Zoology, students may additionally take any courses outside of Zoology that have been identified as graduate-level to meet this requirement.

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

GRADUATE PROGRAM HANDBOOK


PRIOR COURSEWORK

Graduate Work from Other Institutions

With committee approval, students are allowed to count no more than 14 credits of graduate coursework from other institutions. Coursework earned five or more years prior to admission to a master's degree is not allowed to satisfy requirements. Typically committees will choose to cap coursework from another institution at a lower level than 14 credits, but this is a committee decision to be made on a case-by-case basis.

UW-Madison Undergraduate

With committee approval, students are allowed up to 7 credits numbered 300 or above from their UW-Madison undergraduate career to fulfill graduate requirements. Typically committees will choose to cap coursework allowed from undergraduate careers at a lower level than the 7 allowed, but this is a committee decision to be made on a case-by-case basis.

UW-Madison University Special

With committee approval, students are allowed to count no more than 15 credits of coursework numbered 300 or above taken as a UW-Madison Special student. Coursework earned five or more years prior to admission to a master's degree is not allowed to satisfy requirements. Typically committee members will choose to cap the number of coursework taken as a University Special student at a lower level, but this is a committee decision to be made on a case-by-case basis.

PROBATION

The Graduate School regularly reviews the record of any student who earned grades of BC, C, D, F, or Incomplete in a graduate course (300 or above), or grade of U in research credits. This review could result in academic probation with a hold on future enrollment or in being suspended from the Graduate School.

ADVISOR / COMMITTEE

Every graduate student is required to have an advisor and a committee. To ensure that students are making satisfactory progress toward a degree, every student is required to meet with the advisor and committee annually to review progress. If a progress report has not been filed by April 1, a hold will be placed on student course registration.

CREDITS PER TERM ALLOWED

15 credits

TIME CONSTRAINTS

It is expected that a master’s student will complete the thesis or research report by the end of the third academic year. If this is not accomplished by the end of the summer following the third academic year, the major professor must present a written statement to the Director of Graduate Studies that explains why the master’s degree has not been completed and describes plans that the student and the student’s advisory committee have agreed upon to ensure completion, including specific expectations, dates for completion, and consequences should expectations not be met. Continuation in the program beyond four years will be at the discretion of the mentor and advisory committee. Five years is the outside limit by which a student must complete the master’s degree.

It is up to the student's committee to determine whether or not a student who has been absent for five or more consecutive years will lose the credits earned before the absence; that coursework may not count toward Graduate School credit requirements.
OTHER
There is great flexibility in our graduate program to serve the diverse scholarly interests and cultures in the Department of Integrative Biology. The path taken by a student results from a deliberative process that involves discussions between the student and the student's advisor and advisory committee. The department's policy is to only accept students that can be financially supported by teaching assistantships, research assistantships, and/or fellowships.

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.

LEARNING OUTCOMES
1. Master fundamental skills in at least one of the broad subject areas represented in the Department of Integrative Biology.
2. Demonstrate understanding of major current and past theories, research findings, and methodologies and techniques in their area of concentration.
3. Develop critical thinking skills. Retrieve and examine scientific literature, evaluate evidence for and against hypotheses, identify knowledge gaps, strengths and weaknesses in existing literature, synthesize knowledge, and develop conclusions.
4. Complete an original research project in one of the broad subject areas represented in the Department of Integrative Biology.
5. Retrieve, evaluate, and interpret professional scientific literature and use this information to select and/or use the most appropriate methods for their own research project.
6. Conduct research, analyze, and interpret resulting data. Prepare a thesis or research report describing their research project.
7. Effectively communicate in writing and orally.
8. Write a clear and concise research report.
9. Present research articulately and informatively. Have opportunities to engage in public outreach and education.
10. Understanding of professional and ethical responsibility.
11. Trained to use scientific rigor when designing experiments, collecting and analyzing data, interpreting and reporting results.
12. Trained in the ethics of publishing.
13. Know and adhere to laws, regulations, needed permits and licenses, occupational health and safety standards.
14. Provided with diverse training that will prepare them for a range of flexible and sustainable careers (e.g., academia, industry, government, science policy and administration, science commerce, science writing, law, and science education and outreach at all levels).
15. Develop broadly applicable skills in critical thinking and problem solving.
16. Have opportunities for teamwork, communication skills, and collaborations.

PEOPLE

FACULTY
Professors Hardin (chair, jdhardin@wisc.edu), Bement, Blair, Gammie, Halloran, Ives, Lee, Newmark, Riters, Stanley, Turner, and Vander Zanden
Associate Professors Amann, Damschen, Grinblat, and Orrock
Assistant Professors Dugan, Sharma, and Wolman
Adjunct Professor Peckarsky

AFFILIATED FACULTY
Professors Auger, Currie, Fernandez, Gratton, Hawks, Karasov, Lindroth, Marler, Payseur, and Strier
Associate Professors Hittinger and Pool
Assistant Professors McFarland and Schoville