

Guide to Graduate Study in Integrative Biology

- **Overview of Graduate Education in Integrative Biology**
 - **Program Goals**
 - **Timeline and Requirements for Each Graduate Degree Program**
 - **Master of Science Degree (Plan A)**
 - **Master of Science Degree (Plan B)**
 - **Doctoral Degree (Ph.D.)**
 - **Forms**
 - **GRADPLAN**
 - **Important Information: How to Avoid Trouble**
 - **Importance of Your Letter of Acceptance to the Department of Integrative Biology**
- **Degree Plan Options**
 - **Research-Oriented Graduate Programs**
 - **Other Master of Science Programs**
 - **Required Preparation in Basic Math and Science for All Graduate Students in Integrative Biology**
- **Requirements for Advanced Degrees**
 - **Overview and Annual Evaluations**
 - **Specific Requirements for the Master of Science Degree: A Checklist**
 - **Sequence of Procedures to Follow in the Master of Science Program**
 - **Specific Requirements for Doctoral Degree: A Checklist**
 - **Sequence of Procedures to Follow in the Doctoral Program**
 - **Residency**
 - **Work in Absentia**
 - **Time Limits**
 - **Travel Abroad**
- **The Dissertation Advisor**
 - **Selecting or Changing Major Professors**
 - **The Role of the Major Professor**
 - **The Role of the Student**
 - **Best Practices in Graduate Mentoring**
- **The Guidance Committee**
- **Comprehensive Exam, Dissertation & Dissertation Defense**
 - **The Comprehensive Examination (Doctoral Candidates Only)**
 - **The Thesis Proposal (Master of Science Plan A Candidates) or Dissertation Proposal (Doctoral Candidates)**
 - **The Thesis (Master of Science Plan A Candidates) or Dissertation (Doctoral Candidates)**
 - **The Final Oral Examination (Thesis/Dissertation Defense)**
- **Departmental Policies: Academic Performance**
 - **Overview**
 - **Maintenance of Good Academic Standing**
 - **Expectations of the Faculty Regarding Performance of Graduate Students**
 - **Research Quality**
 - **Attendance at Research Seminars**

- **Graduate Student Attendance at Scientific Meetings**
 - **Participation in Interdisciplinary Programs**
 - **Memberships in Professional Societies**
 - **Progress and Progress Reports**
 - **Access to Documents in the Student's Academic File**
 - **Grief Absence Policy**
 - **Employee Leave Time**
- **Departmental Policies: Research and Safety in Research**
 - **Research Integrity**
 - **Permits and Approvals**
 - **Safety**
- **Student Conduct and Conflict Resolution**
 - **Graduate Student Academic Grievance Hearing Procedures for the Department of Integrative Biology**
- **Work-Related Policies for Teaching and Research Assistants**
 - **Graduate Assistantships**
 - **Levels of Assistantships Available in Integrative Biology**
 - **Taxation**
 - **Registration**
 - **Assignment of Teaching Assistantships**
 - **English-Language Proficiency Required of Foreign Students**
 - **Courses to which Graduate Teaching Assistants are Usually Assigned**
 - **Contingencies Regarding Appointments and Re-Appointments of TAs**
 - **Failure to Attend an Assigned Class**
 - **Mandatory Training on Relationship Violence and Sexual Misconduct Policy**
- **Administration, Governance, and Departmental Business Policies**
 - **Administration of the Department: Administrators and Committees**
 - **The Graduate Affairs Committee**
 - **Integrative Biology Support Staff**
- **Governance: Graduate Student Representatives to Standing Committees**
 - **Graduate Affairs Committee**
 - **Curriculum Committee**
 - **Representative to Attend Integrative Biology Departmental Meetings**
 - **Representative to College of Natural Science Dean's Student Advisory Council**
 - **Representative to Council of Graduate Students (COGS)**
 - **GEU Steward**
- **Travel on University Business or in University Vehicles**
- **Use of Departmental Resources**
 - **Graduate Records**
 - **Reimbursement for Miscellaneous Expenditures**
 - **University Stores**
 - **Open Orders**
 - **Procurement Cards**
 - **Material Return Forms**
 - **Supervision of Student Employees**

- **Key Policy**
- **Copy Machine Policy**
- **Recycling**
- **Computer Projectors**
- **Graduate Stipends**
- **Reserving Rooms**
- **Graduate Student Web Access**
- **IBIOGRAD Email List**
- **Funding Opportunities for Doctoral and Master of Science (Plan A) Candidates**
 - **Departmental Funds for Support of Graduate Student Research and Travel**
 - **Guidelines for Requesting Departmental Support**
 - **Deadlines for Departmental Funding**
 - **Other Funding Sources within the Department of Integrative Biology**
 - **Other Funding Sources within MSU**
 - **Life Beyond Graduate School**
- **University Resources**

Overview of Graduate Education in Integrative Biology

Program Goals

The overarching goal of all graduate programs in Integrative Biology is to prepare our students for productive and rewarding careers in the integrative study of animal biology. Regardless of whether our graduates hope to find work in academia, industry, government or elsewhere, they must be competent to add to the existing knowledge pool, assess the scientific research performed by others, and communicate their ideas clearly. They must also be well-informed, not only about the current frontiers of knowledge in their particular focus areas within animal biology but also about the ethical issues associated with the research they conduct. Therefore, all graduate students in research-oriented degree programs will be expected to take a course in professional development issues (IBIO 801) along with their other required coursework. The emphasis in our graduate training is on scholarship of the highest quality. Graduate students will be expected to demonstrate mastery of various sub-disciplines within Integrative Biology that are associated with their own research, both at their comprehensive examinations and at the oral defense of their dissertations.

Research conducted by Integrative Biology students and faculty at Michigan State University (MSU) is highly integrative in that our work is simultaneously reductionistic and synthetic. Using a diverse array of investigative techniques and working with a broad range of taxa, we seek to explain traits of animals at levels of biological organization ranging from the gene to the biosphere. We believe that the integrative nature of our science represents one of Integrative Biology's greatest strengths. Although the reductionist work of biologists in the past has emphasized "taking organisms apart," an important part of the future of integrative animal biology lies in building on current knowledge to "put organisms back together," particularly within the context of their complex natural habitats. Increasingly, studies of complex phenotypes or complex processes at the level of the whole organism or the population are relying on the tools of molecular biology, while, in parallel, many studies of molecular and cellular processes are examining the evolutionary history of these components of life's machinery. Therefore, it seems obvious that future advances will require close interactions among researchers working in traditionally separate areas of biology.

We in Integrative Biology are very well positioned to contribute significantly to this critical process of synthesis. Several current faculty members have already developed explicitly integrative research programs, and most of our faculty members contribute importantly to the success of larger interdepartmental disciplinary programs within the university, including [Ecology, Evolution and Behavior \(EEB\)](#), [Neuroscience](#), [Genetics](#), [Cognitive Science](#), [Cell & Molecular Biology](#), and [Environmental & Integrative Toxicological Sciences \(EITS\)](#). Participation in these interdisciplinary programs gives faculty and students in Integrative Biology many fruitful opportunities to connect with colleagues outside our own sub-disciplines and fosters interdisciplinary research. Our taxonomic focus at the departmental level, in combination with our participation in multiple interdisciplinary programs, places the Department of Integrative Biology at MSU in an excellent position to contribute importantly to integrative biology during the coming decade. Based on Integrative Biology faculty research and teaching interests, their publications, and their extramural grant dollars acquired, our greatest disciplinary strengths at present lie in the areas of ecology, evolutionary biology, neurobiology, and behavior.

Research, teaching, and service are the most important missions of the Department of Integrative Biology at MSU. Most research conducted in our laboratories represents basic science, the goal of which is to describe and explain phenomena in the natural world. However, some Integrative Biology faculty also conduct applied research, the results of which may be more immediately useful in efforts to cure disease, offer genetic counseling to prospective parents, enhance agricultural productivity, or minimize damage to living organisms from environmental contaminants.

Our faculty does extensive teaching of basic science at the undergraduate level, and there are usually 650 to 700 undergraduate majors in the department. Roughly 15% of our majors are members of the Honors College at MSU. Integrative Biology offers undergraduate service courses in several areas of biological science (e.g., genetics, development, animal behavior, ecology). Many of our graduate students serve as Teaching Assistants (TA) in laboratory or recitation sections for undergraduate courses, and we expect Teaching Assistants to conform to rigorous standards of excellence when they serve as instructors. At any given time, there are 70 to 100 graduate students in Integrative Biology. Roughly 90% of these graduate students are Ph.D. candidates, and the others are enrolled in one of our M.S. degree programs. Roughly half our M.S. candidates are enrolled in research-oriented, "Plan A" M.S. programs and the other half are enrolled in our "Plan B" M.S. programs. Plan A M.S. candidates write theses whereas Plan B candidates do not. Only Plan A M.S. candidates and Ph.D. candidates are eligible to receive guaranteed TA support from Integrative Biology, and these are also the only students eligible to apply for departmental funds for research supplies or travel to meetings (see below). There are approximately 40 tenure-stream faculty members in the department. In addition, we have several adjunct and emeritus faculty members, and several faculty members of other departments have joint appointments with Integrative Biology. The wide range of interests of the faculty covers most areas of Integrative Biology.

The administrative offices, departmental seminar room, and several teaching laboratories are in the Natural Science Building. Faculty offices and research laboratories are housed in the Natural Science Building, Giltner Hall, the Biomedical and Physical Sciences Building, the Environmental Toxicology Building, and at the W.K. Kellogg Biological Station (KBS) in Hickory Corners, MI. The department also has laboratory and field research facilities at the campus containment facility, and at the Inland Lakes Research Facility near the southern border of the MSU campus. In addition, teaching and research are carried out at several off-campus sites, including a field laboratory at KBS, various field sites in the Great Lakes region, a game park in Kenya, a field site in the Sierra Nevada Mountains of California, and many other locations.

Timeline and Requirements for Each Graduate Degree Program

Master of Science Degree (Plan A)

1. Year One

Select the members of your guidance committee and hold an initial meeting with the committee. Immediately after this meeting, submit the Annual Progress Report to the Graduate Program Coordinator (before the end of April is preferred).

During the first year, in addition to taking courses (including IBIO 801, if possible), you should get directly involved in conducting original research.

2. Year Two

Submit your thesis proposal to your guidance committee and meet with the committee to review your progress. Before the end of the second year (before the end of April is preferred), submit the Annual Progress Report to the Graduate Program Coordinator.

You should have taken IBIO 801 by the end of the second year.

3. Year Three

Apply for graduation for the semester you intend to finish, through the [Registrar's Office website](#). One month before your thesis defense, fill out the form entitled, Thesis Defense Announcement, and submit this to the Department's graduate program coordinator.

Before the end of the 3rd year, submit your completed thesis to your guidance committee and give your final oral defense of your thesis research. Then submit the following completed forms to the Graduate Program Coordinator: the Report on Oral Examination for Masters Degree and the Thesis Acceptance Form. In addition to these forms, you must also submit an updated Exit CV listing all publications, honors, awards, and teaching experience. Finally, you must submit a hard-bound copy of the thesis to the Graduate Program Coordinator for the Department.

Master of Science Degree (Plan B)

1. Year One

Select the members of your guidance committee and hold an initial meeting with the committee. Immediately after this meeting, submit the Annual Progress Report to the Graduate Program Coordinator (before the end of April is preferred).

The student should take 400 and 800-level classes that will contribute toward the degree.

2. Year Two

The student should complete the classes that will contribute 400 and 800-level credits toward the degree. In the second year, in addition to coursework, Plan B M.S. candidates also conduct an independent project that is based on library research. This project is done while enrolled for at least 3 "Special problems" credits in IBIO 890. Complete the Annual Progress Report Form (before the end of April is preferred).

Apply for graduation for the semester you intend to finish, through the [Registrar's Office website](#). Notify the Department's Graduate Program Coordinator of the date for your Final Oral Evaluation.

Doctor of Philosophy Degree (Ph.D.)

1. Year One

Before the end of the year, the student shall a) select the members of the guidance committee, hold an initial meeting with the committee, and submit oral & written progress reports to the

committee using the form entitled Annual Progress Report. Take IBIO 801 if possible. Immediately after the initial committee meeting, submit the signed Annual Progress Report to the graduate program coordinator (before the end of April is preferred). During the first year, in addition to taking courses, you should get directly involved in conducting original research.

2. Year Two

The student shall: a) meet with the guidance committee to review progress and agree upon topical areas to be covered with each individual member of the committee for the comprehensive examination, b) submit oral & written progress reports using the Annual Progress Report Form (before the end of April is preferred, Appendix I), c) enter Report of Guidance Committee into [GRADPLAN](#), and d) take IBIO 801 if this requirement has not yet been completed.

3. Year Three

Before the end of the first semester of the third year, the student shall pass written and oral comprehensive examinations and submit the appropriate forms including Record of Comprehensive Examinations. Failure to do so by this time-point removes you from good academic standing and makes you ineligible for further financial support from the Department in the form of teaching or research assistantships until the exams have been passed. Students are advised to complete these exams late in the second year or as early as possible during the fall semester of the third year of study. Submit to the Graduate Program Coordinator the form entitled, Record of Comprehensive Examinations. If the student fails the comprehensive examinations, he/she may re-take them once, but is advised instead to consider leaving the department with a terminal M.S. degree.

Before the end of the third year, the student shall submit a formal dissertation proposal to the members of the guidance committee and solicit their feedback on it. The proposal should be consistent with [guidelines specified in the Guide to Graduate Programs in Integrative Biology](#). Evaluation of this proposal should form the basis of the guidance committee's comments in the Annual Progress Report in the year in which the proposal is submitted.

4. Subsequent Years

The student shall meet annually with the guidance committee and submit oral & written progress reports using the form entitled, Annual Progress Report (before the end of April is preferred).

5. One Month Before Your Dissertation Defense

Fill out the form entitled, Thesis Defense Announcement, and submit this to the Department's Graduate Program Coordinator.

6. Before the end of your 6th year, submit your completed dissertation to your guidance committee and give your final oral defense of your thesis research. When your committee has approved your dissertation and you have successfully defended it, submit to the Graduate Program Coordinator the form entitled, Record of Dissertation and Oral Examination Requirements for Doctoral Degree Candidates. In addition to these forms, you must also submit an updated Exit CV listing all publications, honors, awards, and teaching experience. Finally, you must submit a hard-bound copy of the dissertation to the Graduate Program Coordinator for the Department, and another copy to your major professor.

Between the end of the third year and the time at which you submit your dissertation to your guidance committee for their approval, you should meet annually with your guidance committee to review progress toward your degree. You are also advised to submit drafts of thesis chapters to your committee members for comments as the chapters are written, particularly if you want to

submit those chapters as manuscripts to professional journals for publication. Your committee members can serve as excellent reviewers before your manuscript goes to review at the relevant journal, and this can often reduce the time to acceptance for your journal articles. However, you should send each manuscript/chapter draft to your committee members with a specific deadline by which they should get their feedback to you if they are willing to give it. It is advisable to give them two to three weeks to get to this, but if a particular committee member is unresponsive to your request for feedback, this should not unduly delay submission of your manuscripts to journals.

Forms

Most of the forms referred to above can be obtained from the Department of Integrative Biology Graduate Program Director, Louise Mead, or the Academic Program Coordinator, Katherine Terry. Please reach out to them to request forms and specific instructions for completing these forms.

GRADPLAN (via Student Information System)

[GRADPLAN](#) is the web-interactive system for Ph.D. students to create and store their Ph.D. degree plans and subsequent graduate program activities. Ph.D. students should begin exploring GRADPLAN soon after their arrival. As a student decides on their committee composition, they can begin to input this information into GRADPLAN. MSU faculty and staff cannot input information into a student's GRADPLAN file but can see it through GradInfo, a linked system. All Ph.D. students will be required to use GRADPLAN by the end of the Spring semester of 2017. Starting in the Summer of 2017 GRADPLAN will be the only way to process final degree certification. Until then, both paper and GRADPLAN can be used. (M.S. students do not use GRADPLAN because the large number of different M.S. programs at MSU, with different requirements, made standardization on GRADPLAN too difficult.)

Important Information: How to Avoid Trouble

Except where a student has received a special exemption from the Chair or Director of Graduate Programs, he/she will have TA support and eligibility for other departmental funding suspended, and he/she may also be at risk of dismissal from the program, in any of the following circumstances.

- If the student has not had an initial committee meeting by the end of his/her third semester of study (middle of the second year).
- If the student and his/her committee (or his/her major professor) fail to submit an Annual Progress Report by the end of each academic year (before the end of April is our preference).
- If the student fails to complete the comprehensive examinations before the end of the fifth semester (middle of the third year) of study.
- If the student fails to have a dissertation proposal approved by his/her guidance committee before the end of the third year of study.

Note: Individual faculty may reserve the right to ask their students to meet these requirements earlier, but not later than specified above without a special exemption from the chair or director of graduate programs. If any of the circumstances arise that are listed above, financial support of

the student from the department will remain suspended until the relevant requirements have been satisfied.

Importance of Your Letter of Acceptance to the Department of Integrative Biology

Each new student accepted into one of the graduate programs in the Department of Integrative Biology receives a formal letter from the current Department chairperson offering admittance. This letter is very important because it makes clear whether you are being offered financial support from the Department in the form of an assistantship, and if so, for how many semesters the support is offered. The letter of admittance also contains information describing the terms of any university or college fellowships you might have been awarded. The acceptance letter states who your faculty sponsor (or sponsors) will be, at least initially. Finally, the acceptance letter states whether you have been admitted with provisions. Students admitted provisionally usually need to satisfy one or more requirements for admission into the program. If you were admitted provisionally to your graduate program, you must complete all your missing requirements within the first year. Departmental travel funds, funds to support graduate research, and other benefits are available only to those students in research-oriented degree programs (Ph.D. & M.S. Plan A programs) who have satisfied all requirements for admission. Such funds are not available to students currently assigned “provisional” status.

Degree Plan Options

There are four graduate programs in Integrative Biology:

1. Doctor of Philosophy (Ph.D.)
2. Master of Science Degree (Plan A)
3. Master of Science Degree (Plan B)
4. Bachelor of Science/Master of Science Dual Degree

The program to which you have been admitted was specified in your original acceptance letter from the Department chairperson.

Research-Oriented Graduate Programs

The Department offers two research-oriented graduate programs: Ph.D. Degree Program and the Plan A Master’s Degree Program.

1. ***Ph.D. Degree***: Students in this program prepare a doctoral dissertation. This program requires coursework but is strongly organized around original investigation as a core activity. Students in this program are eligible (based on funding availability) to receive departmental monetary awards to pay for research supplies, travel to professional meetings, and other professional development needs.
2. ***Master of Science Degree (Plan A)***: Students in this program prepare a Master’s thesis. This program requires coursework but is strongly organized around original investigation as a core activity. Students in this program are eligible (based on funding availability) to receive departmental monetary awards to pay for research supplies, travel to professional meetings, and other professional development needs.

Other Master of Science Programs

1. ***Master of Science Degree (Plan B)***: This program emphasizes coursework in a curriculum designed to achieve a defined educational objective. Several courses of study are available, leading to specialization in different areas of Integrative Biology. A student

in this degree program often gains research experience, but he or she ordinarily does not carry out an extensive original investigation or write a thesis. Thus, monetary awards for research and travel are not available from the Department for Plan B students. Students in this program are eligible for semester-by-semester teaching assistantship awards but not for any guaranteed financial support.

2. ***Bachelor of Science/Master of Science Dual Degree Program:*** This program is designed for students who are still at a relatively early stage in their undergraduate work at Michigan State University and who want to work toward a Master's Degree contemporaneously with their Bachelor's Degree. All students in the program earn Master's Degrees. Interested students ordinarily apply to the program soon after achieving junior standing as undergraduate majors in Integrative Biology. B.S./M.S. candidates are not eligible to apply for Departmental funds in support of research or travel.

Required Preparation in Basic Math and Science for All Graduate Students in Integrative Biology:

Students admitted to any of our graduate programs are advised that the following undergraduate preparation in mathematics, chemistry, and physics is required:

1. Math through first-semester calculus plus either a second calculus course or a statistics course
2. Chemistry through first-semester organic chemistry plus either second-semester organic chemistry or biochemistry
3. One semester of college physics

Should a student matriculate in Integrative Biology at Michigan State University without this preparation, the student is typically admitted on a provisional basis and it will be necessary to correct shortcomings while enrolled as a graduate student before completion of the comprehensive examination. These courses are usually referred to as collateral courses and do not apply to the completion of degree requirements, even if taken at the 400 level. Be advised that courses taken to correct shortcomings might of necessity be at the undergraduate level and not earn graduate credit. Every effort should be made to be completely prepared prior to matriculation. No students admitted provisionally to any graduate program will be eligible for departmental travel funds, etc., until all requirements have been met.

Requirements for Advanced Degrees Overview and Annual Evaluations

Admission to the Department of Integrative Biology at the graduate level does not constitute acceptance of a thesis or dissertation proposal and/or program. The Master's Programs and the Ph.D. Program have differing requirements; hence, each will be spelled out in detail below. The Graduate Catalog valid in the year during which you entered MSU is your "Master Guide". If requirements change, you have a choice, but you don't have to follow changes in more recent editions. The deadlines given in the Schedule of Courses for meeting degree requirements should be met if you want to "have the degree in hand" at the end of that semester. Although [work in absentia is permitted](#), an important fact to keep in mind is that you must be registered when you take exams (e.g., comprehensive exams) or defend your thesis (M.S.) or dissertation (Ph.D.). Students admitted to degree programs are expected to maintain high academic standards.

Transfer of Credits from Other Universities to MSU

New graduate students in Integrative Biology can transfer up to 9 credits' worth of graduate coursework to MSU when they arrive, by filling out a MSU Credit Evaluation Form for Graduate Programs. For example, if you have taken some graduate level courses elsewhere and you now want to use those courses to satisfy current requirements of your MSU degree program, you must fill out this form, have it signed by the relevant parties, and submit it to the Integrative Biology Graduate Program Coordinator, Katherine (Kat) Terry for consideration by the Graduate Affairs Committee.

Coursework

The faculty of the Department of Integrative Biology expect students to take advanced (those at the 800-900 level) courses as part of their graduate education, but only IBIO 801 is required for all doctoral and Plan A M.S. candidates in Integrative Biology. Otherwise, with help from the Major Professor, each student should select the array of courses he /she needs to successfully achieve his/her chosen career goals. However, you will be ill-prepared to conduct your own thesis or dissertation research unless you have extensive training in the selection and use of appropriate statistical techniques. Therefore, you should ensure that you have adequate training in the statistical techniques likely to be applicable in your own research. You should also ensure that you understand as much as possible about the biology of your study organism(s), whatever that might be. Thus, for example, if you plan to conduct your thesis research using a particular species of fish, you would be well-advised to take a course in Ichthyology if you have never previously done so. Many thesis/dissertation projects require the use of specialized tools such as Geographic Information Systems, Histology, or Electron Microscopy. You should search the online MSU Guide to [Academic Programs](#) and [Description of Courses](#) to seek out courses in which you can acquire the supplementary technical skills you need to make your research successful. Finally, the Integrative Biology faculty agree with the statement by Theodosius Dobzhansky (1973) that "Nothing in biology makes sense except in the light of evolution." Therefore we strongly recommend, even for those students who plan to conduct biomedical research, that all Integrative Biology graduate students take an advanced course in evolutionary biology during their training.

Students seeking joint degrees with such Interdisciplinary Programs as [EEB](#) or [Neuroscience](#) are required to take specific courses to receive the degree from the Interdisciplinary program, and students should carefully attend to satisfying those course requirements. It is wise to complete as much coursework as possible in the first two years. EEB students should especially plan on this approach to allow more freedom later for scheduling fieldwork. The grades received in these courses will serve as one of the criteria used to judge a student's level of performance.

Annual Meeting with Guidance Committee

You must meet with your guidance committee at least once each year. Before the end of April is our preference. At each meeting, the committee needs to complete a form entitled Annual Progress Report. You should submit with the form an updated CV listing your accomplishments to date. Be sure to include on the CV all awards and honors you won during the past year, as well as research papers published, submitted, or in press.

Graduate school regulations require that each graduate student be evaluated once each year. Therefore, each faculty member in Integrative Biology shall ensure that all of his/her Ph.D.

students meet at least once annually with the entire guidance committee for this purpose. The only exceptions to this rule shall be:

1. If a student has not yet completed the formation of his/her guidance committee in year one
2. If a student is conducting research far from the MSU campus

In either of these two special cases, the major professor alone must meet with the student each year and complete the evaluation. At each annual meeting, the student shall submit formal written and oral reports summarizing his/her research progress to date in a scholarly fashion and lay out his/her research plans for the following year. In addition, the student and the committee (or the student and the major professor) shall also complete the remainder of the evaluation form entitled Annual Progress Report.

Language Requirement

Although there is no College or Departmental language requirement, a Guidance Committee for a particular graduate student may prescribe a language requirement.

Specific Requirements for the Master of Science Degree: A Checklist

University and College Requirements

1. Minimum credit requirement, exclusive of collateral courses and courses used to remedy deficiencies, 30 credits. Courses taken for Credit/No-Credit are not to be included in the minimum credit requirement.
2. Minimum credit at 800-900 level, 16 credits, except as specifically exempted by the Dean of the College. If you take more than 30 total credits while enrolled in the M.S. program, more than half of those must be at the 800-900 level, so note that 16 is a bare minimum.
3. Residence requirement, 8 credits on campus.
4. Time limit, 6 years from the date of admission. Please note that the clock starts on this with the first course that is used to apply to your degree program. This may be different than your admission date.
5. Maximum transfer of credits on approval, 12 term credits or 9-semester credits of graduate coursework.
6. Credit limits:
 1. 899 (Research), 8 credits.
 2. 890 (Special Problems), 10 credits.
7. A grade point average of 3.0 must be maintained. Accumulation of grades below 3.0 in more than three courses of 3 or more credits each disqualifies the student. Disqualification means that the student may be asked by the Dean to withdraw his/her candidacy for a degree in the Department of Integrative Biology.

Departmental Requirements (in addition to University and College Requirements)

Master of Science Degree (Plan A)

1. Thesis and Final Oral Examination. A thesis describes the student's original research and must be written and bound according to rules in the [Formatting Guide](#) from the Graduate School. The content of the Final Oral Examination is at the discretion of the Guidance Committee but includes a defense of the thesis.
2. Although there is no departmental language requirement, a Guidance Committee for a particular graduate student may prescribe a language requirement.

3. Three credits of scheduled courses at the 800 level or above in biology.
4. Successful completion of IBIO 801.
5. Submission to the graduate secretary of an updated "Exit CV" with the final paperwork for your degree.

Master of Science Degree (Plan B)

1. At least 3 credits of IBIO 890 "Special Problems in Integrative Biology." A Special Problem usually consists of a research project carried out either in a laboratory or the library.
2. Final Oral Examination - The Final Oral Exam will be formulated and administered by the student's Guidance Committee. It is the student's responsibility to contact the members of the committee concerning the content of the Oral Examination.
3. Three credits of scheduled courses at the 800 level or above in biology.

Sequence of Procedures to be Followed in the Master of Science Program

1. Select the Major Professor and Guidance Committee before the end of the second semester in residence.
2. Prepare and submit the Program of Study for approval of the Guidance Committee and the Departmental Graduate Committee. The form to be filed is called Report of the Guidance Committee-Master's Program. Please see Lisa Craft to get a copy of this form to be filled out at your first committee meeting. Meet annually with the Guidance Committee and submit an Annual Progress Report.
3. Apply for the Diploma at the time of enrollment in the last semester of residence.
4. If Plan A is adopted, submit near-final draft copies of the thesis to the Guidance Committee not later than the seventh Friday of the semester in which graduation is anticipated.
5. Contact Graduate Program Coordinator, Katherine Terry (Kat) to have Notice posted of the Final Oral Examination (Thesis Defense) no later than the eighth Friday of the semester and at least two weeks before the examination.
6. Take the Final Oral Examination not later than the tenth Friday of the semester in which graduation is anticipated, and submit the form, Report of Completion of Requirements for the Master's Degree. Please obtain this form from Katherine Terry (Kat) before your final oral examination.
7. If Plan A is adopted, submit copies of the thesis before the end of the semester to the Graduate School, the Graduate Program Coordinator in the Integrative Biology Department, and your Major Professor. Copies of the thesis for the Department and the Major professor must be bound, but the copy that goes to the Graduate School should not be bound.

Note: Residence requirements, correction of deficiencies, and academic standards for Plan B candidates are the same as those for Plan A candidates.

Note: The University Committee for Grad Studies revised the credit sharing policy for Master's programs: if your program includes more than 30 credits, then you may share up to 30% of the total with another Master's program.

Specific Requirements for Doctoral Degree: A Checklist

University and College Requirements

1. A minimum of 24 credits in dissertation research. Please note that students should not earn more than 36 dissertation research credits (IBIO 999) during their program. Remember that being enrolled for 1 credit is sufficient for full-time status once a Ph.D. student has passed comprehensive exams. Requests for overrides to exceed the maximum of 36 (24 in the College of Education) credits of 999 must be directed to the Office of the Registrar. To do so, access the Request for RNR Override at the [Registrar's Online Forms Menu](#). Select the RN override and fill in the requested information. Should the total number of credits go above 45 the Office of the Registrar will confer with the Graduate School before considering the request for an override.
2. Residency requirement of 2 consecutive semesters of 6 credits each semester.
3. Comprehensive exams must be taken within 5 years and all requirements completed within 8 years.
4. A program of study determined by the Guidance Committee.
5. Original research leading to a dissertation.
5. A grade point average of 3.0 must be maintained. Accumulation of grades below 3.0 in more than three required courses of three or more credits each, or a deferred grade in more than three courses of 3 or more credits each at any given time, or a combination of the above in excess of four courses automatically removes the student from candidacy for the degree.

Departmental Requirements (in addition to University and College Requirements)

1. At least 6 credits of two regularly scheduled 800 level courses in biology are required.
2. A minimum of 4 semesters of at least one-half time of supervised teaching, research, or other university services. The specific requirements are to be determined by the student's Guidance Committee. The student should expect to complete all Ph.D. requirements within 5 years.
3. The Comprehensive Examination is to be taken no later than the end of the first semester of the second calendar year after completing the Master's Degree or the end of the first semester of the third calendar year from the time of the student's first enrollment, if he/she did not enter with an M.S. and is working directly toward the doctoral degree.
4. Successful completion of IBIO 801 (Issues in Professional Development in Integrative Biology) before the end of the second semester of the third year.
5. A dissertation proposal.
6. Annual meetings with the guidance committee and submission of the Annual Progress Report.
7. An approved doctoral dissertation based on your own original research.
8. Submission to the graduate secretary of an updated Exit CV with the final paperwork for your degree.

Sequence of Procedures to be Followed in the Doctoral Program

1. During the first year of residence, select the Major Professor and Guidance Committee.
2. Before the end of the first semester of your third year, complete IBIO 801.
3. Prepare and input into [GRADPLAN](#) the program of courses for approval by the Guidance Committee and the Departmental Graduate Committee

4. Take the Comprehensive Examination before the end of the first semester of the third calendar year from the time of the student's first enrollment. File the completed form, Record of Comprehensive Examination, with the Graduate Program Coordinator. Please see Lisa Craft to obtain this form before the oral part of your comprehensive exams.
5. Submit a dissertation proposal to your guidance committee.
6. During the Final Semester:
 - Apply for graduation at the time of registration. The Graduation Application is available at student.msu.edu. After clicking on the Academic Progress tile, you will see a link to Apply for Graduation in the left-hand navigation under the Graduation heading.
 - Submit copies of the dissertation to the Guidance Committee not later than the fourth Friday of the semester.
 - Have notice posted of the Final Oral Examination before the end of the sixth week of the semester and at least two weeks before the examination. Submit Doctoral Dissertation Defense Announcement form to the Graduate Program Coordinator.
 - Take the Final Oral Examination not later than the ninth Friday of the final semester. Submit the Record of Completion of Requirements for the Doctoral Degree form. Please see Lisa Craft to obtain this form before your Final Oral Examination.
 - Submit an electronic copy of the dissertation before the end of the semester in which graduation is expected to the Graduate School (where it must be accepted during the semester in which you want to graduate, the Graduate School provides instructions on how to format the electronic thesis. Submit bound hard copies to the Graduate Program Coordinator in the Integrative Biology Department, and your Major Professor.
 - Submit Exit CV to the Graduate Program Coordinator.

Residency

One year of residence, after completion of the Master's degree or its equivalent, is required while the student works with and under the direction of the faculty and engages in independent and cooperative research utilizing University facilities. A year of residence will be made up of two consecutive semesters, involving the completion of credits at the level of full-time status of graduate work each semester. You must be enrolled during the semesters in which you will take the examinations required for your degree (e.g., comprehensive exams), and you must also be enrolled during the semester in which you defend your thesis/dissertation.

Work in Absentia

Candidates for the doctoral degree may, with the approval of the Guidance Committee, conduct some work in absentia.

Time Limits

Comprehensive examinations must be taken within five years, and all requirements must be completed within eight years, of the time of a student's first enrollment for doctoral degree credit. Should the degree not be completed within three years after the passing of the comprehensive examination, the entire comprehensive examination must be passed again.

Travel Abroad

If you will be traveling abroad as part of your graduate studies:

- Check with the [MSU Travel Clinic](#)! They will let you know of any health risks or Immunizations.
- Check the [International Studies and Programs website](#) for issues related to safety around the world. Graduate students traveling internationally for MSU-related work (research data collection, international professional conferences, courses, or other academic business, are strongly encouraged to sign up using the International Travelers Database (even if they are not being reimbursed for travel). This is the best way for MSU to stay in touch with our students if there is an emergency.
- Apply for assistance with travel funding via the Graduate School. If the Graduate School provides funding, they will also provide a MEDEX emergency card.

The Dissertation Advisor

Selecting or Changing Major Professors

In most cases, your original letter of acceptance into the Department specifies which faculty member will be your major professor. However, in some cases, more than one faculty member may sponsor a single student, in which case the student must select one of the sponsors to be the major professor before the end of the first year. Students wishing to change major professors may do so with the written consent of the proposed new major professor, and either that of the Director of Graduate Programs or the Chairperson of the Department. Any student considering changing major professors should discuss this with the Director of Graduate Programs and/or the Chairperson of the Department, who will advise the student about his/her options for finding a new mentor.

The Role of the Major Professor

Most Integrative Biology graduate students select a Major Professor before they are even admitted to the University or the Department, and in fact, students are not admitted without at least one Integrative Biology faculty member expressing (in writing) willingness to sponsor them. Thus, the Major Professor is selected by the mutual consent of the student and faculty member, with the approval of the chairperson. Careful thought should be put into the student's choice of faculty mentors since the Major Professor has primary responsibility for guiding the student's academic program. Students are sometimes admitted to Integrative Biology with an acceptance letter stating that two or more different faculty are willing to sponsor the student. In these cases, the student should select one of these faculty members during the first year of graduate study, and with that professor's consent, then formally declare that faculty member as the Major Professor.

Before making his/her final selection of an advisor, the student should make sure he/she and each potential advisor discuss such matters as what the student wants and expects from the mentor, what the advisor expects from the student, monetary matters (such as assistantships, coverage of expenses to attend meetings and availability of funds to support field research or purchase new equipment), and other working arrangements the student and advisor might make (such as work the advisor requires in return for a research assistantship).

The Major Professor will guide the student's research program and act as the Chairperson of the Guidance Committee. The responsibility of the Major Professor is to advise, to provide guidance as needed, and to help keep the student directed. Some advisors expect the student to come to them when help is needed, others are more regularly in touch with the student, and a few tend to breathe down the student's neck and double-check every move the student makes. Often, the student must take the initiative to set meeting times with the Major Professor. You must find out how your own advisor operates and determine whether that style is compatible with your own. Before joining a particular laboratory, it is often wise to chat with the graduate students and post-docs already working there to identify potential costs and benefits of working with the faculty member who runs that lab. The advisor usually provides space to the student for conducting research, writing, and holding office hours while teaching. The advisor also sometimes makes available research equipment, computers, or supplies for graduate students, but this is highly variable.

The Role of the Student

It is the responsibility of each graduate student to make sure he/she is complying with the departmental regulations described in this guide and maintaining high standards of scholarship and ethical conduct. It is also the student's responsibility to keep the advisor up to date on his/her work. Designing the research project is an important part of the learning process. The student should request help from the advisor as needed, but otherwise, your research is your own, and you should not expect the advisor to do it for you. It is the student's responsibility to understand the University, College and Department policies that are pertinent to the student's education; these are in the [Graduate Studies Catalog for MSU](#) and this Guide to Graduate Study. Finally, it is the student's responsibility to complete the requirements for his/her degree program in a timely fashion. Incoming students should consult with their sponsor as soon as possible after accepting admission to discuss a course of study for the first semester. Questions concerning the graduate program can be answered by the student's sponsor, the Graduate Affairs Committee, the Director of Graduate Programs or the Chairperson of the Department. Questions on the regulations of the College of Natural Science may also be directed to the Associate Dean for Student and Academic Affairs (Room 103 Natural Science Building).

Students are expected to participate in seminar courses and journal clubs to gain valuable experience in making oral presentations. All graduate students are also expected to keep up with the current literature in their field. A [more detailed list of faculty expectations of Integrative Biology graduate students](#) is available below.

The rights [and responsibilities of all graduate students](#) at Michigan State University are provided by the MSU Graduate School.

Best Practices in Graduate Mentoring

This department guide was modified from Hund et al. 2018.

The role of the advisor is diverse and may include several areas of guidance, advising, support, and supervision. The advisor is a role model for students, helping them learn norms and ethics in academic behavior and performance at the levels of the department, university, and the broader field of study. The best mentors strive to (1) model how to engage in excellent scholarship, and (2) provide sponsorship, collaboration, supervision, and encouragement to build student skills and confidence as they progress through graduate school, and beyond.

Each advisor develops their own mentoring style based on personality, working style, and experience. While mentoring styles may vary, we encourage faculty to recognize that there are well defined, and empirically supported, tools, strategies, and approaches that work. These best practices can be learned, practiced, and adapted to improve the mentoring experience and outcomes for both the student and the mentor. In addition, it is important to recognize each student is unique and thus the style of mentoring that best suits a student's needs will vary. Students will also change over time, and adjustments in advising will be necessary as a student's progress leads to increasing responsibilities and independence. Students should recognize that their capacity and responsibilities will increase as they advance in graduate school and that an important role of their advisor is to push them and challenge them to help them build their abilities in order to meet their goals. Advisors should recognize that graduate students are doing and learning many things for the first time, they will make mistakes, and will learn to be more efficient and effective with their work through time.

Start early in the mentoring process and establish the norms for communication, expectations, and requirements. This can be an important part of interviewing new graduate students, benefiting both faculty and student. When students are deciding to join a lab after acceptance, they should have a clear idea of the type of mentoring and support they will receive. We encourage faculty to develop their own written mentoring statement or contract that they discuss with prospective students and new graduate students. This conversation should include:

1. Determining the best ways for the advisor and student to communicate with each other, and how frequently they will meet.
2. Discussing what the expectations of the advisor for the student are in terms of performance (e.g., chapter/ manuscript preparation), and what the student expects from the advisor in terms of assistance and advice (e.g., help with a thesis topic, reading the literature, comments on drafts) in making progress toward their degree.
3. It should also touch on the working styles and preferences of both the mentor and student and what type of mentoring or feedback works best for the particular student.
4. The student's short and long-term goals and the role of the advisor in helping them to reach those goals.

It is important to regularly revisit this conversation and expectations with each student as needs will change over time. Faculty and students should recognize that openly discussing potential areas of conflict (e.g., authorship, financial support, differences in working styles, research expectations and timelines), early and often, before problems arise, is the best way to avoid conflict and maintain a good and productive mentoring relationship.

We encourage advisors to facilitate these discussions with each of their students every semester, or at least once a year. Advisors and students should review together the requirements for obtaining the degree, including coursework, exams, teaching, and documents (thesis, dissertation). Establish a strategy for setting goals, evaluating progress, and identifying challenges on a regular basis (e.g., weekly or monthly). Both advisors and students should understand their rights and responsibilities:

- **Professional Rights and Duties of Faculty Members**
- **Graduate Student Bill of Rights and Responsibilities**
- **Guidelines for Graduate Student Mentoring & Advising**
- **IBIO Code of Ethics and Professional Conduct**

Best Practices: How to Enhance Mentoring and the Graduate Student Experience

	Graduate Students are Encouraged To	Faculty Mentors are Encouraged To
Establishing Mentoring Relationship Norms	<p>Meet with faculty advisors during their first semester to:</p> <ul style="list-style-type: none"> • Discuss how often and in what manner they will communicate to share progress and concerns; regular meetings with your faculty advisor are strongly encouraged • Identify effective strategies for regular communication so that you can receive feedback and direction as needed. • Discuss any expectations for a presence on campus while working (e.g. expected to work in the lab during certain hours or days) <p>Meeting your mentoring needs:</p> <ul style="list-style-type: none"> • Your advisor may not be able to provide you everything you are looking for in a mentor. This is okay, and expected. <p>Work to establish a mentoring network to get the help and support you need. Form relationships with other faculty, postdocs, and graduate students.</p>	<p>When working with a new student:</p> <ul style="list-style-type: none"> • Facilitate discussions about mentoring norms, communication, expectations, and goals. • Consider how differences in personality and preferences will affect your working relationship with this student • Explain the support network available to the student and their role in the student's education (e.g., labmates, postdocs, committee members, IBIO staff, cohort). <p>Foster a healthy research community by:</p> <ul style="list-style-type: none"> • Providing graduate students with ways to directly and honestly communicate their concerns and needs for assistance. • Providing encouragement and constructive feedback on student progress
Working Logistics	<p>Determine the expectations of their advisor and committee for:</p> <ul style="list-style-type: none"> • The formulation of a research project, • Execution of the research • Final presentation of the advisory committee (exams, defense) • Expectations for publication • Notice needed for feedback on drafts, or letters of recommendation <p>Expectations for regular meetings with committee members</p>	<p>Share with students:</p> <ul style="list-style-type: none"> • Your expectations of student progress and timelines • Your expectations for their research topics, if any • The steps and time management needed to successfully execute a thesis or dissertations, teach effectively and participate in service and outreach

	Graduate Students are Encouraged To	Faculty Mentors are Encouraged To
		<ul style="list-style-type: none"> • Details of the support you can provide for research and funding. <p>Clear expectations for what is expected from students for receipt of that support</p>
Career Advancement	<p>Discuss with their advisors and committees:</p> <ul style="list-style-type: none"> • Career goals, and the best ways to achieve and be prepared for those career goals. • Areas of concern, or particular challenges • Areas where they would like to grow, topics or skills they would like to develop or learn. • Opportunities they should pursue to meet their goals (grants to apply to, courses to take, collaborations, conferences) and how to prioritize these opportunities with other responsibilities and requirements <p>Seek advice on applying to and securing desired future positions to meet career goals</p>	<ul style="list-style-type: none"> • Discuss and understand the student's long-term goals and incorporate appropriate training opportunities into the student's education plan (e.g., teaching, research, outreach). • Encourage students to read the scientific literature thoroughly and frequently • Help students to enhance their writing and speaking skills • Encourage and support students to attend meetings and seminars. • Facilitate networking and professional development opportunities • Discuss possible career tracks, and suggest appropriate courses and opportunities <p>Be aware that student goals should supersede faculty goals for the student.</p>
Dissertation Progress	<ul style="list-style-type: none"> • Early in a student's graduate program, they should review the requirements of the degree and determine a timeline for meeting those requirements • Discuss progress towards degree requirements with their advisor on a regular basis, at least once a semester. <p>Emphasize possible bottlenecks, or trouble spots, where help may be most needed.</p>	<ul style="list-style-type: none"> • Work with students to establish reasonable goals for the completion of milestones that need to be achieved in order to complete their degree. • Help student to overcome possible barriers to meeting these goals and to grow and learn from these experiences <p>Be clear about your expectations for lead time to receive drafts for comments, and for letters of recommendation.</p>

	Graduate Students are Encouraged To	Faculty Mentors are Encouraged To
Conflict Resolution	<ul style="list-style-type: none"> • Bring up areas of potential conflict and stress before they become a problem • Open communication can prevent conflicts, so keep your advisor in the loop • Prevent misunderstandings by asking questions and clarifying expectations if things are unclear • Send professional emails • Maintain professional and respectful behavior at all times <p>Use available resources and bring in help to resolve conflicts if needed.</p>	<ul style="list-style-type: none"> • Discuss, and provide opportunities for students to bring up, areas of potential conflict and stress before issues arise • Make sure expectations and timelines are clear • Maintain open communication • Discuss small problems before they build to larger problems • Send professional emails • Maintain professional and respectful behavior at all times <p>Use available resources and bring in help to resolve conflicts if needed.</p>

Worst Practices and Things To Avoid Doing

- Remaining silent when inappropriate behavior is observed (may be governed by the University’s policy on discrimination and harassment)
- Losing your temper, sharing confidential information, and other unprofessional behavior
- Holding grudges, or not allowing for growth, as individuals make mistakes and learn over time
- Neglecting or ignoring your student/advisor for extended periods of time
- Using unreasonable threats in order to get individuals to complete tasks or goals.
- Placing an individual in the middle of a dispute, including disputes between faculty members or between other members of the lab group.
- Pressuring an individual to do things they are uncomfortable doing that are not required as part of their position. These could include personal favors or work unrelated to university-related teaching or research.
- Encouraging unhealthy behavior (e.g. excessive drinking, lack of sleep, work-life imbalance).
- Taking ideas, data, or research (intellectual property), without appropriate credit, permission, and collaboration.
- Having inconsistent or unclear demands and expectations.
- Discouraging individuals from asking questions, clarifying expectations, or seeking help.
- Discriminatory behavior, or treating people differently because of gender, race, status, etc., or fostering an environment that is not inclusive.

University Resources Available for Assistance

- [MSU Anti-Discrimination Policy](#)
- [Counseling and Psychiatric Services](#)
- [Graduate School Resources](#)
- [Ombudsperson Office](#)
- [MSU Misconduct Hotline](#)
- [Office of Institutional Equity](#)

Reference

Hund, AK, Churchill, AC, Faist, AM, et al. Transforming mentorship in STEM by training scientists to be better leaders. *Ecol Evol.* 2018; 8: 9962–9974. <https://doi.org/10.1002/ece3.4527>

The Guidance Committee

The role of the Guidance Committee is to provide the student with direction regarding courses to take and not to take, to help direct the student's research, and to serve as examiners in the required examination(s). Students should be aware that faculty are not obligated to meet with students or participate in defenses during the summer but may elect to do so at their discretion. Ideally, committee members should be diverse enough to be able to provide guidance on all aspects of a student's project, as well as to guide students away from unprofitable areas. It is the student's job to study the research interests and areas of expertise of current Integrative Biology faculty and start interacting with potential committee members early in the second semester of the first year. It is also advisable to consult with older graduate students to determine how faculty behave while serving as members of guidance committees. Questions to ask older students might include the following: How knowledgeable is Dr. X about the subject in question? Are there other faculty members with the same expertise as Dr. X in this subject area? How useful is the feedback given by Dr. X on oral presentations and/or written work? How responsive is Dr. X to requests from students for feedback or meetings?

The Guidance Committee should be selected by the student in consultation with the Major Professor before the end of the first year for MS degrees. For Ph.D. students, the guidance committee shall be formed no later than the third semester of doctoral study, or within two semesters beyond the master's degree or its equivalent. Within one semester after the committee has met, the chairperson of the guidance committee shall file a guidance committee report with the dean of the college, listing all degree requirements (this requirement will be fulfilled through the use of [GRADPLAN](#)).

Integrative Biology

Changes in the membership of the Guidance Committee may be initiated by the student in concurrence with the Department Chairperson or the Graduate Program Director. The Department shall provide a substitute, acceptable to the student, should a chairperson or a committee member require or desire substitution.

Committee Composition for Master of Science Degrees: The Guidance Committee for the Master of Science degree candidates consists of the Major Professor, at least one additional member of the Department of Integrative Biology, and at least one additional MSU faculty member from outside the Integrative Biology Department.

Committee Composition for Doctoral Degrees: The Guidance Committee for Doctoral degree candidates consists of the Major Professor and at least three other faculty members, one of whom must be from outside the Department. At least two tenure-stream Integrative Biology faculty members must serve on every Ph.D. Guidance Committee.

Membership on committees is restricted to regular MSU faculty with tenure-stream appointments at the ranks of Instructor, Assistant Professor, Associate Professor, or Professor. Persons from other universities and those with a courtesy appointment in Integrative Biology are welcome to serve as additional committee members but do not count toward the requirement for membership on the Committee unless specifically authorized to do so by the Dean of the Graduate School. Please be aware that MSU is not obligated to provide funds for external faculty to attend committee meetings or defenses. Non-tenure stream faculty and

emeritus professors may officially serve on graduate guidance committees upon approval by the Graduate School.

Graduate students need and deserve periodic evaluation as a measure of both their academic progress and their professional potential. The Major Professor and the Guidance Committee have the responsibility of informing the student of deficiencies, orally and/or in writing. As soon as a determination has been made that a student's performance and/or progress does not meet Department standards, he/she shall be notified by the Director of Graduate Programs and/or the Department Chairperson. In case such deficiencies endanger the student's status in the program, the student shall be so informed by the guidance committee (for example, when the Committee fills out the Annual Progress Report).

The Guidance Committee will meet with the student at least once a year for the purpose of discussing the student's research and academic program, offering advice and guidance concerning his/her conduct and evaluating the student's progress. Students should be aware that faculty are not obligated to meet with students or participate in defenses during the summer but may elect to do so at their discretion. Students who have not yet formed a Guidance Committee should meet with their Major Professor for the purpose of this review. An Annual Progress Report form shall be submitted following this meeting.

If the Major Professor is changed for any reason, the original Guidance Committee may be dissolved. Any change in membership must be reported in writing to the Graduate Affairs Committee via the Graduate Program Coordinator. During the term of its formation, the Guidance Committee will meet with the student to prepare a program of coursework and discuss a topic for a thesis (Plan A Master's Program) or dissertation (Doctoral Program). The program listing the coursework selected by the student and recommended by the Guidance Committee will be input into [GRADPLAN](#) by the student and approved electronically by committee members. If the program of coursework is not in conformity with existing Departmental and University regulations, it will not be approved. In this case, the program will be corrected and resubmitted for approval no later than the following semester. Master of Science candidates following Plan B should submit a proposed program to the members of their Guidance Committee before the end of the student's first semester in residence.

Students will find that faculty are available and interested in their progress. Throughout your tenure as a graduate student, you are encouraged to meet with Integrative Biology faculty members to discuss your research interests.

Bringing food to meetings (e.g. committee meetings, defenses, comprehensive exams, or any other student-committee/advisor meeting) is not expected of the student.

Comprehensive Exam, Dissertation, and Dissertation Defense

The Comprehensive Examination (Doctoral Candidates Only)

The Comprehensive Examination includes both oral and written examinations. The comprehensive examination must be taken no later than the end of the first semester of the third calendar year from the time of the student's first enrollment. Students who are tardy in passing their comprehensive examinations may lose departmental financial assistance, and will not be considered to be in good academic standing. The student must be registered during the semester in which comprehensive exams are taken. If more than three years elapse after completion of the Comprehensive Exams without also completing the Dissertation Defense, the comprehensive

exams must be repeated. The Department of Integrative Biology reaffirms that Ph.D. students in Integrative Biology should demonstrate both expertise within a specified area of research specialization and breadth of knowledge within biology.

The Comprehensive Examination shall consist of two parts, one written and one oral, one emphasizing the breadth of knowledge, the other expertise in the student's own area of research specialization. The written portion of the Comprehensive Examination shall examine the student primarily on his/her breadth of knowledge within the field of Animal Biology. The oral portion shall examine the student on knowledge of his/her specific area of research specialization and on questions that arise from his/her answers on the written portion of the exam.

Both portions of the Comprehensive Examination are administered by the student's Guidance Committee. There are no external examiners. All members of the Guidance Committee are to participate in the administration of both portions of the Examination. The written exam will consist of one or more questions submitted by each member. Questions for the written examination may be solicited by the Guidance Committee from persons, not on the Guidance Committee. One month will be allowed for completion of the written portion of the Comprehensive Examination. Faculty members are advised that they will design questions that can reasonably be answered within this time period. The Oral Comprehensive Examination must be taken within one month of completion of the Written Comprehensive Examination. The Comprehensive Examination must be passed by a unanimous decision of the Examining Committee.

The decision as to whether any part of the Comprehensive Examination must be repeated is made by unanimous decision of the Examining Committee. Only one repetition of the Comprehensive Examination will be allowed. The second Examining Committee will consist of the same members who served on the first examining committee. The second Comprehensive Examination may be taken at the discretion of the Major Professor but not later than one year from the date when the student failed the original Comprehensive Examination. The material covered on the second Examination will remain the same as the original Comprehensive Examination. If the second Examining Committee cannot reach a unanimous decision, the Departmental Graduate Affairs Committee will make the final decision as to whether the student has passed or failed this examination. Should the above one-year deadline not be met, the student must initiate a petition for an extension of the time limit to his/her Major Professor and Guidance Committee prior to the date of the deadline. The decision of the Guidance Committee is subject to the approval of the Departmental Graduate Affairs Committee and the Department Chairperson. In the event an extension is granted, the period must be clearly defined.

A high level of proficiency is expected on the Comprehensive Exam. The student will be expected to demonstrate a command of the factual material and the literature at the level of a young professional in the area. For most students, several months of intensive work are needed for preparation. The oral exam will generally last about three hours and may begin with a brief presentation of the student's research progress. The Committee members may question the student about this research in detail. Questions will then be asked about the other areas that the student has studied. It is important that the student consults with members of the Guidance Committee at least several months before the exam to determine what areas should be studied. At that time the student can also discuss the research project and technical details can be addressed in an atmosphere that lacks the inevitable anxiety of the Comprehensive Exam.

The chair of each guidance committee shall ensure that copies of all questions submitted to students in the written portion of their comprehensive exams, and all student answers to those questions, are circulated to all members of the committee at least 48 hours in advance of the oral exam such that the committee members will have time to read over answers to all questions before the oral exam. All questions and answers will also be placed on file in the Integrative Biology Department office where they will be accessible to the Chair, the Director of Graduate Programs, and the members of the Graduate Affairs Committee.

After evaluation of both the written and oral examinations, the Guidance Committee will take by unanimous agreement whatever action it deems appropriate. At that time the Record of Comprehensive Examination for Advanced Graduate Studies form will be completed, signed, and delivered to the Graduate Program Coordinator who will record the results in GradInfo. Please be sure to obtain this form from Katherine Terry before the oral part of your Comprehensive Exam.

For students who were enrolled in the Spring and are taking their comprehensive exams during the immediate Summer semester, the Department can request a waiver of the requirement that the student is enrolled for at least one credit the semester of the comprehensive exam. These requests are to be directed to the Graduate School and must be endorsed by the student's department and college. All students defending their thesis or dissertations in the Summer need to be registered for at least one credit during that Summer, regardless of their being enrolled in the preceding Spring semester.

The Thesis Proposal (Master of Science Plan A Candidates) or Dissertation Proposal (Doctoral Candidates)

The thesis/dissertation proposal is the document in which you describe to your guidance committee what you intend to accomplish in your thesis research. It should be clear what study or studies will be conducted in each chapter of the thesis, and whether each component of the proposed work represents descriptive or explanatory science. Your committee will want to see a literature review in the introductory section of the proposal; here you should explain why the phenomenon under study in your thesis is of interest, and what is already known about the phenomenon from prior work by others. The last section of the introductory section should make clear your own goals in relation to elucidating the phenomenon of interest. In each chapter in which you propose to conduct explanatory science, you should make clear what natural phenomenon you intend to explain, and clearly enumerate the hypotheses you plan to test, what your independent and dependent variables will be, and how exactly you will determine whether or not each hypothesis is supported by your data. It is often useful to include simple scatterplots or histograms (complete with careful axis labels, etc.) presenting alternative hypothetical results that would support or falsify each hypothesis. The thesis/dissertation proposal must be approved by the guidance committee of every Ph.D. candidate by the end of the third year of graduate study.

The Thesis (Master of Science Plan A Candidates) or Dissertation (Doctoral Candidates)

Each student working toward a Plan A Master's or Doctoral Degree must conduct original research to be written up and submitted in the form of a thesis/dissertation. In most cases, each chapter of the thesis/dissertation will represent roughly the content of an article to be submitted

for publication in a top professional journal. The research conducted for the thesis/dissertation is under the guidance of the Major Professor and must be acceptable to the Guidance Committee. All doctoral students must register and pay for a minimum of 24 credits of doctoral thesis/dissertation research (with a maximum of no more than 36 doctoral dissertation credits). It is the policy of Michigan State University to permit and facilitate thesis/dissertation research by students from developing nations in their home countries, whenever feasible. Each student should give all of his/her guidance committee members opportunities to provide feedback on each dissertation chapter before it is submitted to a professional journal and subjected to outside review. If guidance committee members do not provide feedback to the student on such work within one month, then the student may proceed to submit the manuscript in question for publication. The students' obligation to the members of his/her guidance committee is satisfied if all committee members have had these opportunities. The thesis/dissertation must be completed according to regulations prescribed in the [Formatting Guide](#) from MSU's Graduate School.

Style and Form

The style and form of the thesis/dissertation shall be determined by the Major Professor and Guidance Committee in accordance with [The Formatting Guide](#).

Review of Thesis/Dissertation Draft by the Major Professor & the Guidance Committee

The final draft is first presented to the Major Professor for review. If and only if the Major Professor considers it to be in reasonable form for broader distribution, the thesis/dissertation is submitted to each member of the Guidance Committee for review. Copies are to be presented to all committee members and the committee members must be given at least one week (preferably longer) to review it.

Publication of the Dissertation

Electronic dissertations are submitted to [ProQuest](#), a database of dissertations and theses. Each dissertation is reviewed by a Michigan State University administrator for possible revisions before it is officially accepted and delivered to ProQuest for final publishing. All MSU dissertations and theses can then be accessed through the MSU library catalog or through the ProQuest database from the [MSU library website](#).

Publication by ProQuest does not preclude publication of the dissertation in whole or in part in a journal or as a monograph. An extra fee is charged if the dissertation is to be copyrighted. ProQuest provides an [Open Access Publishing Option](#) as an alternative to the traditional publishing option available to our students. The Open Access option gives ProQuest the authorization to make the electronic version of the document accessible to all via the internet, including the selling of the document by commercial retailers and the accessibility to the work via search engines. In addition, when submitting an electronic thesis or dissertation to ProQuest, a student now has the option to open the document to searches using Google, Google Scholar, and Google Books. The option to block such searches continues to be available.

Who Gets Copies of Your Thesis/Dissertation?

After the revisions to the thesis/dissertation have been approved, the student should provide the Major Professor and committee members with electronic PDF copies of the thesis. If the Major Professor requests a hardbound copy in addition to the electronic copy, the student should provide it.

Embargos of Theses and Dissertations

Requests for embargos are restricted to situations involving potential patents. The embargo period is restricted to six months and the holding of the document of now done by ProQuest after the electronic thesis/dissertation is submitted after the approval of the Graduate School.

Where Can I Find a Recent Thesis/Dissertation?

Theses/dissertations accepted by the Department of Integrative Biology in recent years may be found in the glass-front cabinets in Room 203B Natural Science Building.

The Final Oral Examination (Thesis/Dissertation Defense)

The final master's or doctoral examination is the culmination of a student's graduate education and training and reflects not only on the accomplishments of the graduate student but also on the quality of our graduate program. We anticipate that the policies and procedures described in this section will ensure the maintenance of expected professional standards in the preparation of the written documents and in the oral defense of the thesis/dissertation. An approved thesis/dissertation that is accepted by the department and the Graduate School becomes a single-author publication and contributes to the body of knowledge of the discipline.

The Final Oral Examination will be held no later than the ninth Friday of the student's final semester. It will consist of a presentation of the findings in the student's thesis/dissertation plus a defense of the thesis. That is, the student should be prepared to answer even the most challenging questions posed in response to his/her presentation of the thesis/dissertation research. These questions may come from members of the guidance committee or other members of the audience. The oral presentation will be open to all interested persons, including all faculty members, and announced to the entire department via email several weeks in advance. As soon as the final rough draft of the thesis/dissertation has been judged to be satisfactory by the guidance committee members, the student shall schedule the final oral examination, which, for Plan A M.S. and Ph.D. candidates, includes the departmental seminar on the research described above. This examination should not be scheduled until committee reservations and concerns about the thesis/dissertation have been alleviated.

To ensure fairness in the examination procedure and maintenance of academic standards, the Dean of the College of Natural Sciences or the Chairperson of Integrative Biology may appoint an outside member to the examining committee. The outside member of the committee may read and critique the thesis/dissertation, may participate in the oral part of the exam, and may submit a report to the Dean or the Chair assessing the student's performance in the context of the examination.

The candidate for the Master of Science (Plan A) or Doctoral Degree must submit a copy of the thesis/dissertation to each member of the Guidance Committee not later than the seventh Friday of his/her final semester, and at least two weeks prior to the Final Oral Examination. Notice of the oral presentation and defense of the thesis or dissertation must be distributed via email at least two weeks in advance to all faculty and graduate students in Integrative Biology. The committee may take by unanimous agreement whatever action it deems just. The Record of Completion of Requirements for the Advanced Degree form will be completed and taken to the Graduate Program Coordinator immediately after the examination. The Graduate Program Coordinator will then forward the Record to the Chairperson of the Department. The student must receive a unanimous passing grade by the Guidance Committee at the conclusion of the Final Oral Examination in order to be recommended for a degree. If the student fails this

examination, one additional examination may be given. That is, if one or more members of the committee fails to approve the student's dissertation or performance during the first final oral examination, the student will likely be asked to make further revisions in the dissertation and/or further demonstrate that he/she is knowledgeable in the area(s) identified by committee members as being weak. The committee may vote to allow the student's major professor to give final approval for these changes, or they may ask to see the revised thesis again themselves, and then meet again with the student to discuss it (i.e., hold a second final oral examination). A graduate student must be enrolled for the semester during which the final examination is taken.

When the student has passed the oral examination in defense of the thesis/dissertation, the student should incorporate any recommended changes and corrections into the thesis, and submit the required final document to the Graduate School office (via [ProQuest](#), as described above), after receiving approval of these corrections from the Major Professor.

Departmental Policies: Academic Performance

Overview

Graduate students have a right to periodic evaluation of their academic progress, performance, and professional potential. Therefore, the Guidance Committee shall review the performance of the graduate student once each year, in a meeting that the student should take responsibility to organize well in advance. To ensure a comprehensive assessment of the student's performance as well as the student's satisfaction in the graduate program, in addition to review by the Guidance Committee and faculty advisor, the student's progress will be reviewed annually by the Director of Graduate Programs in Integrative Biology. This section of the Guide explains the evaluation procedures and makes explicit the policies for dismissal due to academic deficiencies. This section also describes faculty expectations of graduate students in Integrative Biology.

Maintenance of Good Academic Standing

Academic Standards

Administrators at Michigan State University are sincerely interested in having all MSU graduate students excel in their particular majors. It is a disservice to the student to be continued in a doctoral program if the student does not possess all the qualifications necessary to carry on doctoral work. The Major Professor and Guidance Committee are responsible for making value judgments concerning the student's suitability for the field as well as the rate of progress desirable to complete a doctoral program of study. A 3.0 average is necessary to meet the minimum standards of quality in Integrative Biology, but the attainment of such an average is no guarantee of meeting all suitability requirements. In the College of Natural Science, the minimum standards of academic performance for a doctoral candidate are a 3.0 average in all academic work, with limitations on grades below a 3.0 as specified in the Graduate Catalog. A student who is unable to meet the standards of quality set by the Department or the College may be required by the Department Chairperson and the Dean to withdraw at the end of any semester. Any of the following situations may lead to dismissal:

1. Receiving a grade of less than 3.0 in three 3-credit courses during the student's tenure as a graduate student.
2. Failure to pass the comprehensive examinations after two attempts.
3. Violating time limitations specified for the relevant degree programs.

Deferred (DF) Grades

The required work must be completed and a grade reported within 6 months with the option of a single six-month extension. If the required work is not completed within the time limit, the DF will become U-Unfinished and will be changed to DF/U under the numerical and Pass-No Grade (P-N) grading systems, and to DF/NC under the Credit-No Credit (CR-NC) system. This rule does not apply to graduate theses or dissertation work. Occurrence of a deferred (DF) grade will not result in loss of good academic standing. Occurrence of an unfinished (U) grade will result in loss of good academic standing.

Expectations of the Faculty Regarding Performance of Graduate Students

In addition to their expectation that Integrative Biology graduate students will always remain in good academic standing, the Integrative Biology faculty expect graduate students to maintain the highest standards of scholarship, attend research seminars relevant to their research focus areas, participate in interdisciplinary programs whenever appropriate, and attend meetings of the relevant professional societies. In addition, the faculty expect graduate students will participate in departmental social activities and otherwise contribute actively to the quality of life in our corner of the larger scientific community. These expectations are discussed in more depth below.

Research Quality

The faculty expect graduate students to maintain the highest possible level of scholarship, and to uphold impeccable ethical standards in conducting research. Ethical standards in various aspects of research will be considered in depth in IBIO 801, the 1-credit class in Professional Development required of all doctoral candidates in Integrative Biology. The members of the Guidance committee will ensure that the research conducted by the student in pursuit of his/her degree is both original and of high enough quality to meet with the approval of peers within the scientific community.

Attendance at Research Seminars

Students and faculty are expected to attend seminars offered by the Department of Integrative Biology and/or those offered by the various [interdisciplinary programs on campus](#). Interdisciplinary programs in [Genetics](#), [Neuroscience](#), [EEB](#), and [Cell and Molecular Biology](#) sponsor weekly seminars on campus. The [W.K. Kellogg Biological Station](#) also holds weekly seminars. The [Cognitive Science Program](#) invites three or four outstanding speakers each semester for their Distinguished Speaker series. Dates, hours, and locations of all seminars are often posted on the [Integrative Biology website](#) and these are also usually posted on the bulletin boards near the Department office on the second floor of the Natural Science Building. All graduate students are expected to attend any seminars presented by candidates for tenure-track positions in the Integrative Biology Department, and other seminars sponsored by the Department. Integrative Biology graduate students should avail themselves of all opportunities to gain both breadth and depth in the study of animal biology.

Graduate Student Attendance at Scientific Meetings

The experience of presenting research results and interacting with colleagues at scientific meetings is recognized as extremely important for graduate students. The Department strongly encourages graduate students to attend and present papers at these meetings. In general, the Department seeks to find some financial assistance for each graduate student enrolled in Ph.D. or Plan A M.S. programs to attend a minimum of one meeting (often more) per degree at MSU. The

amount of support varies with the availability of funds and the cost of transportation. Travel advances are available or reimbursement can be obtained after the meeting, but you must provide receipts for everything to be reimbursed or to pay back travel advances. No expenses involving alcoholic beverages can be reimbursed, so while traveling, it's a good idea to have your server make out separate checks for alcohol and food. [Janet Hershberger](#) must be informed in advance of all travel to meetings and all other travel on university business. That is, you must get appropriate travel authorization from Janet if you are traveling on University-approved business.

Participation in Interdisciplinary Programs

Many Integrative Biology students broaden their research perspectives by participating in one of the interdisciplinary programs available on campus. Participants in these programs are drawn from multiple academic units. Interdisciplinary seminars and discussions offer new insights with respect to many current research problems in animal biology. All dual major doctoral degrees must be approved by the Dean of the Graduate School. A request for the dual major degree must be submitted within one semester following its development and within the first two years of the student's enrollment at Michigan State University. A copy of the guidance committee report must be attached. See [Academic Programs](#) for details.

- [**Ecology, Evolution and Behavior**](#)
 - Study of ecology, evolutionary biology, and behavior cut across the boundaries imposed by traditional university departments. The EEB Program emphasizes the interdisciplinary nature of these fields and highlights their interfaces with genetics, developmental biology, and conservation biology. The EEB Program currently includes approximately 75 faculty members and their students, from 12 different MSU departments.
- [**Environmental Science and Policy Program**](#)
 - The ESPP is a multidisciplinary program offering a dual Ph.D. degree with various host departments including Integrative Biology. Students are expected to complete a sequence of four courses and pursue some aspect of environmental science or policy in their dissertation research.
- [**Genetics**](#)
 - Presently, the Genetics Program includes over 60 faculty members and coordinates the graduate work of many Ph.D. candidates conducting research in microbial-, fungal-, plant-, insect- and mammalian genetics. Genetics Program Faculty members maintain strong, funded research programs and are affiliated with many departments, including Integrative Biology.
- [**Cell and Molecular Biology Program**](#)
 - The research conducted within the Cell & Molecular Biology Program addresses a wide variety of biological questions with an equally diverse array of organisms. Common approaches unite the research programs of the participating faculty whether they are interested in herbicide resistance in crop plants, DNA replication in bacteria, or tumor development in humans.
- [**Neuroscience**](#)
 - Research areas currently represented in the Neuroscience program include autonomic nervous system function, neural development and plasticity, neural imaging, neural mechanisms of behavior, neurodegenerative and neuromuscular disease, neuroendocrinology, sensory and motor systems, and synaptic transmission, signal transduction and intracellular metabolism.

- [Cognitive Science Program](#)
 - Cognitive Science is directed toward understanding the nature of mind, whether the mind is embodied in the biological stuff of neurons in a brain, or in the silicon stuff of computer chips in an artificial brain-like system.
- [Environmental and Integrative Toxicological Sciences](#)
 - Students interested in toxicology graduate education and research related to the harmful health effects of environmental or other chemicals can enroll in this multidisciplinary dual-major graduate program in Environmental and Integrative Toxicological Sciences (EITS). In conjunction with our graduate program, EITS offers outstanding training in basic biomedical science coupled with training and credentials in the discipline of toxicology that can open additional career opportunities.
- [Quantitative Biology and Modeling Initiative](#)
 - This initiative focuses on developing innovative quantitative experimental and modeling approaches to understand evolutionary processes, structure/function relationships in biomolecules, and biological networks of molecules and populations. A dual degree option is available through this program.

The Integrative Biology Department seminars, and seminars in the interdisciplinary programs at MSU, also offer pleasant opportunities for students to meet other graduate students and faculty. In addition to the Integrative Biology Department talks and seminar series offered by the programs listed above, the Behavioral Biology Group also offers a weekly seminar series. Check the bulletin boards near the Department office, the [Department website](#), and the weekly MSU News-Bulletin for notices of upcoming events.

Memberships in Professional Societies

Graduate students should join those societies whose activities enhance their broad career objectives or their specialized interests. Societies of interest to many Integrative Biology students include the [Ecological Society of America \(ESA\)](#), the [Animal Behavior Society \(ABS\)](#), the [Society for Neuroscience](#), the [International Society for Behavioral Ecology \(ISBE\)](#), the [American Society of Naturalists \(ASN\)](#), [Society for the Study of Evolution](#), and other specialized societies. Most of these professional societies produce top-quality journals that appear at monthly intervals, and they also hold annual meetings where you should attempt to present your work and meet colleagues in your own area of Integrative Biology. Again, we strongly recommend that research-oriented graduate students attend such meetings to present their work, and in fact the Department has a small endowment to defray some of the costs of travel to professional meetings.

Progress and Annual Progress Reports

The Guidance Committee will review once each year the graduate student's progress in his or her research as well as plans for work in the coming year. A report on the results of this review will be signed by the members of the Guidance Committee and by the graduate student (the Annual Progress Report), together with any response that the graduate student may attach to the report of the Guidance Committee.

Once a year, the faculty advisor and the graduate student will complete the appropriate portions of the progress report, the Annual Progress Report. The faculty advisor and graduate student will

meet to discuss this evaluation and, if applicable, sources of funding. The faculty advisor and the graduate student will sign the completed annual progress report, and submit it along with the portion completed/signed by the guidance committee to the graduate secretary. The annual evaluation by the faculty advisor will be coordinated with the review of the student's progress by the Guidance Committee; the two reports are combined to avoid duplication. Graduate students who wish to appeal any part of the faculty advisor's evaluation may do so in writing to the Chairperson/Director of the academic unit or the Director of Graduate Studies, and this appeal will be filed together with the annual progress report. The progress report will be reviewed by the Chairperson or Graduate Director and then placed into the graduate student's file. Each graduate student has the right to discuss with the Director of Graduate Programs at any time any aspects of his/her studies that seem relevant for successful completion of the graduate program, including problems that may hinder progress, and any appeal of the faculty advisor's evaluation. Recommendations based on this review will be communicated in writing to the faculty advisor and the graduate student within two weeks of the meeting, and that report will be placed in the graduate student's file.

Access to Documents in the Student's Academic File

The Graduate Program Coordinator maintains for each graduate student a file that contains the following documents:

- All application materials submitted by the student before matriculating at MSU
- All reports of the guidance committee
- All of the forms submitted for completion of the relevant degree

Most of the documents kept in this file, like birth certificates or passports, cannot be tampered with (e.g., have material on them whited out, etc.). Students have the right to review all materials in the academic file except letters of recommendation submitted on behalf of the student for which she/he has waived viewing rights. To view these documents, the student should make an appointment with the Graduate Program Coordinator, and make clear at that time he/she will need to have Lisa Craft or another member of the department staff present throughout the viewing.

The Graduate Program Coordinator also maintains a separate personnel file for each grad student who serves as a teaching assistant for the Department, as required by the GEU/MSU contract. This file contains evaluations of teaching performance submitted by faculty supervisors. The graduate student can view the materials in this file three times annually, as described in the [GEU contract](#).

Grief Absence Policy

For master's (Plan A), master's (Plan B) with research responsibilities, and doctoral students, it is the responsibility of the student to:

- Notify their advisor/major professor and faculty of the courses in which they are enrolled of the need for a grief absence in a timely manner, but no later than one week from the student's initial knowledge of the situation
- Provide appropriate verification of the grief absence as specified by the advisor/major professor and faculty
- Complete all missed work as determined in consultation with the advisor/major professor and faculty

It is the responsibility of the advisor/major professor to:

- Determine with the student the expected period of absence – it is expected that some bereavement processes may be more extensive than others depending on individual circumstances
- Receive verification of the authenticity of a grief absence request upon the student's return
- Make reasonable accommodations so that the student is not penalized due to a verified grief absence

If employed as an RA or TE, the graduate student must also notify their employer. Both employer and student will swiftly communicate to determine how the student's responsibilities will be covered during their absence. Graduate teaching assistants (TAs) should refer to the bereavement policy in the MSU GEU. Students in the graduate professional colleges (CHM, COM, CVM, LAW) with their own grief absence policies are excluded from the above and should follow their own policies. Students who believe their rights under this policy have been violated should contact the [University Ombudsperson](#).

Employee Leave Time

Several changes were made to Article 18 in the 2015-2019 version of the Graduate Employees Union contract with the University. Article 18 now provides for possible medical disputes where TAs may not be able to perform their employment responsibilities due to physical or mental health conditions. In addition, adoption and parental leave time provide pay during the first work week of applicable leave. Finally, the language on jury duty has been refined with regard to payment for lost time and reporting back to work after jury duty.

Medical Leave

- In the event an employee is unable to meet employment obligations because of illness, injury, pregnancy, or childbirth, the employee will when possible, notify the appropriate immediate supervisor (or employing unit designee) as promptly as possible so that arrangements for the absence can be made by the employing unit.
- During a medical leave, the employing unit shall adjust (reduce, waive or reschedule) the employee's duties as those duties and his/her physical circumstances reasonably dictate. If total absence from duties becomes necessary and the employee is still enrolled, the employing unit shall maintain the stipend of the appointment provided for a period of two (2) months or to the end of the appointment period, whichever occurs first. Additional unpaid leave may be arranged on an ad hoc basis.
- The employee shall have the right to return to employment, provided there is no medical dispute, within the dates of the current appointment, at such time as he/she is able to resume duties.

Adoption and Parental Leave

An employee who adopts a child shall be entitled to adoption leave of up to two (2) months, the first week of which will be paid by the employer and the balance which will be unpaid, to commence on or before the date of adoption as determined by the employee.

An employee who becomes a parent by birth and is not otherwise covered by section one of this article, shall be entitled to parental leave of up to two (2) months, the first week of which will be paid by the employer and the balance which will be unpaid to commence on or before the date of

birth as determined by the employee. Additional unpaid leave may be arranged on an ad hoc basis.

To be eligible for adoption leave or parental leave:

- It must be completed within six (6) weeks of the birth or adoption of a child under the age of six (6); and
- It may not extend beyond the Employee's previously scheduled appointment end date; and
- It must be requested in writing, where possible, no less than four (4) weeks prior to the scheduled start of the leave.

Departmental Policies: Integrity and Safety in Research

Research Integrity

Integrity in research is based on sound disciplinary practices as well as on a commitment to basic values such as fairness, equity, honesty, and respect. We expect students will learn to value professional integrity and high standards of ethical behavior through interaction with their faculty advisor and other members of the faculty. We require that all Ph.D. candidates take a one-credit class (IBIO 801) called Issues in Professional Development in Integrative Biology, in which the subject of research integrity is treated in depth. Read the [Integrative Biology Department's policy regarding the Responsible Conduct of Research \(RCR\)](#). Keep in mind that all students must complete several hours of RCR training each year and document it on the [RCR tracking page](#). We also require that all students read carefully the University's [Research Integrity Requirements](#).

In addition to the grounds for dismissal from the graduate program based on poor academic performance listed above, any of the following also constitute grounds for dismissal: research misconduct, violations of professional standards, and dishonesty with respect to grades, academic records, or scholarship. The specific forms these violations of research integrity rules might take are enumerated in the University's [Research Integrity Requirements](#). The course, IBIO 801, will also inform students of MSU policy related to the use of humans and vertebrate animals for research. It is the responsibility of the major professor to inform the student about the [Office of Radiation Chemical and Biological Safety \(ORCBS\)](#) regulations and policies related to laboratory safety and security including issues related to the handling of transgenic plants and pathogenic organisms, and to require all students to receive appropriate training prior to conducting laboratory research. However, a brief introduction to this topic is offered below.

Permits and Approvals

Graduate students are responsible for obtaining any necessary permits and/or approvals before initiating any research projects requiring them. Check with your Major Professor to determine which approvals and/or permits may be required for your research. All of the relevant approvals must be obtained prior to beginning the research in question. Furthermore, you will not be allowed to file your thesis/dissertation at the Graduate School when you want to graduate unless all relevant approvals have been obtained earlier!

- Any work involving vertebrate animals, including field studies, requires approval by the [MSU Institutional Animal Care & Use Committee \(IACUC\)](#).
- Any work involving Human Subjects, including answering written and oral surveys, requires approval by the [MSU Human Research Protection Program \(HRPP\)](#).

- Any work with recombinant DNA requires approval by the MSU University Biological Safety Committee.
- Federal USDA (APHIS = Animal and Plant Health Inspection Service) permits are required for shipping live animals between states. Apply via Michigan Department of Agriculture.
- Importing animals (dead or alive) and many animal products into the U.S. requires a Federal Fish and Wildlife Service permit.

Permits are usually needed for live-trapping of vertebrates, for example, for mark-recapture studies on National Forest lands. Requirements vary from State to State.

Do not plan to import animal tissues or specimens from foreign countries without checking on the permit requirements for both export and import, as both sets of permits are likely to be required.

Safety

Your safety and the safety of those working around you are essential. You must be aware of the proper and safe use of the equipment and the proper and safe use and disposal of chemicals and other biological or radioactive materials that you use. Environmental Health and Safety (EHS), formerly the Office of Radiation, Chemical and Biological Safety (ORCBS) has numerous online training modules that must be completed by university personnel engaged in potentially hazardous work. Most EHS training needs to be updated once/per year. You will be asked by EHS to take annual online refresher courses if your work involves the use of radioisotopes or storage/disposal of hazardous chemicals. These measures are required by the relevant regulatory agencies at the national level. In addition to representing a potential safety concern, failure to take the appropriate training courses may result in heavy fines for MSU (e.g., by the Nuclear Regulatory Commission, etc.). This will make your advisor very unpopular with MSU administrators. It is extremely important for you to follow all campus safety rules. General safety information and schedules of various safety courses can be found at the [Environmental Health & Safety \(EHS\) website](#).

Student Conduct and Conflict Resolution

Graduate students at MSU should familiarize themselves with the [All-University Policy Regarding the Integrity of Scholarship and Grades](#). It is also appropriate for you to have ongoing discussions with your faculty advisor about integrity issues as they become relevant. Many situations are ambiguous and actions can often be interpreted in several ways. Many behaviors can generate disagreements among well-meaning people. Often the only way to resolve these ambiguities is conversation and discussion with colleagues. If you have questions about ethical concerns, start by initiating a conversation with your faculty advisor. If this is not possible, there are other resources in the Department and the University to help you resolve these issues. Seeing the Director of Graduate Programs or the Chairperson of the Department is a good place to start if you are unable to resolve problems with your faculty advisor. In addition, the [MSU Graduate School](#) regularly offers seminars and discussions on research ethics, resolving conflicts with your advisor, and a number of related topics.

We expect our graduate students to adhere to the highest standards of professional conduct in science. The faculty believe that good professional practices should include all of the following: honesty in proposing, performing and reporting research, recognition of prior work, confidentiality in peer review, disclosure of potential conflicts of interest, compliance with

requirements enumerated by MSU and funding agencies, protection of human and animal subjects in research, collegiality in scholarly interactions, and sharing of resources. These are all described in more detail in the University's [Research Integrity Requirements](#).

The University has established a [judicial structure and process for hearing and adjudicating alleged violations of recognized graduate student rights and responsibilities](#). The first venue to resolve such conflicts informally or formally lies within Integrative Biology. Because the faculty advisor-graduate student relationship is deemed so important, special attention will be given to the resolution of conflicts between a graduate student and his/her faculty advisor. If a conflict arises in a student's program, he/she should first consult with the Chairperson or Director of Graduate Programs about possible solutions. Such conflicts occasionally develop between a graduate student and his/her faculty mentor, or between two graduate students. Graduate students sometimes change mentors after they arrive here at MSU, due to personality conflicts, shifting of the student's research interests, or other variables. The new mentor must agree in writing to a request from the student to change labs before such a change can occur. Major professors on temporary leave shall provide the necessary guidance of advisees during their absence. The sponsor will initially guide the student's program and may by mutual agreement assist the student in locating a new Major Professor.

Ethical Violations: We expect you to adhere to the [high ethical principles maintained throughout the university](#) as you conduct your research, scholarship, and professional activities. If you violate these principles, you will face sanctions proportional to the gravity of your infraction. Disciplinary action for ethical violations can include dismissal from your graduate program. Because of the fundamental importance of ethical comportment, violators may not get a second chance. It is critically important for you to be aware of the ethical landscape as you travel through your graduate program. We encourage you to read the documents referenced above and to engage our faculty, and fellow students in a discussion of ethics in science, before problems arise. It is often in these discussions that you will learn to avoid ethical problems. If you are accused of inappropriate behavior, the University has established a judicial structure and process for hearing and adjudicating alleged violations. The first step in this process is informal and should begin with the two parties trying to resolve the problem in an appropriate way. If this fails, you should go to the Director of Graduate Programs or the Chairperson and enlist his/her help in resolving the problem. If the problem remains unresolved, students should examine the [Hearing Board Procedures for Graduate Students in the Department of Integrative Biology](#). If all departmental resources for resolving the problem have been exhausted, you can request a formal hearing from the College of Natural Science Review Board. To read more about the university's judicial structure, please see [Spartan Experiences Integrity of Scholarship and Grades](#).

These same procedures can be used to resolve conflicts between faculty and graduate students that do not involve issues of academic integrity, including grievances. The [Office of the Ombudsman](#) is also available to you to help you resolve conflicts with faculty or university administrators.

University-wide judicial procedures involving the rights and responsibilities of graduate students are spelled out in detail at [Spartan Experience Adjudication of Cases Involving Graduate Student Rights and Responsibilities](#).

Graduate Student Academic Grievance Hearing Procedures for the Department of Integrative Biology

Each right of an individual places a reciprocal duty upon others: the duty to permit the individual to exercise the right. The student, as a member of the academic community, has both rights and duties. Within that community, the student's most essential right is the right to learn. The University has a duty to provide for the student those privileges, opportunities, and protections, which best promote the learning process in all its aspects. The student also has duties to other members of the academic community, the most important of which is to refrain from interference with those rights of others which are equally essential to the purposes and processes of the University. (GSRR Article 1.2)

The Michigan State University Student Rights and Responsibilities (SRR) and the Graduate Student Rights and Responsibilities (GSRR) documents establish the rights and responsibilities of MSU students and prescribe procedures to resolve allegations of violations of those rights through formal grievance hearings. In accordance with the SRR and the GSRR, the Department of Integrative Biology has established the following Hearing Board procedures for adjudicating graduate student academic grievances and complaints. (See GSRR 5.4.)

Jurisdiction of the Department of Integrative Biology Hearing Board:

- The Hearing Board serves as the initial Hearing Board for academic grievance hearings involving graduate students who allege violations of academic rights or seek to contest an allegation of academic misconduct (academic dishonesty, violations of professional standards or falsifying admission and academic **records**). (See **GSRR 2.3 and 5.1.1**.)
- Students may not request an academic grievance hearing based on an allegation of incompetent instruction. (See GSRR 2.2.2)

Composition of the Hearing Board:

- The Department shall constitute a Hearing Board Pool no later than the end of the tenth week of the spring semester. The Hearing Board Pool should include four faculty and three graduate students. (See GSRR 5.1.2 and 5.1.5.). The Hearing Board members serve one-year terms with reappointment possible. The following procedures will be used in selecting the Pool. The Graduate Program Director will ask for volunteers from the faculty to serve in the Hearing Board Pool in the coming year. The members of the pool will be selected randomly if more faculty members than required volunteer. The graduate student member of the Graduate Affairs Committee will ask for volunteers from the graduate students to serve in the Hearing Board Pool in the coming year. The members of the pool will be selected randomly if more graduate students than required volunteer.
- The Chair of the Hearing Board shall be one of the faculty members, decided upon by the committee. The Chair shall vote only in the event of a tie. In addition to the Chair, the Hearing Board shall include an equal number of voting graduate students and faculty. (See GSRR 5.1.2 and 5.1.5.)
- The Dept. will train hearing board members about these procedures and the applicable sections of the GSRR. (See GSRR 5.1-4) Each member of the pool will receive a copy of these procedures when they first agree to serve.

Referral to the Hearing Board

- Graduate students should first consult with the Graduate Program Director of IBIO about resolving an allegation of a violation of student academic rights or an allegation of academic misconduct (academic dishonesty, violations of professional standards or falsifying admission and academic records). If the student's advisor is the Graduate Program Director and the issue involves the advisor, the student should consult with the IBIO Chair. After consulting with the instructor and appropriate unit administrator, graduate students who remain dissatisfied with their attempt to resolve the issue may request an academic grievance hearing. When appropriate, the Department Chair, in consultation with the Dean, may waive jurisdiction and refer the request for an initial hearing to the College Hearing Board. (See GSRR 5.3.6.2.)
- At any time in the grievance process, either party may consult with the University Ombudsperson. (See GSRR 5.3.2.)
- In cases of ambiguous jurisdiction, the Dean of The Graduate School will select the appropriate Hearing Board for cases involving graduate students. (See GSRR 5.3.5.)
- Generally, the deadline for submitting the written request for a hearing is the middle of the next semester in which the student is enrolled (including Summer). In cases in which a student seeks to contest an allegation of academic misconduct and the student's dean has called for an academic disciplinary hearing, the student has 10 class days to request an academic grievance to contest the allegation. (See GSRR 5.3.6.1 and 5.5.2.2.)
- If either the student (the complainant) or the respondent (usually, the instructor or an administrator) is absent from the university during that semester, or if other appropriate reasons emerge, the Hearing Board may grant an extension of this deadline. If the university no longer employs the respondent before the grievance hearing commences, the hearing may proceed. (See GSRR 5.4.9.)
- A written request for an academic grievance hearing must:
 1. specify the specific bases for the grievance, including the alleged violation(s),
 2. identify the individual against whom the grievance is filed (the respondent), and
 3. state the desired redress.

Anonymous grievances will not be accepted. (See GSRR 5.1 and 5.3.6.)

Pre-Hearing Procedures

- After receiving a graduate student's written request for a hearing, the Chair of the Department will promptly refer the grievance to the Chair of the Hearing Board. (See GSRR 5.3.2, 5.4.3.)
- Within 5 class days, the Chair of the Hearing Board will:
 1. forward the request for a hearing to the respondent;
 2. send the names of the Hearing Board members to both parties and, to avoid conflicts of interest between the two parties and the Hearing Board members, request written challenges, if any, within 3 class days of this notification;
 3. rule promptly on any challenges, impanel a Hearing Board and send each party the names of the Hearing Board members (if there are no successful challenges to Hearing Board members, it should consist of four faculty—one being the Chair who votes on in the case of a tie—and three graduate students). If the Chair of the Hearing Board is the subject of a challenge, the challenge shall be filed with the Dean of the College, or designee. (See GSRR 5.1.7.)

4. send the Hearing Board members a copy of the request for a hearing and the written response, and send all parties a copy of these procedures.
- Within 5 class days of being established, the Hearing Board shall review the request, and, after considering all requested and submitted information:
 1. accept the request, in full or in part, and promptly schedule a hearing.
 2. reject the request and provide a written explanation to appropriate parties; e.g., lack of jurisdiction. (The student may appeal this decision.)
 3. the GSRR allows the hearing board to invite the two parties to meet with the Hearing Board in an informal session to try to resolve the matter. Such a meeting does not preclude a later hearing. However, by the time a grievance is requested all informal methods of conflict resolution should have been exhausted so this option is rarely used. (See GSRR 5.4.6.)
 - If the Hearing Board calls for a hearing, the Chair of the Hearing Board shall promptly negotiate a hearing date, schedule an additional meeting only for the Hearing Board should additional deliberations on the findings become necessary, and request a written response to the grievance from the respondent.
 - At least 5 class days before the scheduled hearing, the Chair of the Hearing Board shall notify the respondent and the complainant in writing of the:
 1. time, date, and place of the hearing;
 2. the names of the parties to the grievance;
 3. a copy of the hearing request and the respondent's reply; and
 4. the names of the Hearing Board members after any challenges. (See GSRR 5.4.7.)
 - At least 3 class days before the scheduled hearing, the parties must notify the Chair of the Hearing Board the names of their witnesses and advisor, if any, and request permission for the advisor to have a voice at the hearing. The Chair may grant or deny this request. The Chair will promptly forward the names given by the complainant to the respondent and visa versa. (See GSRR 5.4.7.1.)
 - The Chair of the Hearing Board may accept written statements from either party's witnesses at least 3 class days before the hearing. (See GSRR 5.4.9.)
 - In unusual circumstances and in lieu of a personal appearance, either party may request permission to submit a written statement to the Hearing Board or request permission to participate in the hearing through an electronic communication channel. Written statements must be submitted to the Hearing Board at least 3 class days before the scheduled hearing. (See GSRR 5.4.9c.)
 - Either party to the grievance hearing may request a postponement of the hearing. The Hearing Board may either grant or deny the request. (See GSRR 5.4.8.)
 - At its discretion, the Hearing Board may set a reasonable time limit for each party to present its case, and the Chair of the Hearing Board must inform the parties of such a time limit in the written notification of the hearing.
 - Hearings are closed unless the student requests an open hearing, which would be open to all members of the MSU community. The Hearing Board may close an open hearing to protect the confidentiality of information or to maintain order. (See GSRR 5.4.10.4.)
 - Members of the Hearing Board are expected to respect the confidentiality of the hearing process. (See GSRR 5.4.10.4. and 5.4.11.)

Hearing Procedures

The Hearing will proceed as follows:

1. Introductory remarks by the Chair of the Hearing Board: The Chair of the Hearing Board introduces hearing panel members, the complainant, the respondent, and advisors if any. The Chair reviews the hearing procedures, including announced time restraints for presentations by each party and the witnesses, and informs the parties if their advisors may have a voice in the hearings and if the proceedings are being recorded. Witnesses shall be excluded from the proceedings except when testifying. The Chair also explains:
 - In academic grievance hearings in which a graduate student alleges a violation of academic rights, the student bears the burden of proof.
 - In hearings in which a graduate student seeks to contest allegations of academic misconduct, the instructor bears the burden of proof.
 - All Hearing Board decisions must be reached by a majority of the Hearing Board, based on "clear and convincing evidence." (See GSRR 8.1.18.)
 - (See GSRR 5.4.10.1 and 8.1.18.) For various other definitions, see GSRR Article 8.)
2. If the complainant fails to appear in person or via an electronic channel at a scheduled hearing, the Hearing Board may either postpone the hearing or dismiss the case for demonstrated cause. (See GSRR 5.4.9a.)
3. If the respondent fails to appear in person or via an electronic channel at a scheduled hearing, the Hearing Board may postpone the hearing or hear the case in the respondent's absence. (See GSRR 5.4.9-b.)
4. If the respondent is absent from the University during the semester of the grievance hearing or no longer employed by the University before the grievance procedure concludes, the hearing process may still proceed. (See GSRR 5.3.6.1.)
5. To assure orderly questioning, the Chair of the Hearing Board will recognize individuals before they speak. All parties have a right to speak without interruption. Each party has a right to question the other party and to rebut any oral or written statements submitted to the Hearing Board. (See GSRR 5.4.10.2.)
6. Presentation by the Complainant: The Chair recognizes the complainant to present without interruption any statements relevant to the complainant's case, including the redress sought. The Chair then recognizes questions directed at the complainant by the Hearing Board, the respondent and the respondent's advisor, if any.
7. Presentation by the Complainant's Witnesses: The Chair recognizes the complainant's witnesses, if any, to present, without interruption, any statement directly relevant to the complainant's case. The Chair then recognizes questions directed at the witnesses by the Hearing Board, the respondent, the respondent's advisor, the complainant, and the complainant's advisor, if any.
8. Presentation by the Respondent: The Chair recognizes the respondent to present without interruption any statements relevant to the respondent's case. The Chair then recognizes questions directed at the respondent by the Hearing Board, the complainant, and the complainant's advisor, if any.
9. Presentation by the Respondent's Witnesses: The Chair recognizes the respondent's witnesses, if any, to present, without interruption, any statement directly relevant to the respondent's case. The Chair then recognizes questions directed at the witnesses by the Hearing Board, the complainant, the complainant's advisor, the respondent, and the respondent's advisor, if any.

10. Rebuttal and Closing Statement by Complainant: The complainant refutes statements by the respondent, the respondent's witnesses and advisor, if any, and presents a final summary statement.
11. Rebuttal and Closing Statement by Respondent: The respondent refutes statements by the complainant, the complainant's witnesses and advisor, if any, and presents a final summary statement.
12. Final questions by the Hearing Board: The Hearing Board asks questions of any of the participants in the hearing.

Post-Hearing Procedures

- **Deliberation:** After all evidence has been presented, with full opportunity for explanations, questions, and rebuttal, the Chair of the Hearing Board shall excuse all parties to the grievance and convene the Hearing Board to determine its findings in executive session. When possible, deliberations should take place directly following the hearing and/or at the previously scheduled follow-up meeting. (See Section IV.D above.)
- **Decision:**
 1. In grievance (non-disciplinary) hearings involving graduate students in which a majority of the Hearing Board finds, based on "clear and convincing evidence," that a violation of the student's academic rights has occurred and that redress is possible, it shall recommend an appropriate remedy to the Department Chair. Upon receiving the Hearing Board's recommendation, the Department Chair shall implement an appropriate remedy, in consultation with the Hearing Board, within 3 class days. If the Hearing Board finds that no violation of academic rights has occurred, it shall so inform the Chair. The Chair of the Hearing Board shall promptly forward copies of the final decision to parties and the University Ombudsperson. (See GSRR 5.4.11.)
 2. In grievance (non-disciplinary) hearings involving graduate students in which the Hearing Board serves as the initial hearing body to adjudicate an allegation of academic dishonesty and, based on a "clear and convincing evidence," the Hearing Board finds for the student, the Hearing Board shall recommend to the Department Chair that the penalty grade be removed, the Academic Dishonesty Report be removed from the student's records and a "good faith judgment" of the student's academic performance in the course take place. If the Hearing Board finds for the instructor, the penalty grade shall stand and the Academic Dishonesty Report regarding the allegation will remain on file, pending an appeal, if any to the College Hearing Board within 5 class days of the Hearing Board's decision. If an academic disciplinary hearing is pending, and the Hearing Board decides for the instructor, the graduate student's disciplinary hearing before either the College Hearing Board or the Dean of The Graduate School would promptly follow, pending an appeal, if any, within 5 class days. (See GSRR 5.5.2.2, 5.4.12.3, and 5.5.2.2)
- **Written Report:** The Chair of the Hearing Board shall prepare a written report of the Hearing Board's findings, including recommended redress or sanctions for the complainant, if applicable, and forward a copy of the decision to the appropriate unit administrator within 3 class days of the hearing. The report shall indicate the rationale for the decision and the major elements of evidence or lack thereof that supports the

Hearing Board's decision. The administrator, in consultation with the Hearing Board, shall then implement an appropriate remedy. The report also should inform the parties of the right to appeal within 5 class days following notice of the decision, or 5 class days if an academic disciplinary hearing is pending. The Chair shall forward copies of the Hearing Board's report and the administrator's redress, if applicable, to the parties involved, the responsible administrators, the University Ombudsperson and the Dean of The Graduate School. All recipients must respect the confidentiality of the report and of the hearing board's deliberations resulting in a decision. (See GSRR 5.4.12 and 5.5.2.2)

Appeal of the Hearing Board Decision

- Either party may appeal a decision by the Hearing Board to the College Hearing Board for cases involving:
 1. academic grievances alleging violations of student rights and
 2. alleged violations of regulations involving academic misconduct (academic dishonesty, professional standards or falsification of admission and academic records.) (See GSRR 5.4.12.)
- All appeals must be in writing, signed and submitted to the Chair of the College Hearing Board within 5 class days following notification of the Hearing Board's decision. While under appeal, the original decision of the Hearing Board will be held in abeyance. (See GSRR 5.4.12, 5.4.12.2 and 5.4.12.3.)
- A request for an appeal of a Hearing Board decision to the College Hearing Board must allege, in sufficient particularity to justify a hearing that the initial Hearing Board failed to follow applicable procedures for adjudicating the hearing or that findings of the Hearing Board were not supported by the "clear and convincing evidence." The request also must include the redress sought. Presentation of new evidence normally will be inappropriate. (See GSRR 5.4.12.1, 5.4.12.2 and 5.4.12.4.)

Reconsideration

If new evidence should arise, either party to a hearing may request the appropriate Hearing Board to reconsider the case within 30 days upon receipt of the hearing outcome. The written request for reconsideration is to be sent to the Chair of the Hearing Board, who shall promptly convene the Hearing Board to review the new material and render a decision on a new hearing. (See GSRR 5.4.13.)

File Copy

The Chair of the Department shall file a copy of these procedures with the Office of the Ombudsperson and with the Dean of The Graduate School. (See GSRR 5.4.1.)

Approved by Faculty April 12, 2016.

Work-Related Policies for Teaching and Research Assistantships

Graduate Assistantships

Some of our graduate students are supported by extramural pre-doctoral fellowships, but many are supported by research or teaching assistantships. Assistantships are generally either "half time" (the usual level of support) or "quarter time" if funding is limited or other special circumstances exist. A "three-quarter time" appointment is also possible, but this usually only occurs for RAs (not TAs). Assistantships are generally offered for three years for students in

the Plan A M.S. Program, and five years for Ph.D. students. Annual renewal depends on the student making acceptable progress toward his/her degree, as determined by his/her Major Professor and Guidance Committee, course enrollments, student performance during appointments on prior assistantships, and the availability of funding within the Department. When funding is available, assistantships may be extended beyond the initial period specified in the letter of acceptance into the Department if the student is making acceptable progress, particularly when the student has been acknowledged (by faculty evaluations and student SIRS forms ratings).

Research assistantships (RAs) are usually funded by a research grant to the Major Professor. The objectives and methods of the grant describe the research required for the grant. The student also designs and conducts additional research to complete his/her degree program, in consultation with the Major Professor and Guidance Committee.

For a teaching assistantship, classes or laboratories to be taught or assisted in are designated when the assistantship is assigned. See the [GEU/MSU contract](#) for specific information on TA obligations and rights. Generally, a "half time" teaching assistantship will involve 20 hours' work per week, on average, over the employment period (approximately 4.5 months during fall and spring semesters and 3 months during the summer semester), and will require assisting in two recitation or laboratory sections per semester. A "quarter time" assistantship generally requires 10 hrs work per week, on average. Students on graduate assistantships automatically receive in-state tuition privileges, a 9-credit tuition waiver Fall and Spring (5 credit waiver Summer) and health coverage paid for by the University. Details of the health insurance policy are available at the [Human Resources website](#). Further information on current graduate student fringe benefits can be found on the [Human Resources website](#).

Graduate assistants must be registered each semester in which they hold assistantships. Masters students' minimum credit load for fall or spring semesters is 6 credits for "quarter time" or "half time" time assistants, and 3 credits for "three-quarter time" assistants. During the summer semester, a 3 credit minimum is required for all types of assistantships. Doctoral students, prior to completion of comprehensive examinations, must take a minimum of 3 credits during any semester. Following completion of the comprehensive examination for Ph.D. candidates, "full time" is considered to be enrolled for at least 1 credit per semester. During the summer only, Ph.D. students who have passed comps and are being appointed as RAs may be appointed under an option that does not cover tuition. For details visit the [Human Resources website](#). Full-time status for doctoral students is defined as a minimum of 1 credit for those students who have successfully completed all comprehensive examinations and are actively engaged in dissertation research or are doing department-approved off-campus fieldwork related to the preparation of their dissertation.

Levels of Assistantships Available in Integrative Biology

There are three levels of teaching assistantships in Integrative Biology, Level 1, Level 2, and Level 3. To be considered a Level 3 Assistant, the department requires a student to have passed comprehensive exams and 6 semesters of the previous teaching at MSU or equivalent experience in another graduate program. Documentation can be provided to the current Graduate Program

Director. See the [GEU/MSU contract](#) for more about teaching assistantship levels. See also the [Graduate Assistantship Information from the Graduate School](#).

Taxation

Assistantships are taxed. This may mean careful budgeting on the part of the student. Some students have been audited by the IRS, so it is wise to retain all receipts (including tuition receipts).

Registration

Registration is computer based. Procedures and dates for enrolling will be found online or in the [Enrollment and Registration Catalog](#). Be sure to check enrollment deadline dates since late enrollment fees may be charged.

Assignment of Teaching Assistantships

The needs of faculty for teaching assistants are determined each fall/spring by the faculty and staff within the Department. As part of the graduate program, students normally assist in teaching laboratory courses or recitation sessions. This provides practical experience in teaching. Graduate students are given the opportunity to request their teaching assignment preferences. Decisions regarding teaching assignments are made usually in February or March and again in October. A list of courses that will need teaching assistants is distributed to Integrative Biology graduate students with guaranteed support in January for Fall appointments and in September for Spring appointments. Students are asked to state their top four choices regarding courses they would like to TA in the following semester, and they are also asked to state their qualifications for each position. Students who fail to return these forms on time receive the lowest priority with respect to course assignments. Faculty are asked to submit names of graduate students they would like to TA their courses. Final assignments are made by the Graduate Program Director together with the Department's Business Manager. Assignment priority is given to students who have done a good job in their earlier teaching, as indicated by ratings on evaluation forms submitted by faculty supervisors and students, and who seek experience teaching a particular course they have never taught before when this experience will help students achieve the goals of their chosen career paths. Teaching assistantships are awarded on a competitive basis and require that the student remains in good academic standing. Performance in undergraduate and graduate coursework, research interests, prior teaching experience, and quality of past teaching service may all be taken into consideration in awarding assistantships. Subsequent adjustments in assignments are possible if mutually agreeable to those concerned, but any changes must be approved by the Graduate Program Director. Few teaching assistantships are available for the summer semester.

English-Language Proficiency Required of Foreign Students

International students who are not native speakers of English are required to demonstrate that they meet a minimum standard of fluency in spoken English before they can be assigned teaching work that involves oral communication with undergraduate students. TAs may meet this requirement by achieving one of the following:

1. A score of 50 or higher on the SPEAK test, given by the [English Language Center \(ELC\)](#)
2. Taking English 097 (the ITA Speaking and Listening Class) and getting a score of 50 or higher on the ITA Oral interview (ITAOI). The ELC gives the ITAOI.

Please refer to the [Graduate School's English Testing and Instruction Guidelines](#).

All foreign students admitted to Integrative Biology who originate in countries where English is not the first language must demonstrate proficiency in English. One means of doing this is taking the TOEFL exam and earning a total score of 550 or above with no subscore below 52 (paper version) or a minimum average score of 80 (internet based version) with no subscore below 19 for reading, listening, and speaking and no writing subscore below 22.

There are several alternatives to the TOEFL to demonstrate English proficiency.

Courses to which Graduate Teaching Assistants are Usually Assigned

Fall Semester

- BS 161/162 & BS 171/172: Introductory biology for science majors (lab instructors)
- ISB Center for Integrative Studies (Introductory biology for non-science majors)
- IBIO 306: Invertebrate Biology
- IBIO 320: Developmental Biology
- IBIO 341: Fundamental Genetics
- IBIO 353: Marine Biology
- IBIO 355: Ecology
- IBIO 355L: Ecology Lab
- IBIO 360: Biology of Birds
- IBIO 408: Histology
- IBIO 415: Ecological Aspects of Animal Behavior
- IBIO 445: Evolution

Spring Semester

- BS 161/162 & BS 171/172: Introductory biology for science majors (lab instructors)
- ISB Center for Integrative Studies (Introductory biology for non-science majors)
- IBIO 328: Comparative Anatomy and Biology of Vertebrates
- IBIO 341: Fundamental Genetics
- IBIO 355: Ecology
- IBIO 355L: Ecology Lab
- IBIO 365: Biology of Mammals
- IBIO 425: Cells and Development
- IBIO 445: Evolution

In the initial letter you received indicating your acceptance into the Integrative Biology Graduate Program, you were informed whether you had been awarded “guaranteed” financial support from the Department and if so, for how many semesters that support would be provided. During the spring and fall semesters, you will be asked to fill out a form indicating whether you plan to utilize your guaranteed TA support during the following semester. Graduate students who are beyond their periods of guaranteed support, but who still want to teach, will also be asked to fill out this form each semester. The form will reiterate the list of course offerings above, ask you to indicate your top 4 choices, and state your experience in the chosen courses. If you would like to explain in greater detail your reasons for desiring a particular course, you should do so on the form. Failure to turn in this form by the due date specified on the form will give you the lowest possible priority with respect to teaching assignments for the coming semester.

Although there is no formal teaching requirement in the Department of Integrative Biology, we strongly recommend that you teach for at least one semester during your tenure as a graduate student, particularly if you anticipate eventually finding work at a college or university. Many academic job postings require submission of a teaching portfolio, and this makes prior experience in the classroom critical. As part of one's teaching portfolio, it is common to submit summaries of evaluation ratings by students and/or faculty supervisors. Evaluation of TAs is outlined in the GEU/MSU contract. Teaching Assistants in the Department of Integrative Biology are evaluated by both their students and their faculty supervisors at the end of every semester. Read the [Code of Teaching Responsibility at Michigan State University](#).

Graduate students who know they want to go on in academia may want to obtain a Certificate in Teaching College Science and Mathematics by participating in the Certificate in College Teaching Program offered through the College of Natural Science.

In 2002, the Teaching Assistants at MSU joined the Graduate Employees Union (GEU). Both the MSU administration and all MSU Teaching Assistants must now comply with legal regulations specified in the [GEU/MSU contract](#). Although Teaching Assistants have the option of joining the union or not, all Teaching Assistants must now pay for services rendered by the union, as these are rendered for both members and non-members alike. TAs who choose not to join the union pay roughly the same amount as union members pay in their union dues, but do so in the form of a "Service Fee." See the GEU/MSU contract for specific details regarding these fees. Also, see the GEU/MSU contract for information regarding current deadlines by which you must notify the GEU about whether or not you want to become a GEU member. Be aware that mechanisms for notifying the GEU of your choice in this matter may change from year to year. Also see the GEU/MSU contract for information about what happens if you fail to notify the GEU about your choices in these matters by the specified deadlines.

Contingencies Regarding Appointments and Re-Appointments of TAs

Your TA appointment in Integrative Biology is based on your course assignment preferences, the number of other graduate students wanting to teach the same class you hope to teach in any given semester, faculty requirements of TAs in particular courses, current needs of the Department, GEU/MSU contract specifications, and budget considerations. Your assigned faculty supervisor will outline your specific duties and responsibilities, including attendance at required TA orientation and in-service training programs scheduled before and/or after classes begin. Your assigned faculty supervisor will also be responsible for submitting to Lisa Craft in Integrative Biology a written evaluation of your performance at the end of each semester of your appointment.

For continuing appointments, your TA offer is contingent upon your continued satisfactory performance in your present assistantship, and on your remaining in good academic standing in Integrative Biology. That is, to continue your assistantship, the Integrative Biology Department requires that you maintain at least a 3.0 GPA, satisfactorily perform your TA duties and responsibilities, and be making satisfactory progress toward completion of your degree. You must be making satisfactory progress toward your degree to remain in good academic standing. Specifically, to be in good academic standing, you must adhere to the time-line and other requirements specified by the Department for your particular graduate degree program(s). These requirements are laid out clearly in the [Requirements for Advanced Degrees section](#). If you meet

these criteria, you will be eligible to apply for posted teaching assistantships for summer sessions and for fall and/or spring semester(s) of the next academic year. There is no guarantee of renewal beyond the dates of your current appointment.

Your appointment provides for a limited employment commitment. All graduate assistant appointments have a specific termination date. You may be dismissed prior to the expiration of the period of your full appointment for cause, including but not limited to, incompetence, serious personal or professional misconduct, failure to carry out your assigned duties, theft or misuse of University property, acts of moral turpitude, insubordination, intellectual dishonesty, use of professional authority to exploit others, or violation of law and/or University rules and regulations.

Failure to Attend an Assigned Class

You should plan to attend all classes to which you are assigned all semester, but in the event, you must miss one due to illness, etc., make sure:

1. That your faculty supervisor is aware of the situation in advance
2. That the class is covered by another qualified TA if the faculty supervisor deems this necessary.

Failure to do these things will earn you a warning letter from your faculty supervisor, and failure to do so twice will be grounds for dismissal from your TA duties.

A teaching assistant should never cancel a section or lab without explicit instructions to do so from the faculty supervisor of the course. Canceling a section or lab without the instructor's permission will earn you a warning letter from the faculty supervisor, and doing so twice will be grounds for dismissal from your TA duties.

Mandatory Training on Relationship Violence and Sexual Misconduct Policy

All TAs and RAs must complete the online training about the Relationship Violence and Sexual Misconduct Policy. To Access the training, log in to the [ORA training website](#). Click "Register," "Complete Registration," and then "Launch" to begin the Relationship Violence and Sexual Misconduct (RVSM) Policy - Faculty, Staff Training. (If it indicates that you have already registered, use "In Progress Training", then "Launch."). You will want to reserve approximately 30 minutes to complete all assignments. If you need assistance, contact the Helpdesk at 517-884-4600 or train@ora.msu.edu.

Administration, Governance, and Departmental Business Policies

Administration of the Department: Administrators and Committees

Integrative Biology is administered by the College of Natural Science. The Dean of this College, Phillip M. Duxbury, is receptive to input from students and meets regularly with his Student Advisory Council. The Associate Deans for Undergraduate and Graduate Studies, Lynmarie Posey and Amy Ralston, also welcome student input. The office of the Associate Dean also handles recruiting fellowships, affairs relevant to the union of teaching assistants at MSU as these apply to the College, and several other areas of student life within the College.

The Graduate Affairs Committee

The Graduate Affairs Committee (GAC) oversees the Department's graduate program. It is composed of three faculty members and a graduate student member. The graduate students vote on matters of policy only. The GAC provides recommendations to the Director of Graduate

Programs and the Chairperson of the Department. The Committee meets as necessary to discuss policy, new admissions, re-admissions, student financial support and other matters as they arise. The graduate student is a voting member on matters of policy.

Integrative Biology Support Staff

We in Integrative Biology are very lucky to have superb support staff. They are hard-working, good-natured, and extraordinarily competent. As part of your professional conduct in Integrative Biology, we expect you will treat the members of the office staff with the respect and consideration they deserve. When they send out requests for information, we consider it rude and irresponsible to ignore such requests, and in fact, failure to respond may result in at least short-term forfeiture of the financial support described in your letter of admission to the department. Astute graduate students quickly recognize that it is in their own best interests to treat the staff well. The members of the office staff and their assigned duties are listed below.

- **Janet Hershberger: Secretary to the Chairperson (Phone: 432-9817)**
 - See her if you need to schedule an appointment with the chair. Janet is responsible for travel requests and expense reports for travel. You must have a pre-approved travel request for any type of university travel.
- **Gabrielle Whittaker: Business Manager in Integrative Biology (Phone: 432-2747)**
 - She oversees TA appointments and works together with the Graduate Program Director to make teaching assignments each semester. Gabrielle is also responsible for grant and budget account administration and management of operations within the Integrative Biology office. She can answer virtually any question imaginable regarding policy within the Integrative Biology Department.
- **Katherine Terry: Graduate Program Coordinator (Phone: 355-4642)**
 - She has many duties involving graduate students and their records within the Integrative Biology Department that have been referred to extensively throughout this Guide. Kat maintains both Academic files for all graduate students, as well as Personnel files for those grad students who have served as Teaching Assistants for Integrative Biology. All the forms in the appendices to this Guide except those downloadable from Graduate School or Registrar websites can be obtained from Kat.
- **Diane Goldammer: Department's Accountant (Phone: 353-9865)**
 - She is the person to see to work out the details of how you use grant and discretionary funding for research, reconciles and balances grant and university account ledgers. She also handles student payroll for the department.
- **Caleb Hess: Department's Communications Coordinator.** He handles communication for the department. Please notify Caleb of news and achievements for the [departmental website](#). He is always looking for good photos.

Governance: Graduate Student Representatives to Standing Committees

The following departmental, college, and university committees have grad student representatives from the Integrative Biology Department. If you are interested in serving on one of these committees, please inform the Director of Graduate Programs before the start of each fall semester so your name can be added to the annual ballot. Written or email ballots are cast in early September each year.

Graduate Affairs Committee

The Graduate Affairs Committee reviews all applications for admission to the Integrative Biology Department and makes recommendations for admissions to the Department Chairperson. This committee also periodically reviews departmental policy regarding academic requirements for graduate students and makes recommendations for policy changes to the Integrative Biology faculty, who then vote on these recommendations.

Curriculum Committee

This committee monitors the Department's undergraduate programs and course requirements. This committee also periodically reviews departmental policy regarding academic requirements for undergraduate students and makes recommendations for policy changes to the Integrative Biology faculty, who vote on these recommendations.

Representative to Attend Integrative Biology Departmental Meetings

The Integrative Biology Department meets regularly to deal with departmental business. The grad rep attends these meetings and reports on significant developments to the other graduate students. Faculty meetings usually take place from 3-5 p.m. on the second Tuesday of each month during the academic year.

Representative to Council of Graduate Students (COGS)

The Council of Grad Students meets monthly to discuss policy decisions affecting all grad students within the university. This body has played a key role in obtaining improved TA health benefits from the administration, informing grad students about TA unionization issues, etc.

GEU Steward

This individual serves as a departmental liaison to the Graduate Employees Union (GEU). The steward communicates union news to the current TAs in Integrative Biology, communicates the concerns of Integrative Biology TAs to the GEU, and affects GEU policy decisions. A graduate student must currently be appointed as a Teaching Assistant in Integrative Biology to serve as Steward.

Travel on University Business or in University Vehicles

You must complete a travel request in the Department office (with Janet Hershberger, in particular) before you travel, regardless of whether or not you will be reimbursed. Each trip out of state requires a new travel request, but one "travel throughout Michigan" request is good for all travel during the specified time period. You cannot be reimbursed for travel without first being authorized. Policy for travel in support of your research project is set by your Major Professor. When filling out a travel request and/or expense report consult with Integrative Biology office staff. Consult with your Major Professor regarding opportunities to present your research at regional, national, and international meetings.

Use of Departmental Resources

Graduate Records

The Graduate Program Coordinator maintains and updates the Academic Files of all Integrative Biology graduate students. If you need information from these files, see her. The Graduate Program Coordinator also maintains and updates Personnel Files for all graduate students who

serve as TAs for Integrative Biology. The Personnel File contains copies of all past evaluations from students and faculty supervisors. Graduate students have three opportunities each year to view the contents of their Personnel Files, as specified in the [GEU Contract](#).

Reimbursement for Miscellaneous Expenditures

Occasionally, you may have to make out-of-pocket miscellaneous purchases in support of research activities. If you are eligible through reimbursement, provide the receipt and an account number to the clerk/receptionist, in the Integrative Biology office, and a check will be mailed to you via the Department Office. Do not make purchases of items that you can get through [University Stores](#) or through [Open Orders](#).

University Stores

MSU has its own on-campus network of University Stores. A [catalog of supplies available at Stores](#) is available online. Do not make any purchases without your Major Professor's authorization. You must turn in all receipts to the clerk/receptionist in the Integrative Biology office.

Open Orders

Some common items that cannot be purchased on campus can be purchased from a local merchant by obtaining an Open Order. Consult [University Services](#) for instructions on obtaining items through Open Orders. Return all receipts to the Integrative Biology office.

Procurement Cards

These are handled by the accountant.

Material Return Forms

Whenever items are sent off-campus via the postal system, UPS, etc., a Material Return Form is required that is made out by the clerk-receptionist in the Integrative Biology office. For example, you would fill out a Material Return Form if you wanted to send a piece of lab equipment away to be repaired off-campus.

Supervision of Student Employees

If you supervise student employees, it will be your responsibility to sign each student's timesheet before they turn it in. It will also be your responsibility to instruct them regarding safety and department business procedures. Julie Robinson handles all records, turning in timesheets, etc., for all student employees in the department. Impress on your undergraduate students on any Department payroll that they are responsible to get their hours in on time to Julie if they want to be paid on time.

Key Policy

There is a \$10 deposit for one or more keys. You will be reimbursed when all keys are turned in. There is a \$5.00 per key charge to replace lost keys. You may sign keys in the Integrative Biology office. Keys requested before noon on Wednesdays will be available for pick up Thursday or after.

Copy Machine Policy

Each graduate student enrolled in Plan A M.S. or Ph.D. programs is assigned a personal copy code allowing them to make 1000 free copies on Department copy machines each year. Other copy charges are either your personal responsibility or the responsibility of your Major Professor.

Recycling

Put paper discards into recycling bins in the copy room or at other locations. Recycle newspaper in the special large, plastic bins located near the stairwells in the Natural Sciences Building. Also, use recycling bins for plastics and cans as designated.

Computer Projectors

The Department has projectors that are stored in the Integrative Biology Office. There is a sign-out sheet for each projector and it is recommended that you reserve them in advance.

Graduate Stipends

Graduate teaching and research assistants stipends are directly deposited into students' bank accounts every other Friday.

Reserving Rooms

The Department has two conference rooms available for your use, Room 203B (small) and 203C Natural Science. You can reserve these rooms in the Integrative Biology Office (Room 203 Natural Science). If a room is not available, you might be able to reserve the Entomology, or Geology conference rooms, all of which are also located in the Natural Science Building. See the office staff in the relevant department office should this become necessary.

Graduate Student Web Access

Wireless internet access is available in the Natural Science building. Direct Ethernet access may be obtained through your academic advisor or at the various MSU libraries on campus.

IBIOGRAD Email List

To send an email message to all Integrative Biology graduate students, address the message to ibiograd@list.msu.edu. Everyone hates junk mail, so please limit these sorts of global communications to items you believe will be of potential interest to a large segment of the graduate student population within the Department. Communications on IBIOGRAD are considered departmental business and may be read by any member of the department (faculty and staff).

Funding Opportunities for Doctoral and Master of Science (Plan A) Candidates

Departmental Funds for Support of Graduate Student Research and Travel

Each graduate student in a Ph.D. or Plan A Master's Program in the Department of Integrative Biology is eligible to receive very modest funding from the department during two academic years for support of research and professional development. Funds allocated to graduate students in recent years have been awarded mainly to defray costs of travel to professional meetings. Unfortunately, budget limitations will force us to limit most awards to \$200, so requests for more than \$200 during the current academic year will require exceptionally strong justification.

Guidelines for Requesting Departmental Support

Submit a one-page cover letter to the current Director of Graduate Studies, describing the research you are currently pursuing, and how you intend to utilize funds awarded. Please do not submit requests directly to the department chairperson.

Please include:

1. A summary budget and a brief justification of major budget items
2. Attach an abstract of the paper you will present at the given professional meeting
3. A photocopy of the meeting announcement, stating dates, location, etc.

All University business-related travel (seminars, conferences, field research, etc.) must be authorized in advance of departure. Contact Janet Hershberger before travel by phone at 517-432-9817 or via email at jroe@msu.edu.

Deadlines for Departmental Funding

Requests for support need to be sent to the Graduate Program Director several months before the meeting to be attended.

After supplies have been received or travel has been completed, give all receipts and used air tickets directly to Janet Hershberger in the Integrative Biology office.

Requests for travel funding should include the following additional information:

1. Dates of the meeting or conference.
2. Name or sponsor of the conference or meeting.
3. Meeting location.
4. Information on your participation, i.e. will you be presenting a talk or a poster, participating in Linnaean games or other activities at the meeting. First-year M.S. students are not required to participate in the program at meetings. Other students should submit an abstract describing the work to be presented. It is often easiest here simply to photocopy the abstract submitted to the conference conveners, and to include that with your letter of request for departmental support.
5. Projected costs of the trip.
6. A brief (one or two paragraphs) narrative statement about how you will benefit by attending this meeting or conference.

Other Funding Sources within the Department of Integrative Biology

The Department of Integrative Biology also offers support for graduate student research in annual competitions for the George & Martha Wallace Fellowship (for grad students working with birds), Dr. Marvin Hensley Endowed Scholarship (for graduate students conducting fieldwork), and the John R. Shaver Research Fellowships.

Other Funding Sources within MSU

The Graduate School at MSU offers a number of pots of money to assist grad students with their research & travel. These include the Graduate Student Research Enhancement Awards, Graduate Student Travel Awards, and Graduate School Emergency Funding. The Graduate School also has a variety of other awards for members of groups that are under-represented in science. Further information about all of these funding opportunities, along with a number of others, is available in the [Grad School Funding Guide](#).

Receipt of externally funded fellowships by students who have written their own grant applications and worth at least \$20,000 (direct costs) now makes the students eligible for in-state tuition rates. The in-state tuition rate applies only to the semesters during which the student is supported by the fellowship. This policy applies only to grants funded through a competitive process by a US institution/agency/foundation. Funds obtained through non-competitive processes (e.g., need-based fellowships) or from international sources do not qualify the students for in-state tuition rates. For more information contact [Melissa Del Rio](#).

Life Beyond Graduate School

The University and Graduate School have a number of resources and courses designed to assist your pursuit of a career in academia or other professional sectors. You may speak directly with a counselor or take classes at any point in your academic career. See the [Graduate School's PhD Career Services](#) for further information.

University Resources

- [The MSU Libraries](#)
- [The MSU Graduate School](#)
- [The College of Natural Science](#)
- [Research Facilities in CNS, including Bioinformatics, Flow Cytometry, Genomics, Imaging-IVIS, Mass Spectrometry, and Proteomics](#)
- [Kellogg Biological Station](#)
- [Technology Services](#)
- [The MSU Bug House](#)
- [Ask An Expert](#): Offers one-to-one answers from MSU Extension experts and Extension Master Gardener volunteers on various topics.
- [Quantitative Biology Initiative](#)
- [Natural History Collections of the MSU Museum](#)