

Department of Ecology and Evolutionary Biology

Graduate Student Handbook

January 2020

College of Arts and Sciences

University of Tennessee

GRADUATE STUDENT HANDBOOK
Revised January 2020

- I. Introduction** (page 4)
- A. Organization and Administration of Graduate Program
 - B. Program Areas and Faculty Research Interests
 - C. Degrees Offered

II. Degree Requirements and Procedures (page 6)

- A. Committee Composition
 - 1. The Departmental Graduate Faculty
 - 2. The Advisor
 - 3. The Thesis/Dissertation Committee
 - a. The MS committee
 - b. The PhD committee
 - 4. Teaching Requirement
- B. Courses and Progress towards a Degree
 - 1. Course Requirements for the Master's Degree
 - a. Graduate School Requirements
 - b. EEB Graduate Program requirements
 - 2. Course Requirements for the PhD Degree
 - a. Graduate School Requirements
 - b. EEB Graduate Program Requirements
 - 3. Thesis and Dissertation Proposals
 - 4. Annual Review of Graduate Student Progress
 - 5. Other Interactions with the Graduate Committee
 - 6. Progress toward the Degree

- C. Master of Science (page 13)
 - 1. The Thesis Proposal
 - 2. Admission to Candidacy for the MS
 - 3. Satisfactory Progress
 - 4. The Thesis
 - 5. The Thesis Defense
 - 6. Summary of Steps

- D. Doctor of Philosophy (page 16)
 - 1. The Advisor
 - 2. The Dissertation Committee
 - 3. The General Knowledge Exam
 - 4. The Dissertation Proposal
 - 5. The Advancement to Candidacy Exam
 - 6. Admission to Candidacy for the PhD
 - 7. Registration for Doctoral Dissertation Research (EEB 600) hours
 - 8. The Dissertation
 - 9. Intellectual Property
 - 10. The Dissertation Defense
 - 11. Summary of Steps

III. Student Records and Registration (page 22)

- A. Student Records
- B. Registration
 - 1. Continuous Enrollment and Leaves of Absence.
 - 2. Changes between MS and PhD tracks.
 - 3. Other requests that are addressed to the Graduate School.

IV. Financial Support (page 24)

- A. Overview.
- B. Teaching Assistantships
- C. Fellowships and Other Awards
 - 1. EEB Research Awards.
 - 2. UT Fellowships.
 - 3. Alexander A. Hollaender Award.
 - 4. Achievement Awards.
- D. Graduate Research Assistantships
- E. Foreign Students
- F. Research Funding

V. Resources (page 28)

- A. Department and Division
 - 1. Mail, Changes of Address.
 - 2. Offices and Keys
 - 3. Telephone
 - 4. Copy Machines
 - 5. Conference and Seminar Rooms
 - 6. Departmental Computers
 - 7. Supplies
 - 8. Travel
 - 9. Vehicles
 - 10. Graduate Student Organization – GREBE (Graduate Researchers in Ecology, Behavior and Evolution)
 - 11. Other Resources
- B. University
 - 1. Libraries
 - 2. Computer Facilities and Services
 - 3. Parking

VI. University Regulations (page 32)

- A. Protocol for Use of Live Vertebrates
- B. Academic Honesty
- C. Sexual Harassment
- D. Smoking and other forbidden acts

VII. Oddities, Expectations, and Further Reading (page 34)

- A. What is independent research?
- B. Expectations
 - 1. Advice for both MS and PhD students
 - 2. Mostly for PhD students
- C. Exceptions to rules
- D. Further reading

Appendix 1. Benchmarks for satisfactory progress (page 36)

Appendix 2. GTA Expectations statement (page 37)

Appendix 3. For international students that have advanced to candidacy (page 39)

GRADUATE STUDENT HANDBOOK
Revised January 2020

An electronic copy of this handbook can be found in the graduate section of the EEB web site

I. Introduction

Welcome to the University of Tennessee! We are excited about having you as a graduate student in Ecology and Evolutionary Biology and wish you the greatest success in achieving your academic and professional goals. To help you progress and develop effectively in our graduate program, we provide this Handbook that describes what is expected of you from the Graduate Faculty and various resources that should be helpful during your studies here. This Handbook is only a guide, however. You are responsible for ensuring your own compliance with curriculum and deadline requirements.

A. Organization and Administration of Graduate Program

The Graduate Program in Ecology and Evolutionary Biology at The University of Tennessee, Knoxville is administered through the Department of Ecology and Evolutionary Biology (EEB). Members of the graduate faculty are drawn from EEB and other departments at the University of Tennessee, Knoxville, plus institutions such as Oak Ridge National Laboratory. The responsibilities of faculty who advise students in EEB are described below.

Administration of all policies regarding graduate students, including degree requirements, allocation of funding and monitoring of progress in EEB, are primarily the responsibility of the Graduate Affairs Committee and the Department Head. Questions concerning the graduate program should first be addressed to the Director of the Graduate Program, Mike Blum. The Graduate School imposes additional rules; each student is personally responsible for knowing and following those rules.

The following faculty have primary responsibility for graduate students:

Dr. Susan Kalisz, Department Head; 4-3065, skalisz@utk.edu
 Dr. Jennifer Schweitzer, Associate Head; 4-0856, jschweit@utk.edu
 Dr. Brian O'Meara, Associate Head; 4-2804, bomeara@utk.edu
 Dr. Jim Fordyce, Director of Graduate Admissions; 4-2925, jfordyce@utk.edu
 Dr. Michael Blum, Director of Graduate Studies and Chair of Graduate Affairs committee;
 4-3065, mblum@utk.edu

B. Program Areas and Faculty Research Interests

Members of the graduate faculty, together with their research interests, are listed on the EEB website: <http://eeb.bio.utk.edu/>

C. Degrees Offered

EEB offers training towards both PhD and MS degrees. There is no difference in status (e.g., office space) between students working toward a MS or a PhD, although base pay is slightly different. It is not necessary to obtain the MS degree prior to pursuing a PhD. Students admitted to the EEB PhD program while in pursuit the MS degree at other institutions must complete their MS, including defense of thesis, before the end of their first semester following

their registration at UT. Although students must declare which degree they are pursuing before entering the Program, students may change their intentions, after consultation with their faculty advisor, generally within the first 12 months of study.

II. Degree Requirements and Procedures

A. Committee Composition

1. The Departmental Graduate Faculty

The graduate program in Ecology & Evolutionary Biology is interdisciplinary. The EEB Graduate Faculty is made up of three kinds of faculty. The central types are Core Faculty, whose primary appointment is in EEB; Associated Faculty, who have split appointments between EEB and another department at UTK; and Adjunct Faculty who may have appointments in other departments at UTK or be employees of Oak Ridge National Laboratory, etc. The current list of adjunct faculty is on the EEB web site.

All members of the EEB Graduate Faculty may direct Master's degree thesis research, but only those formally approved by the EEB Graduate Faculty and the Graduate School may direct doctoral dissertation research. **At least three members of a PhD committee (including the advisor) must have such approval. At least one member of each student's committee must be a member of the EEB Core Faculty.**

Occasionally a student wishes to include on a thesis or dissertation committee an individual from another institution who is not a member of the EEB Graduate Faculty. The Graduate School *does allow* such outside members to count among the four members of a PhD dissertation research committee, but an outside member cannot replace a faculty member of a MS thesis research committee. An outside member can be added to a MS thesis research committee but as a fourth member of the committee.

The Graduate School requires that all members of a graduate research committee read the thesis/dissertation and attend the oral defense. In addition, members of doctoral research committees are required to attend the oral phase of the advancement to candidacy examination. *Therefore, a student who wishes to include an individual from another institution on a graduate research committee should ensure that funding will be available to support the committee member's travel and other expenses for at least two visits to Knoxville.* The department does not normally provide funds for this purpose.

2. The Advisor

The advisor chairs a student's research committee and is the primary mentor. EEB only accepts students who have identified a faculty member who has agreed to serve as their advisor. However, within the first year students should not hesitate to "shop around" - you are not required to stay with the person initially contacted or designated as the advisor, but a student must have a faculty mentor to remain in the program. When you look for an advisor, it is important to bear in mind that many faculty are over-committed and therefore they may be unable to serve even though their research interests are compatible with yours and that under other circumstances they might be very willing to serve. Because this is an extremely important decision that will affect all graduate work and successful employment following graduation, each student needs to begin thinking as soon as possible about what qualities are desirable in an advisor and who might fulfill those criteria. If a student has questions or problems regarding an advisor, the Department Head or Director of the Graduate Program will assist in resolving any issues.

3. The Thesis/Dissertation Committee

The purpose of a committee, whether for the MS or PhD, is to help the advisor guide the student. It is a distinct advantage to form a committee as early as possible, and no later than the first year. Each student who arrives at UT has a general idea of her or his research interests and should spend the first semester interviewing prospective committee members while also developing a research plan.

a. MS Thesis Committee

MS thesis research committees must consist of a minimum of three faculty members, including the advisor. Occasionally, a fourth member of the committee from outside the department or university may be appointed to add scientific expertise. If a student has a minor, one member of the committee must be from the minor department (Graduate school regulation). At least one member of a committee must be a member of the EEB Core Faculty (tenured or tenure-track), as defined above and in the Bylaws. At least two of the members of the MS thesis committee must be members of the EEB Graduate Faculty (approved by Dept. to direct graduate research).

b. PhD Committee

PhD dissertation research committees must consist of a minimum of four faculty members, including the advisor. *At least one committee member must be from outside the student's department/interdisciplinary program. This external member can be from outside UT.* Three of the four faculty must be approved by the graduate school to direct doctoral dissertations. At least one member of a committee must be a member of the EEB Core Faculty, as defined above and in the Bylaws. At least three members of a doctoral dissertation committee must be members of the EEB Graduate Faculty.

Committee members are chosen to provide depth or breadth to a student's program. They represent perspectives other than those of the advisor. They can be useful in helping you to choose appropriate courses, find relevant literature, and learn valuable techniques. They are the logical persons to write letters of reference, so developing good relationships with them is very important. In our program, the thesis or dissertation committee is also the examining committee: exams are more likely to go smoothly if each committee member is already familiar with your goals, abilities, strengths, and weaknesses.

4. Teaching Requirement

There is no teaching requirement either from the Graduate School or the EEB Graduate Program. However, the primary source of financial support available to graduate students without their own source of fellowship funding is through Graduate Teaching Assistantships (GTAs). Policies regarding GTAs are described below. Generally, the duties and responsibilities of teaching are viewed as essential to a complete and rigorous graduate education, particularly for doctoral students who are aiming for future academic appointment. EEB GTA expectations are the same as those of the division of Biology (see Appendix 2).

Teaching assistants are required to enroll in EEB 503, as described below.

B. Courses and Progress towards a Degree

The degree and course requirements of the Graduate School and the Department of Ecology and Evolutionary Biology are described in the current edition of the Graduate Catalog. For your convenience, the requirements are described below. However, the Catalog for your academic year is the definitive source in the case of discrepancies.

1. Course Requirements for the Masters Degree

a. Graduate School Requirements

The Graduate School considers a full load to be nine to 12 credit hours or the equivalent of 6 hours with a Teaching Assistantship (see below). A cumulative minimum grade point average (GPA) of 3.0 must be maintained to remain in good standing. Incomplete grades must be cleared before the end of the semester following when the course was taken.

A minimum of 30 semester hours of graduate course work is required

- 20 hours should be at the 500-level or above, the remaining 10 hours can be at 400-level but only from the approved list of 400-level courses (see 'course descriptions' in Graduate Catalog <http://tiny.utk.edu/grad-catalog>).
- Six of the 30 hours must be thesis (EEB 500). Although students may take more than 6 hours of EEB 500, no more than 6 hours may be included in the 30 hours required for a Masters degree.

Note that MS students must register continuously for EEB 500 once their thesis proposal is approved but, unlike for the PhD degree, students do not have to register for EEB 500 over the summer. In order to receive medical care at the Student Health Center, students must register for at least 3 hours over the summer but it does not matter what those 3 hours are. GTAs will have a tuition waiver for summer tuition (for GRAs, it depends on your appointment - check with your advisor and/or your offer letter). Master's students must register for 3 hours of EEB 500 during the semester in which they defend and graduate.

b. EEB Graduate Program requirements

Required Coursework:

Note: a "C+" or below in required classes is considered as "not passing"

1. The Core in Evolution and Ecology [students must make a B- or higher] (6 hours)

2. Quantitative requirement (3-4 hours). Each student must take at least one quantitative course. Examples include statistics, bioinformatics, modelling etc.

3. EEB 500 Thesis (1-15 hours). Only 6 thesis hours can be counted towards an MS degree.

4. EEB 503 (1 hour). EEB departmental seminar, a weekly lecture series. Required of first and second year graduate students, as well as *all* graduate students on GTA support. Senior undergraduate EEB majors and other graduate students are encouraged to enroll. All other students are strongly encouraged to enroll and attend.

5. EEB 507 (1 hour). Seminar in Ecology and Evolutionary Biology. Presentations by 2nd and 4th year EEB Graduate Students. Required of all 2nd and 4th year EEB graduate students. This course is offered every spring semester.

6. The remaining required hours may be formal courses, seminars, or independent study. For first years, optional 1-credit professional development, R module, and grant writing seminars are encouraged. Two-thirds of all graduate hours must be at the 500-level or above; the remaining third may be 400-level courses. Excluding thesis hour requirements, the remaining elective hours graded A-F will fulfill the minimal UTK requirements for the degree.

2. Course Requirements for the PhD Degree

a. Graduate School Requirements

The Graduate School considers a full load to be nine to 12 credit hours or the equivalent of 6 hours with a Teaching Assistantship (see below). A cumulative minimum grade point average (GPA) of 3.0 must be maintained to remain in good standing. Incomplete grades must be cleared before the end of the semester following the one in which the course was taken.

Without the Master's degree:

- A minimum of 48 hours of graduate coursework, at least 30 hours graded A-F
- A minimum of 6 hours at 600-level taken at UTK,
- 24 hours of EEB 600, Doctoral Research and Dissertation are required.

With a Master's degree:

- A minimum of 24 hours of graduate coursework, at least 12 hrs must be graded A-F.
- A minimum of 6 hours taken at the 600 level at UTK exclusive of dissertation hours.
- 24 hours of EEB 600, Doctoral Research and Dissertation, are required.

Note that a student must register continuously for Dissertation (600) hours from the time the Dissertation Proposal is approved, admission to candidacy is accepted, or registration for Dissertation hours is begun, whichever comes first, until graduation. Importantly, if you graduate over the summer, you must remember to sign up for 3 credits of 600 for that summer as well. GTAs will have a tuition waiver for summer tuition. *GRAs might not covered in the summer*, so very important for GRAs to check with their PI/advisor and/or check their offer letter in advance.

Residency requirement for PhD - full-time enrollment in two consecutive semesters at UTK.

b. EEB Graduate Program Requirements

Required Coursework:

Note: a "C+" or below in required classes is considered as "not passing"

1. The Core in Evolution and Ecology [students must make a B- or higher] (6 hours)

2. Quantitative requirement (3-4 hours). Each student must take at least one quantitative course. Examples include statistics, bioinformatics, modelling etc.

3. EEB 503 (1 hour). EEB Seminar, a weekly lecture series. Required of first and second year graduate students, as well as *all* graduate students on GTA support. Senior

undergraduate EEB majors and other graduate students are encouraged to enroll. All other students are strongly encouraged to enroll and attend.

4. EEB 507 (1 hour). Seminar in Ecology and Evolutionary Biology. Presentations by 2nd and 4th year EEB Graduate Students. Required of all 2nd and 4th year EEB graduate students. This course is offered every spring semester.

5. The remaining required hours may be formal courses, seminars, or independent study. For first years, optional 1-credit professional development, R module, and grant writing seminars are encouraged. Two-thirds of all graduate hours must be at the 500-level or above; the remaining third may be 400-level courses. Excluding thesis hour requirements, the remaining elective hours graded A-F will fulfill the minimal UTK requirements for the degree

The EEB Graduate Program has no foreign or computer language requirement, but the graduate committee in consultation with the student may choose to require one.

3. Thesis and Dissertation Proposals

The purpose of a proposal is to ensure that research has been planned carefully. It is developed in close consultation with the advisor and occasional consultation with committee members. The MS thesis proposal describes a narrower piece of work than that expected of a PhD dissertation proposal, but the following description is appropriate for either. In most cases, the proposal is structured similarly to a scientific paper (note: mathematical or theoretical proposals will typically follow a different format):

The first part is a comprehensive review of the relevant literature, which allows the research to be placed into a broad context. This should demonstrate to the committee that the student has synthesized a body of scientific knowledge. The literature review for a PhD proposal is expected to be far more thorough than that for the MS proposal.

Most of the remaining space in a proposal will be devoted to the methods to be used in each chapter; these should be organized in terms of questions or hypothesis testing. Where alternative methods are possible, those methods selected must be justified.

Specific requirements for the MS and PhD proposals are described in their respective sections below. A dated copy of the research proposal, bearing the signatures of the student and all committee members, must be placed on file in the departmental office. In addition, both MS and PhD proposals should include a checklist of all science, mathematical and statistical coursework taken (with grades) and to be taken.

4. Annual Review of Graduate Student Progress

The Graduate Affairs Committee reviews progress of all grad students each year, based largely on an annual progress report due 15 September every year. *Submission of a progress report is required of all graduate students* and must be signed by the student's advisor. After review by the GA committee, each student will get feedback in an annual letter, which they are expected to discuss with their advisor, and then sign and return to the department each year. The progress report and letter will be kept on file in the student's records. They will be used to evaluate good standing in the Dept., requests for teaching assistantships and various fellowships and awards offered by EEB, the College and the University.

The report summarizes the student's progress over the previous academic year and summer. Please see the link on the EEB webpage for the general form and an exemplar:
<http://eeb.bio.utk.edu/important-information-for-current-students/>

Note also that satisfactory progress requires that students meet with their committee at least once each year. After each meeting, the student and advisor must collaborate to write a short summary of what occurred during the committee meeting, and these summaries will become part of the student's record (see below for details).

Students who are not making satisfactory progress as determined by the faculty advisor and their graduate committee will be invited to discuss their work with the Director of Graduate Studies. If a student is found to be out of compliance with requirements of the program, and therefore not making satisfactory progress, the advisor and Graduate Affairs Committee will issue the student a letter with a recommended course of action and deadline for achieving compliance. Students who receive two annual assessments of "Unsatisfactory Progress" will be dismissed from the program.

5. Other Interactions with the Graduate Affairs Committee

All first-year students and students who have not yet held a committee meeting will meet with the Director of Graduate Studies early during the second year. Any student may request a meeting with the Graduate Affairs Committee as an avenue to expressing concerns about the Program; the faculty advisor will not be present unless a student requests this. Difficulties or problems perceived by a student in any areas of the Graduate Program, including the quality or content of courses, faculty advising or general University procedures, should be brought to the attention of the Director of Graduate Studies or any member of the Graduate Affairs Committee. Wherever possible, the student should first attempt to resolve problems by contacting the relevant staff or faculty member.

A student must register their concern with the Director of Graduate Studies or a member of the Graduate Affairs Committee no later than 30 days after the incident that occasions the appeal. If the department appeals procedure does not lead to resolution of the complaint, the next level is an appeal at the College level. This appeal must be filed within 30 days of a final decision at the department level.

Please see the Graduate School Policies on Grievances and Appeals:
<http://gradschool.utk.edu/documents/2016/02/student-appeals-procedures.pdf>

*Students are responsible for scheduling and finding space for all committee meetings.
Providing refreshments at exams is discouraged.*

6. Progress towards the Degree

You are expected to make satisfactory progress toward completion of all coursework and your dissertation in the deadlines set forth below, with progress being monitored by the Dissertation Committee and, independently, by the Graduate Affairs Committee. You must meet with your Dissertation Committee at least once per year to review research progress and to solicit suggestions and comments. Failure to meet with your Committee is a sign of unsatisfactory progress, which will be carefully evaluated at the annual review and could result in the loss of financial aid or dismissal from the graduate program. Please see

Appendix 1 for a checklist of benchmarks of progress.

C. Master of Science

The MS degree requires fulfillment of course work and a thesis designated by the Graduate School and the Graduate Program. The MS is especially recommended for students who seek one of the many jobs for which this is the best degree, who are uncertain of long-range professional goals, have little or no research experience, or are deficient in fundamental (undergraduate) coursework. Various forms are required by the Graduate School; it is the student's responsibility to know what these forms are and to submit them when necessary.

1. The Thesis Proposal

In your second semester in residence, you should develop a thesis proposal with assistance from your advisor. The MS thesis proposal is typically five to ten pages long, though the precise length is decided between advisor and student. It is extremely important that the MS proposal describe a research project that can be realistically completed and written up in 1-2 years from the time the proposal is prepared.

Following a critical review and revision process, the student and advisor should present the proposal to the Thesis Committee. The committee should have been chosen and consulted while the proposal was being developed. The student should call a meeting to discuss the proposal within two weeks of providing it to the committee. The advisor and the thesis committee must approve the thesis proposal before research is begun, usually by the end of the second semester.

A dated copy of the MS research proposal, bearing the signatures of the student and all committee members, must be placed on file in the departmental office. The proposal should be accompanied by a checklist of all science, mathematical and statistical coursework taken (with grades) and those to be taken.

After each committee meeting the student will write a short summary of the meeting and submit it by email to the advisor. The summary should detail the specific suggestions and required tasks that were asked of the student. The advisor will then edit it and send to the rest of the committee for approval. Once all, including the student, have approved the synopsis, the advisor will send it to Janice for filing.

2. Admission to Candidacy for the MS

Following completion of required coursework and acceptance of the thesis proposal, a student may apply to the Graduate School for admission to candidacy. Candidacy signifies demonstrated ability to do acceptable graduate work and that satisfactory progress is being made toward a degree. The Admission to Candidacy Form, available from the Graduate School, must be signed by the thesis committee and contain a list of all courses to be used for the degree, including transfer coursework. The student must submit this form to the UT Office of Graduate Admissions and Records no later than commencement day of the semester preceding the semester in which graduation is planned, and provide a copy to the EEB Department.

Students are responsible for scheduling and finding space for all committee meetings. Providing refreshments at exams is discouraged.

3. Satisfactory Progress

Students are expected to make satisfactory progress toward completion of the thesis, with progress being monitored by the thesis committee and, independently, by the Graduate Affairs Committee via the annual review process. Students should meet with the thesis committee in the Fall of their second year and annually thereafter to review the progress of results and to solicit suggestions and comments. It is up to the student to arrange to meet with the committee; failing to do so could result in the loss of financial aid or dismissal from the Graduate Program.

4. The Thesis

The MS thesis describes and discusses the primary results of the research. The contents must be original and provide the basis for at least one journal publication; all students are encouraged to write the thesis in the format of a manuscript for publication. Prior to graduation, all original data comprising the thesis should be placed on file and a timetable should be finalized for publishing the thesis, both with the advisor. The thesis format must conform to standards established by the University, which are described in the UT Knoxville Guide to the Preparation of Theses and Dissertations (available online) and are, in most cases, compatible with journal publications.

5. The Thesis Defense

Once the thesis has been approved by your advisor, it should be submitted to the other members of the committee at least one month prior to the anticipated defense. The student should also schedule a public seminar at least five weeks in advance. Typically the public seminar is scheduled to immediately precede the oral exam. The student's committee might or might not attend the seminar, but the committee will participate in an oral exam, which is a question-and-answer period covering all facets of the thesis, including general problems and tangential issues raised in the thesis. The committee excuses the student and then decides whether or not the student has passed the defense. Even when a student passes the oral exam, the committee usually suggests revisions of the thesis that will require rewriting, further analyses and/or bibliographic research. Because this will delay submission of the final thesis document to the Graduate School, students are strongly encouraged to submit the thesis to the committee at least 6 weeks before the deadline for graduation. Providing refreshments at exams is discouraged.

6. Summary of Steps

The following is a summary of the requirements described above and their associated deadlines:

- Complete required coursework. Completed by the third semester.
- Write a thesis proposal. During the second semester.
- Form a thesis Committee. During the first or second semester.
- Meet with the committee no less frequently than annually.
- Have the thesis proposal approved by the committee. Either late in the second semester or shortly after the end of the first summer, by which time pilot data should be available.
- Apply for admission to candidacy, after completing coursework and acceptance of the thesis proposal.
- Master's Thesis students must register for a minimum of three hours of thesis credits

(EEB 500) the semester their thesis is accepted by the Graduate School. For information on this policy, please see the Graduate Catalog which is located on the Graduate School website (<http://tiny.utk.edu/grad-catalog>).

- Written reports of progress from the previous year must be provided to the Graduate Committee by 15 Sept. of each year.
- Notify the Graduate School one semester before intending to graduate.
- Completion of thesis and its defense (2-3 years after first registration). The Graduate School sets the deadlines. Candidates are urged to schedule the thesis defense at least six weeks prior to the Graduate School deadline.
- Deliver copies of all signed Graduate School documents to EEB.
- Have thesis cover page signed by the Head of EEB.

D. Doctor of Philosophy

The purpose of the PhD Program is to train students rigorously for a research and/or teaching career in ecology and evolutionary biology. The principal criterion for the doctoral degree is the dissertation, a document based on extensive original research which should be a major contribution to the field of study and its integration with related fields. The doctoral candidate must demonstrate a thorough knowledge of relevant fields and show a capacity to design and execute original research. By the time of the defense of the dissertation, the candidate is expected to be an expert in his or her field.

All students are strongly encouraged to take courses that will maximize their breadth and exposure to many fields in ecology and evolutionary biology as well as related subject areas. Toward this end, students are expected to enroll in advanced topics courses during most semesters that they are in residence, and to interact with many faculty, not only members of the dissertation committee. Various forms are required by the Graduate School; it is the student's responsibility to know what these forms are and to submit them when necessary.

1. The Advisor

Faculty who wish to direct doctoral students must be certified by the Graduate School; you should check to make sure that your prospective advisor is certified. The certification process can take months so don't leave it till the last minute. Only members of the EEB Graduate Faculty (see "Departmental Graduate Faculty" above) who are approved by the Graduate School may direct doctoral dissertation research in EEB. Please note that junior faculty who initiate the request to be approved sufficiently early can get approval in time for the orals.

You should select an advisor with whom you can work closely and feel comfortable discussing not only problems pertaining to research but also other aspects of graduate studies and your future goals. Even though you identify an advisor with acceptance into the program, you are not prevented or discouraged from changing research directions and, accordingly, dissertation advisors. However, if you wish to change advisors you need to show satisfactory progress in pursuing a research problem and to give a strong rationale to the Graduate Affairs Committee for a change in direction. The Graduate Affairs Committee requires two letters, one from the student and one from the advisor, if a major change is proposed.

2. The Dissertation Committee

Students should discuss prospective faculty members of the dissertation committee with the advisor. Committee members should be individuals who are familiar with the problems, methods and organisms which will be used in the dissertation research program. Such people can provide important resources of information, ideas, and possibly equipment. Scientists not on the faculty can become members of the committee if temporary Adjunct status is arranged through the Department, following consultation with the advisor and the Department Head (but see "Departmental Graduate Faculty" above).

The first committee meeting should be scheduled before the end of your first year in the program. The following topics should be discussed at the meeting, and many will be revisited at later meetings:

- Academic and professional goals.
- Problems and issues directly involved with the dissertation plans, including

- necessary funding and EEB resources.
- Past and future coursework (especially, relevant statistics courses).
- Setting dates for submitting a dissertation proposal and taking the Advancement to Candidacy Exam.
- A preliminary timetable for completion of the research, write-up of the dissertation, and completion of all requirements in the Graduate Program.

Please be aware of a relatively new EEB policy: After each committee meeting the student will write a short summary of the meeting and submit it by email to the advisor. The summary should detail the specific suggestions and required tasks that were asked of the student. The advisor will then edit it and send to the rest of the committee for approval. Once all, including the student, have approved the synopsis, the advisor will send it to the graduate secretary, Janice Harper, for filing.

1. The General Knowledge exam – CORE

The first-year CORE course in Evolution (Fall) and Ecology (Spring) serves as the general knowledge exam. CORE must be completed by the end of the 1st year of study. If there were deficiencies in CORE, then the dissertation committee in consultation with CORE faculty may require additional work. If either semester of CORE is failed (C+ or below), then that semester must be retaken

2. The Dissertation Proposal

During the first year each student should narrow down specific areas to pursue for the doctoral research. This process culminates in the preparation of a dissertation proposal, described earlier. The completed proposal, once approved by an advisor, is the focus of discussions with members of the Dissertation Committee.

The structure and contents of dissertation proposals were described in detail earlier. Proposals are typically 10-15 pages long. The exact length depends on the nature of the proposal (e.g., modeling or field work) and is determined between advisor and student. As with the MS proposal, the advisor is a critical resource.

The completed dissertation proposal should be circulated to committee members and will be defended in the oral portion of the Advancement to Candidacy Exam. A signed copy of the dissertation proposal must be put on file in the EEB Departmental Office.

5. The Advancement to Candidacy Exam

The Advancement to Candidacy exam is usually taken after all required coursework is completed. It must be taken no later than the end of the 5th semester *in a form decided upon by dissertation committee*, but with a focus on research done and research proposed. Some committees may require a written portion to the exam, such as a grant proposal or a manuscript. The content of the oral portion of the exam is up to the committee and should generally focus on defending the written proposal, which must be distributed to the committee at least two weeks in advance of the exam.

Immediately following the oral exam, the student will be asked to leave the room so that the committee may discuss the examination and then assign a grade. As required by the Graduate School, the student is independently evaluated on the written and oral portions. Performance

on each will be graded by 'Pass' or 'Fail'. Students who do not pass both portions of the exam are allowed to take the exam once more, no later than the end of the semester following the first sitting for the Advancement to Candidacy Exam. Failing the exam a second time will automatically elicit termination from the Program. Students who pass the exam are considered qualified to conduct research leading to the doctoral degree and should apply to the Graduate School for Candidacy.

6. Admission to Candidacy for the PhD

You may (and must) apply to candidacy for the doctoral degree after passing the Advancement to exam, completing the required courses in the Graduate Program, and maintaining a GPA of at least 3.0 (B average) in all graduate coursework. Admission to candidacy must be applied for and approved by the Graduate School at least one full semester prior to the date the degree is to be conferred. Applications for candidacy can be obtained online. Provide a copy of the signed form to EEB.

7. Registration for Doctoral Dissertation Research (EEB 600) hours

Once Candidacy is approved (although you can begin these sooner, depending on the timeline) the Graduate School requires that students register for dissertation credit (EEB 600) each semester, including over the summer, in which research is performed using University facilities and/or involving any faculty consultation. Automatic enrollment does not occur once you become a candidate, *you must actively enroll in these hours*.

Once you have begun enrolling for 600, you must do so continuously until you graduate, including fall and spring semesters, and summer term. If you fail to do so, you will be required to back-register for the summer terms or semesters during which you were not enrolled, and pay for the credits yourself. If you held a GTA during the academic year prior to the summer during which you are enrolled in 600, your tuition waiver is in effect and you will not have had to pay tuition. If, having previously enrolled in 600, you fail to enroll in 600 for the summer term or a spring or fall semester, your tuition waiver will not cover tuition for the summer(s) or semesters when you have to back-register.

8. The Dissertation

The dissertation is the culmination of original major research. Just as research is a highly individualized endeavor, so too is the structure of the dissertation. Overall, the contents must represent an original, rigorous analysis of a major problem in ecology and evolutionary biology. Usually three or more publications should result from the dissertation research; you should be first or sole author on at least one major publication. Students who apply for professional jobs will be competing with others who have been publishing throughout their graduate careers. Because publications are a benchmark for quality in the dissertation and are imperative for getting a job or postdoc, you are strongly encouraged to write each chapter of the dissertation in the format of a publication. For that reason, it is critical to submit chapters for publication as they are written, rather than near the end of your dissertation.

Indeed, the dissertation work may be based on material published prior to the dissertation defense but all published work to be included in the dissertation must be approved by the advisor. Chapters based on published material must still be defended. Students should ask members of the dissertation committee to review manuscripts for publication prior to submission to a journal or other avenues of publication. This will ensure that the committee is

aware of general research progress and that details of the work to be included in the dissertation are acceptable. Dissertations based on work in collaboration with other researchers must include an explanation of the student's specific role in the research relative to the coauthors. Research in which the student's involvement was minor is not considered fully independent research for the purposes of the dissertation, and other chapters that clearly indicate primary authorship by the student are required.

Although the format of the dissertation is highly individual, all dissertations require a series of drafts involving writing, re-writing and substantial revision. This process should occur in close consultation with your advisor. Only when you and your advisor agree that a complete draft of the dissertation is suitable for distribution should a copy be presented to other Committee members for their comments and approval. The distributed copy must be a version approved by the advisor; this version must be complete, including a title page, abstract, table of contents, list of tables and figures, complete and accurate Literature Cited, all chapters and appendices, and final versions of all figures and tables. Committee members are not expected to read the dissertation piecemeal, and the dissertation defense will be based on what the student and advisor agree is the final and complete draft.

The final format of the dissertation must be approved by The Graduate School and conform to standards established by the University which are described in the UT Knoxville Guide to the Preparation of Theses and Dissertations (available online). A dissertation consultant is available to review the material and assure that the dissertation is clearly presented, free of technical errors in the format, and reflects the quality and rigor of UTK and the Graduate School.

9. Intellectual Property

Prior to graduation, all original data comprising the dissertation should be placed on file and a timetable should be finalized for publishing the dissertation with the advisor. This is to protect the student from others using her/his data without permission; it also ensures that data that are often critical to the research program of a faculty member, will be available for use after a mutually agreed upon amount of time has elapsed.

10. The Dissertation Defense

The defense of dissertation consists of two parts: a Public exit seminar and a final Oral exam. These need not be done at the same time, but please be aware that the Graduate School requires that all committee members be present at the final Oral exam.

The final oral exam. This is a meeting between the candidate and the dissertation committee to discuss specific questions about any facet of the dissertation research. When all members of the dissertation committee agree, a student should schedule the final oral exam (defense of dissertation). The dissertation defense must be formally scheduled through the Graduate School. Each student needs to (a) ensure that all members of the committee will be present and (b) schedule the location of the defense. Because students are likely to be making arrangements for the next professional move (e.g., interviews or applications for postdocs or jobs), a very common problem is scheduling the defense too close to the Graduate School deadline for submitting the dissertation. In this case, both the student and the committee are under considerable pressure. Therefore, it is critical to plan ahead: a complete draft of the dissertation must be submitted to the committee one month prior to the defense, and the defense must be scheduled at least two weeks before the

Graduate School deadline for holding the defense. The committee often makes suggestions for substantive changes following the oral defense; thus, you should allow ample time to revise the dissertation and for the committee to read and approve revisions in order to meet the Graduate School deadline. Also, faculty are often unavailable in the summer months (mid-May to mid- August) for dissertation defenses due to nine month appointments of most faculty.

The dissertation committee makes two separate decisions: (1) whether a student has passed the oral defense and (2) whether to approve the written dissertation. The dissertation approval sheets are signed by the committee when they have approved the revised version; it is advisable to bring multiple copies of the forms to get signatures so that the committee does not have to be re-convened after the final submission is approved. The advisor will hold the later copies until the final version has been completed to the committee's satisfaction. The Head of EEB also signs the sheets and then the dissertation is submitted to the Graduate School. A student who has the unpleasant experience of failing the defense itself will be allowed to arrange a second defense no sooner than the following semester but typically within one year.

The Exit Seminar. Upon consultation with committee members and the approval of the student's advisor, the student must schedule their exit seminar with the faculty member currently in charge of the Departmental Seminar (EEB 503). When scheduling the seminar, the student must provide a title, abstract, and any images the student wishes to have included in the seminar announcement. The exit seminar must be scheduled at least five weeks in advance. However, students are *strongly* encouraged to schedule well in advance (e.g. the semester or year before) so that the exit seminar may be given as part of the Departmental Seminar series. Exit seminars will only be given during the academic year, not during the summer.

The goal of the exit seminar is to provide the student with a formal, high-profile venue at which to present their research to the Department and University. The exit seminar is open to all faculty and students and expected to last about one hour (45 minutes seminar with 15 minutes for questions). The exit seminar should consist of a ~45 minute presentation of a clear and thorough description of the primary questions, results, and significance of the dissertation research to be followed by a public question-and-answer period.

11. Summary of Steps

Form a committee and hold an initial committee meeting during the first academic year. Make sure that at least three members of the committee are approved to direct doctoral dissertations.

- Form a Dissertation Committee, suggested within the first year (if not by early 3rd semester, then please meet with the Graduate Affairs director)
- Meet with the committee no less frequently than annually.
- Complete required coursework, by the end of the fourth semester.
- Write a dissertation proposal. Suggested during the fourth semester.
- Pass the Advancement to Candidacy Exam. No later than the end of the Spring semester in the third year (5th semester) after enrollment in the PhD program.

- Apply for admission to candidacy after passing of the Advancement to Candidacy Exam.
- Once a candidate, begin enrolling in Dissertation Hours (EEB 600); once enrolled, you must continually enroll, *including over the summer*, until graduation.
- Annual Progress Reviews. Reports of progress over the previous academic year must be submitted for review every fall by 15 Sept.
- Notify the Graduate School one semester before intending to graduate.
- Complete the dissertation and schedule the defense (including notifying the Graduate School).
- Schedule a departmental exit seminar 6-12 months in advance with the seminar series organizer. The preferred time is immediately before the defense.
- University deadlines are set by the Graduate School. EEB Program deadlines are at least one month prior to the Graduate School deadlines.
- Deliver copies of all signed Graduate School documents to EEB.
- Have dissertation cover page signed by the Head of EEB.

III. Student Records and Registration

A. Student Records

All records of the Graduate Program in EEB are stored. Each student's record should include all material related to the application process into the Program, teaching evaluations, annual progress reviews, an up-to-date Curriculum Vitae, and any other items which provide a record of your activities and progress (e.g., reprints of publications, grant applications, notices of awards or prizes). It is the responsibility of each student to be sure that all records are current. Be sure to notify EEB administrative assistants of any change in local address or telephone number.

If a request is made to the Graduate School, it often does not get forwarded to us; thus you need to send the Graduate Affairs Committee a copy of such correspondence, or send the Graduate Affairs Committee a letter explaining what is happening.

B. Registration

All details regarding registration for new and continuing students are given in the Timetable of Classes published each semester. Information includes how registration is handled, fee payment, dates for registration, drop and add deadlines, and various University contact numbers and resources. All matters of registration are the responsibility of individual students. The Graduate School sends regular updates about graduate student policies to every student. These communiqués contain all information regarding Graduate School deadlines. It is your responsibility to be familiar with its contents.

Important new policy! Students can no longer enroll late without consequences. Late enrollments, and especially retroactive enrollments, have caused chaos in how to bill tuition fees to tuition waivers. A retroactive enrollment is when a student suddenly realizes he/she should have enrolled, say for 3 credits of EEB 593 in a previous semester in order to graduate. That tuition waiver for those credits in an earlier year is longer there. The graduate school will no longer cover tuition fees for these kinds of situations. Those waivers will now be charged to the late-enrolling student. BEWARE that the policy is now past the trial phase, so there are no more excuses for late registrations. PLEASE REGISTER ON TIME EACH SEMESTER.

1. Continuous Enrollment and Leaves of Absence

Graduate students are required to maintain an active status through continuous enrollment from the time of first enrollment until graduation. Therefore, graduate students must register for a minimum of 1 graduate credit hour each semester (excluding summer) until graduation [doctoral students that have begun to register for dissertation hours - course EEB 600 - must register for a minimum of 3 hours during all semesters, including summer] OR the student can submit a Leave of Absence (LOA) form requesting a pre-approved break in enrollment (up to two years). The leave of absence form must be endorsed by the Head of EEB and the Director of Graduate Studies and must be submitted by the last day of classes the semester before the leave is requested. The Reinstatement form must be submitted to re-enter the same program (forms available on the Graduate Schools webpage) without payment of additional fees.

2. Changes between MS and PhD tracks.

These require approval of the Graduate School and of the EEB Graduate Affairs Committee. The reason that a student may wish to switch to the PhD program without receiving the MS is that the research project has expanded substantially. The Graduate Committee requires a detailed letter from the student, with approval by the advisor, explaining the reasons for the switch and outlining the plans to complete the PhD in a timely manner. Switches in the other direction require a brief note and an indication that the advisor approves as well as approval from the Graduate School. Change of Degree plan must be submitted by the student to the Graduate College requesting the change. Contact the Director of Graduate Studies for instructions on how to do this. If a student plans to receive the MS at EEB and follow it with PhD research at EEB, the Graduate School and department require a complete application process for the doctoral degree, which includes complying with the Departmental admission deadline. Contact the Director of Graduate Studies for details.

3. Other requests that are addressed to the Graduate School.

Please send the EEB Director of Graduate Studies a copy of correspondence or a separate letter. The Graduate School usually requires that the Program sign off on such requests and these will go much more smoothly if the Director is notified directly.

IV. Financial Support

A. Overview

The primary means of student financial support through the University of Tennessee is the Graduate Teaching Assistantship (GTA) and University Fellowships. Graduate Research Assistantships (GRA) may also be available. We do not accept students into the EEB Program unless some form of financial support has been identified. If a student does not have GTA support and is registered in the Program (i.e., entered on a GRA), a request for support will be considered seriously only if the student has submitted regular progress reports and includes a letter of support from the advisor with the request.

All graduate students are expected to be familiar with and comply with all requirements of: (a) *Academic Policies and Requirements for Graduate Students*, online at <http://catalog.utk.edu/content.php?catoid=17&navoid=1763> and (b) policies governing student conduct and academic integrity in *Hilltopics Student Handbook*, online at <https://hilltopics.utk.edu/student-code-of-conduct/>.

Students are responsible for understanding the terms of their original offer letter, as well as the terms of subsequent letters that may re-define those conditions (e.g. if changes in support occur). Such letters spell out the amount *and duration* of your compensation. Please read carefully and keep on file.

B. Teaching Assistantships

Unless another source has been specified (e.g., a fellowship), the most common form of support is a Graduate Teaching Assistantship (GTA). Duties of GTAs include instruction in laboratory sections of courses, grading homework or exams for lecture sections, or coordinating activities for seminars. Every effort is made to match a graduate student with a preferred faculty member and course request. A student's request cannot, however, always be granted because of specialized needs or high demand for GTA support in specific courses. Teaching assignments are made by the Chair of Graduate affairs as part of their duties, not the faculty member who teaches the course.

Allocation of GTA-ships will be based on: (a) a student being in good standing in the Graduate Program, (b) competency for particular teaching needs in a given course, (c) need and availability of funds, and (d) prior Departmental support. In all cases, duties will be under the supervision of a faculty member and be clearly defined early in the semester. Students must be available for their GTA from the first Monday before the semester starts until the end of the semester. Deviations from expected duties must be made under prior agreement with the professor teaching the class well before the start of the semester. The expectations for EEB students are the same as those of the division of Biology, and the rights and responsibilities of the teaching assistant and the course instructor are outlined formally in Appendix 2.

While holding a GTA position, students are expected to carry a full load of courses, not less than six and generally no more than 12 hours. As a GTA, the student is an employee of the State of Tennessee, thereby providing liability coverage for activities required during teaching duties (e.g., disability resulting from a field trip). GTA support pays a monthly stipend and includes a waiver of tuition (including over the summer). Students are employed for 9 months but salary checks are distributed over 12 months. Students may choose to teach in Summer

School for additional pay, although such work may consume valuable research time. For international students, please see Appendix 3 for an important note about hours.

Students whose first language is not English are required by UT to pass a test of spoken English (the ACTFL OPIc test) before being permitted to teach laboratories or discussion sections. The OPIc test is offered three times a year, before the start of each term; in mid-August, early January, and late May. The Director of Graduate Studies enrolls the student in a course. Entering foreign students must take the OPIc test in August as soon as they arrive on campus. Results are reported as Advanced High (AH), Advanced Mid (AM), Advanced Low (AL) or Intermediate High (IH). A score of AH represents unconditional approval to teach. A score of AM allows a student to teach but requires that the student be further assessed for teaching competence by the department and another assigned faculty member. Students receiving a conditional pass (AM) must either re-take the speak test and achieve a score of AM or receive teaching approval from teaching observers. Students who have not received approval to teach by the end of their second semester, must take and pass the OPIc test no later than May to obtain continuing GTA support in August. If students do not receive approval to teach by the end of their second semester, no further GTA support will be given. Students receiving a score of less than IH will not be given GTA support. The graduate committee may, on occasion, recommend an exception to this rule to the Head of EEB. Occasionally, foreign students may need to transfer from a GRA to a GTA but cannot do so because they have not taken and passed the OPIc test. In order to transfer to a GTA, the OPIc test must be taken and passed by January for GTA support to begin the following August. The graduate committee may, on occasion, recommend an exception to this rule to the Head.

The Graduate Program will support students only for the period necessary to complete the degree requirements. If a student needs EEB support for more time to complete their research, funds must be found elsewhere, except in extreme circumstances. Eligibility periods from the date of entrance in the Program are as follows: MS students for up to three years; PhD students for five years. Students who complete a MS degree in the Program and then carry on for the PhD are eligible for support during both degree periods; however, students who enter the Program for the MS and switch to the PhD will be considered for support during the normal period of pursuing the doctorate and the time prior to the switch will be counted against it. This is because the only reason to switch from MS to PhD tracks without earning the MS is that the Master's project has expanded to PhD proportions. Students approaching these limits who are making satisfactory progress towards their degrees may be granted one additional year of GTA support. Requests for an additional year of support must be justified in writing, after consultation with the thesis/dissertation committee and advisor, and must be signed by the student and advisor. Requests should be made sometime in late fall or up to January 31st of the student's fifth year. They will be voted on by the Graduate Affairs Committee in February. The decision to grant the additional year of support will be based on the student's progress and a clearly laid out plan for how the student will finish their degree in the final year of support.

GTAs are not renewed automatically. Students must apply each spring semester for the following academic year. A form will be provided for this request. Students are in direct competition with other graduate students, new as well as continuing, for available GTA positions. It is assumed that all students will make satisfactory progress in the Program and therefore GTA appointments will be renewed. However, failure to make satisfactory progress, as designated at the annual review and/or by the thesis/dissertation committee and/or by consistently poor teacher evaluations (or breach of GTA Expectations statement), will jeopardize renewal of an assistantship.

A GTA can only be renewed for up to five years from the time of entry in to the PhD program (three for M.S. degree). Renewal is contingent on satisfactory performance in your duties as a GTA, your graduate studies and research, and compliance with the Standards of Conduct, as outlined here, and in the Graduate Catalog and in Hilltopics (UTK student handbook).

C. Fellowships and Other Awards

Each year a limited number of fellowships are awarded to graduate students. These involve varying amounts of financial aid and are listed on the Graduate School's Web site. All first year students should inquire about federally-funded fellowships, such as the National Science Foundation (NSF) Pre-doctoral Fellowships, as well as various other research grants (e.g., Fulbright, Theodore Roosevelt Grants, Sigma Xi, Animal Behavior Society). In addition, the following funds are available through the University.

1. EEB Research Awards

A research award competition is held each spring when funding is available. All continuing students who document in their Annual Progress Report that they have actively pursued research funding within the previous year from sources outside of the University, and who are deemed as making satisfactory progress, are eligible for EEB Research Awards. To be eligible for EEB Research Awards, students who previously received EEB funding must provide a detailed "Results of Previous Support" statement to their research proposal. The format of proposals is slightly different each year, but applications are due 1 May. If awarded, funds are available for research beginning with the new fiscal year (beginning 1 July) until late June of the following year (i.e., can be used any time during the next 11 months). For further information see: <http://eeb.bio.utk.edu/important-information-for-current-students/>

2. UT Fellowships

Awarded through the Graduate School, several Fellowship are available with variable benefits that may include monthly stipends, tuition, and maintenance fees. These fellowships include Graduate School Fellowships, Lori Mayer Re-Entry Women's Graduate Fellowship, Diversity Fellowships, Yates Dissertation Fellowships, Wallace & Katie Dean Fellowships – details, eligibility and application/award details are available through the Graduate School webpage. <https://gradschool.utk.edu/graduate-student-life/costs-funding/graduate-fellowships/>

Many of these require nomination from the department, but we encourage students to self-nominate to the DGA or Head. Be aware that few, if any, of these fellowships enable a student to be free of their GTA or GRA for a semester. They provide extra funding, not relief from teaching.

3. Alexander A. Hollaender Award

This one-year award is offered to an exceptional student in biology who is also a native of East Tennessee or nearby regions. It is administered by the Division of Biology. The applications are due in the spring semester; check the Graduate School website for details.

4. Achievement Awards

The Division of Biological Sciences and the Science Alliance award various stipends to supplement Graduate Teaching Assistantships and/or reward students for exceptional

achievement. These awards are by nomination from faculty and department heads.

D. Graduate Research Assistantships

Some faculty have research grants that allow them to appoint graduate research assistantships (GRAs). GRAs may be awarded for work on a specific grant-funded project at the discretion of the advisor.

E. Foreign Students

The Center for International Education (CIE, 4-3177 <https://cie.utk.edu/>) is responsible for keeping track of international students. Most faculty members are unfamiliar with the laws that pertain to students who are not citizens of the USA. If you have a question regarding a decision that could affect your visa status, please check with the CIE. Don't rely on your advisor or on the EEB office staff! See Appendix 3 for a few other helpful details.

F. Research Funding

Numerous agencies and foundations offer outside research support. Students are strongly encouraged to be pro-active in seeking outside funding. Recent students have been successful in receiving awards from NSF (Graduate Fellowship, Dissertation Improvement Grant (now discontinued, but stay tuned), East Asia Pacific Summer Institute), the EPA (Star Fellowship), the Smithsonian Tropical Research Institute, the American Museum of Natural History, Sigma Xi, and various professional societies. Often you will need to work hard to find funding sources; the University Office of Research provides links to many additional funding sources.

External research grants awarded to students are frequently administered by the University and/or through an account set up in the Department. In these cases, even though a grant may be awarded to you, your advisor must sign off on purchases.

V. Resources

A. Department and Division

1. Mail, Changes of Address.

Incoming mail for graduate students should be addressed to:

Department of Ecology and Evolutionary Biology
569 Dabney Hall
The University of Tennessee
Knoxville, TN 37996-1610.

The University mailroom delivers mail to EEB once a day, and the office staff distributes the mail to student mailboxes in Dabney. You should check your mailbox on a regular basis (at least once a week) for important notices. Students may send outgoing mail for professional and academic business only. Mail may be sent out from pick-up boxes in the Dabney and Hesler offices. Any student abusing this privilege by sending out personal mail will be immediately reprimanded and have the privilege removed.

Each student must also acquire an e-mail account by applying through the University Web site. Most of the important announcements are made only via e-mail.

Every student must keep the department office notified of his or her local address. University notices, including information about registration and fees, are mailed to the local address. Also, after graduation, each student needs to leave a forwarding address (and, if possible, phone number) with the advisor and secretarial staff.

2. Offices and Keys

Office space is usually allocated in the laboratory of an advisor or in other EEB space, both of which are made in consultation with the Head of EEB. Keys for offices and buildings require official Departmental and College approval, using forms requested from the Administrative Secretary (currently, Janice Harper). Keys are checked out of the UTK Key Shop to individuals and they must be returned to the Key Shop when an individual can no longer justify retention of the key. Upon leaving the University, all keys must be returned in order that a student (a) receive his or her final pay check, (b) receive the degree, and (c) have access to official transcripts from the University records office. Do not loan keys to others, and do not give a key to the next user of a given office. Each individual student will be held accountable. In addition, blocking open locked building doors (e.g., to allow others to enter or to meet a class for a review session) is grounds for loss of key privileges.

Entrance into certain areas of campus buildings requires a security code. To get a code, you fill out a form in the departmental office; the form must be cosigned by your advisor and the Head of EEB. If you block open a door that is controlled electronically, the Central Alarm office will send a police officer to check. The department will also be notified. It is not to your advantage to stimulate such a course of events.

3. Telephone

Phones for local use (both University and city) are located in or near all student and Departmental offices. These phones only operate for outgoing long distance calls if you dial

an 800 number (they accept phone credit card numbers).

4. Copy Machines

Copy machines are located in the Departmental Office (Dabney, Room 569) and the division of Biology office (Hesler, Room 402). Both machines operate on a numerical code system. Codes are given to each graduate student at the beginning of the academic year, with a given page allocation per semester. These copies are intended for research purposes. This balance will be coded into the machine that you choose. The Department pays for these copies, which should only be used for academic business. A student who has used all allocated copies prior to the end of the semester can purchase further copies through the EEB office. Copying for personal business may be arranged (and paid for) through EEB secretaries.

Copying that is related to your teaching responsibilities should be done by the appropriate administrative assistants; please give them the material at least a day before it is needed. GTA's are not expected to use part of their copy allocation for teaching purposes.

5. Conference and Seminar Rooms

Conference rooms (Rooms 427 Hesler and 488 and 575 Dabney) are available to graduate students for thesis or dissertation committee meetings, informal seminars or workshops. The commons rooms in Dabney and Hesler are available for informal interactions; they have comfortable seating, a refrigerator, microwave, and sink. If you need to use a conference room for an official meeting, you need to make a reservation for a specific date and time; Karin Grindall makes the room reservations.

6. Departmental Computers

EEB no longer has a computer lab, but we do have a mobile computer lab for teaching. The Office of Information Technology (OIT) maintains labs around campus and can give you support for your computer needs. <https://oit.utk.edu/labs/>

7. Supplies

Materials for teaching and research (e.g., pencils, pens, paper, letterhead stationary) are available to graduate students and may be checked out from administrative assistants in the department. These materials should not be used for personal business.

8. Travel

The Graduate School offers financial aid to help defray expenses of students to attend one professional meeting each year. Application forms for this fellowship are available through the Graduate School. If you have been invited to give a talk, tell the Head as soon as you have accepted the invitation. We will work with you to assist in getting your expenses covered.

A travel authorization must be filled out at least two weeks before leaving on a work- or school-related trip, whether or not you are requesting UT support for the travel. Reimbursement is claimed by bringing original receipts to Gisela Goeritz within 30 days of returning from a trip. Students cannot claim reimbursements for other students; (except as listed in #3 below). Each student must claim for his or her own expenses. Receipts are needed for **ALL** expenses \$50 and above. NOTE: **ALL** receipts claimed must be itemized (show items paid for) and show

proof of payment (must show amount paid and show that it was paid).

Other:

- (1) For overnight trips, even if not claiming expenses, traveler must supply information regarding mode of transportation and location of lodging. Travel will not be approved without this info.
- (2) When using personal vehicle, a mileage log (or similar) should be submitted that shows odometer reading at start and ending of each location as well as name of location. When submitting receipts for gas purchase, all receipts must be submitted no matter what the cost (i.e., under \$50).
- (3) If using a rental car agency instead of the Motor Pool, any damage waiver insurance purchases is considered personal and not reimbursable by the university.
- (4) Lodging receipts must show location, name, address, and date(s) of stay. Travelers can split hotel bill if proof of payment by each traveler is shown. Otherwise the name on the hotel receipt is the person that gets reimbursed.
- (5) Prepayment for airfare and registrations as well as travel advances are available. However, request must be submitted 2 weeks in advance. See Marva for details.
- (6) Other non-personal expenses not listed above are eligible for reimbursement, i.e, tolls, parking, taxis, etc. So, the best policy is to keep receipts for all expenses incurred.

9. Vehicles

EEB owns boats of varying sizes that may be used for graduate research. These may be signed out through the Department office following permission by the Head.

Cars and vans are also available through the UTK motor pool. Reservations and billing must be arranged well ahead of time through the department office. If you want help with transportation to a meeting that is within driving distance, we will try to provide a vehicle. We are more likely to be able to reserve one with greater advance warning. Usually, a minimum of three individuals justifies use of a car, five for a mini-van, and six or more for a full-sized van. Only UTK employees are allowed to drive UTK vehicles.

10. Graduate Student Organization- G.R.E.B.E. (Graduate Researchers in Ecology, Behavior, and Evolution).

G.R.E.B.E. is the graduate student organization for the Department of Ecology and Evolutionary Biology. It serves to represent and inform graduate students concerning important issues and to organize various social and academic events as a means for interaction and exchange of ideas among students, faculty and Departmental staff. Membership is open to all graduate students in the Department and other graduate students whose research is under the guidance of a faculty member in the Department. G.R.E.B.E. holds competitions for travel and research support for its active members. Here is their webpage, a great resource: <https://grebeemail.wixsite.com/grebe>

11. Other Resources

a. EEB resources. Faculty have a wide variety of equipment and resources. Equipment such as radio telemetry devices, spotting scopes, cages, online dataloggers, etc. may be used for student research depending on availability and permission from individual faculty. Equipment is loaned to students with the agreement that it will be returned in at a designated

time and in the same condition in which it was checked out. Any items that are returned in damaged or otherwise unacceptable condition are the responsibility of the student. Many local resources may prove useful for interactions with professional colleagues and for pursuing research in different areas. These include: The Environmental Sciences Division of Oak Ridge National Laboratory (ORNL), the National Park Service (NPS), and the Tennessee Valley Authority (TVA). Various faculty in the Graduate Program have long- term research projects with these institutions and may be able to assist in your inquiry.

b. University resources.

Most Biology books and journals are housed in the main library (Hodges Library) or the Agriculture-Veterinary Medicine Library. Holdings of these and other University libraries can be accessed via an on-line catalog if you use a UTK computer account. Electronic journals are listed at www.lib.utk.edu:90/ej/. Library holdings are augmented by Reference Services and Interlibrary Services, both of which are very useful for library research of obscure publications. The main library also includes 308 graduate student carrels, available by application through the administrative offices of the library.

Library Express will deliver books and bound journals to the department office in Dabney 569 or to the Biology office in Hesler 402. Jamie Neill will send you an email if something arrives for you in Hesler. *Library Express* will also pick up and return such materials. However, they must be notified; they won't just pick up stuff that is sitting in the office. If you don't arrange for your journals to be picked up in time for the due date, you must return them yourself or pay a fine. You can return them to the library or to a dropbox near the main counter in the University Center.

Because generous free copying is available in the departmental offices, charging library copying to the departmental account is discouraged. Any such charges that are received by the EEB will be billed to the student, plus a 15% handling charge.

2. Computer Facilities and Services

The UTK Office of Information Technology provides comprehensive services and products to computer users throughout the University of Tennessee system. The OIT also offers short courses and access to web-based instruction, all of which is available to GTAs.

3. Parking

Details of rules and regulations of University parking may be found in the Graduate School Catalog. Generally, graduate students who are registered full time and in good standing at UTK are eligible for to buy a campus parking permit for a specific lot. Permits may be purchased during registration

VI. University Regulations

A. Protocol for Use of Live Vertebrates

In order for UTK to be eligible for grants from major funding sources (e.g., NSF, NIH, USDA), the use of vertebrate animals and human subjects is strictly regulated. Neither laboratory nor field research involving living vertebrates may be conducted without approval by the University Institutional Animal Care and Use Committee (IACUC). This includes research that requires only the observation of animals. Research involving human subjects, even if it entails only asking people to complete a questionnaire, also requires institutional approval. Applications for approval must be submitted by the research advisor although the student may be asked to fill out the necessary forms and may act as co-PI on the application. All personnel (including students in a class or volunteer assistants) must be listed in the protocol. Everyone listed must have passed an examination administered on line through IACUC, a cursory health check administered by the Occupational Health Program Nurse (this involves mainly filling out a form, and it can be waived), and a statement documenting the individual's training for the work to be done. Training records must be maintained by the research advisor. Approval may take a month or more so it is essential to plan ahead. The IACUC web site which contains information and the necessary forms is: <http://iacuc.tennessee.edu>.

There are strict rules as to where and under what conditions animals can be maintained and IACUC inspects twice a year. This is part of a national program. Both NSF and NIH require approved protocols for funding, and most publications now require a statement to that effect in papers that report research that employed live vertebrates. Every three years, an external review team from the national organization that oversees all of this visits campus to check for compliance. Failure to be in compliance can mean the loss of federal funding for research and possible termination of a research program.

B. Academic Honesty

As stated in the Graduate School Catalog, "Academic integrity is a responsibility of all members of the academic community. An honor statement is included on the application for admission and readmission. The applicant's signature acknowledges that adherence is confirmed". The graduate program abides by all rules and regulations of the university regarding academic honesty. Any violations will be fully investigated when suspected and prosecuted as necessary.

C. Sexual Harassment

EEB is committed to creating a safe working and learning environment. Sexual harassment is illegal and University policy prohibits University employees and students from engaging in sexual harassment. The University has a very extensive and detailed description about policies and procedures concerning sexual harassment that was revised in 2016 and is now in effect. A summary of the changes can be found here:

<http://images.utk.edu/email/oed/082016-titleix.html>

The Policies and Procedures can be viewed or downloaded as a PDF on the OED website:

<http://sexualassault.utk.edu/university-policy-procedures/>

A student who is the victim of sexual harassment should report it to any member of the faculty or one of the offices listed at the OED web page above. The Head of EEB will do everything in

his or her power to make sure that a student who reports harassment is protected from negative repercussions.

Graduate students, particularly GTAs, are in the difficult position of being both potential victims and potential perpetrators of sexual harassment. Sexual harassment can occur between any combination of age, status, and genders. A GTA who is romantically attracted to a student for whom he or she is an instructor must wait until grades have been submitted before acting on that attraction.

Importantly, GTAs are often the first (or only) person to hear student complaints, and under the current UTK policy, GTAs are “mandatory reporters.” Mandatory reporters must report an incident confided to them to the University, including student names, even if the student(s) requests confidentiality. Please familiarize yourselves with this new policy (pages 32-33 in PDF above).

The legal definition of sexual harassment follows:

Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when:

1. submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or status in a course, program, or activity;
2. submission to or rejection of such conduct by an individual is used as a basis for employment or academic (grades, academic progress, internships, etc.) decisions affecting the individual; or
3. such conduct has the purpose or effect of substantially interfering with an individual's work performance, academic performance, or creating an intimidating, hostile, or offensive work environment.

*(Section 703, Title VII Civil Rights Act of 1964; Title IX, Educational Amendments of 1972)
Please see the University's more stringent description on the website listed above.*

D. Smoking and other forbidden acts

Federal, State and University regulations prohibit smoking in University buildings, eating or drinking in laboratories or classrooms, and storage of food in refrigerators that are also used to store chemicals. In addition, dogs (except service dogs), cats, birds and other pets are not allowed in University buildings.

E. Early Termination/Withdrawal

If a student is terminated or withdraws from a program prior to the end of the semester, the student will be responsible for payment of tuition and other fees from the termination/withdrawal date until the end of the semester. The responsibility for paying tuition and fees will apply to all students, including those who have tuition waivers during the semester in which they are terminated/withdraw early. Please see the graduate catalog for additional information about early termination/withdrawal

at: http://catalog.utk.edu/content.php?catoid=23&navoid=2827#fees_fina_assi and <https://onestop.utk.edu/withdraw/>. If you are considering early withdrawal, you should contact the Bursar's office to inquire about the financial ramifications for early withdrawal.

VII. Oddities, Expectations, and Further Reading

A. What is independent research?

The definition of "independent research" differs between fields. For the purposes of EEB, this term refers to research in which the student plays the primary role in formulating the questions, designing the experiments, collecting the data, analyzing and interpreting the data, and writing up the whole thing. In many cases, the initial idea may have been contributed by the advisor, and the work may dovetail into the advisor's research program. The PhD degree needs to represent independent research because we are trying to train independent scientists. The MS research should have a substantial independent component. By this we mean that students should not be treated as technicians.

B. Expectations

1. Advice for both MS and PhD students

You should expect your advisor to pay attention to your academic needs. Each student is responsible for his or her progress but the advisor should not be an obstacle. If you feel that you are not getting adequate attention from your advisor, or if the attention is in some way unsuitable, please talk to a member of the Graduate Committee or the Head or Associate Head. If you need the conversation to be confidential, just tell us.

We are trying to train future colleagues. The more you behave like a colleague, the easier it will be for all of us. In particular, it is much easier to work with a student who keeps committee members up to date, either through annual meetings or through more frequent individual visits. If you are in the field, send emails to everyone; don't feel that you have to wait until you have exciting results. Make your committee members feel needed.

2. Mostly for PhD students

As you advance through your training, you also need to pay attention to the outside world. Begin to attend meetings as soon as possible; GREBE provides funds to help students to attend meetings when they are too junior to have data to present. If you have a modest amount of data, present the results in a poster at a regional meeting, or give a talk. Seek out opportunities to discuss your research in public, starting with lab meetings and presentations to undergraduates, and working up to talks at meetings. If you start early, you will get over your anxieties for important talks. By the time a student defends a PhD, public speaking should be like falling out of bed (but more common).

Another important part of attention to the outside world is networking. You need to meet senior and junior people in your field. By attending meetings regularly, you will socialize with students from other schools and quite likely some of these will pursue the same career paths as you, so they will be important contacts for decades to come. You should also talk to senior people; if

you are presenting a talk or a poster, invite the senior people to attend. This is flattering to them and makes it more likely that they will remember you. Request comments on final drafts of your manuscripts from faculty at other institutions. These contacts could be critical when you start looking for a postdoc.

Don't wait till you have scheduled your defense to search for further employment. Ideally you should take a few weeks about a year before your defense to put your ducks in a row regarding your future. You need to find people with whom you'd like to work, get at least one of them interested in sponsoring you, and start applying for money. A big difference between EEB-type fields and molecular biology is the availability of money; it takes a lot of planning to get further employment in our field.

C. Exceptions to the Rules

Occasionally, for health or other reasons, a student will find it necessary to deviate from established procedures. Exceptions to EEB graduate policies and procedures may be made by submitting a petition to the Graduate Committee and the EEB Department head who will consider the request. An informal meeting with the student and the student's faculty advisor may be arranged prior to submitting a formal petition.

D. Further reading

These are incomplete citations but are adequate to allow you to find the books:

- Bloom, D. F., Karp, J. D., & Cohen, N. (1998). *The Ph.D. process: a student's guide to graduate school in the sciences*. New York: Oxford University Press.
- Feibelman, Peter J. *A PhD is not enough! A guide to survival in science*. Basic Books, 2011.
- Medawar, Peter Brian. *Advice to a young scientist*. Basic Books, 2008.
- Peters, R. 1997. *Getting What You Came For: The Smart Student's Guide to Earning an M.A. or a Ph.D.* New York: Farrar, Straus and Giroux.
- Schimmel, Joshua. *Writing science: how to write papers that get cited and proposals that get funded*. Oxford University Press, 2012.
- Zinsser, W. 2006. *On Writing Well. The Classic Guide to Writing Nonfiction*. Collins. NY, NY.

Appendix 1. Benchmarks for satisfactory progress in assessing the Annual Progress Reports

Because every student's goals and background are different, the following guides represent standards rather than absolutes. First and second year students will probably focus on items near the top of the list, whereas items further down the list are increasingly important for more senior students. The annual progress report that you submit 15 Sept. each Fall should address the topics in this list. Students who receive two annual assessments of "Unsatisfactory Progress" will be dismissed from the program.

- Pass CORE and other courses with at least a 'B' or risk getting an *Unsatisfactory* at your Annual Review.
- Receive satisfactory ratings of teaching from students and faculty supervisor.
- Participate actively in seminars and lab group meetings.
- Conduct independent outside reading of major works in your field.
- Choose a research project.
- Form a committee.
- Apply for relevant permits.
- Apply for external funding.
- Receive funding.
- Collect data (pilot data at the start).
- Have thesis or dissertation proposal approved by committee.
- Fulfill all obligations required in GTA contract and teach assigned courses to the best of your ability.
- Hold timely and regular committee meetings. Satisfactory progress requires that students meet with their committee at least once each year.
- Give presentations at regional or national professional meetings.
- Early presentations might be based on preliminary work conducted in collaboration with the advisor; later ones should be based on dissertation work.
- Write and defend MS thesis by the end of Year 3.
- Ph. D. students successfully pass Advancement to Candidacy Exams no later than the end of the fifth semester after starting in the PhD Program.
- Apply for postdoctoral positions at least one year before graduation.
- Write and defend PhD dissertation during Year 4 or 5.

Appendix 2. GTA Expectations statement

Division of Biology GTA Feedback, Evaluation, and Support

The University of Tennessee, Knoxville, has hired you as a Graduate Teaching Assistant (GTA); these positions are an essential part of the educational mission of the University and your graduate professional development. GTAs have a huge impact on undergraduate students; they are often the instructor that students get to know best. Your teaching helps students understand ideas they will need as voting citizens, biology majors, or future researchers. You will also learn critical instructional skills that enhance your oral communication abilities. Fulfilling your responsibilities as a GTA is important to you, students, and the biology departments! This document clarifies the criteria by which departments will evaluate your performance as a GTA and outlines the process for feedback and support as you develop your teaching skills.

All GTAs are expected to meet their obligations as UTK employees, as specified in University Policies: <http://catalog.utk.edu/content.php?catoid=17&navoid=1763>

Below are typical* expectations for GTAs in Biology:

1. Teaching up to three labs or discussion sections, providing lecture or lab support, or a combination of the above per semester. A GTA is a part-time appointment, typically 20 hours / week. On a week-to-week basis your hours may vary, but should average no more than the percent appointment time for your position over the whole semester.
2. For many teaching assignments (once again, however, your course supervisor should make these responsibilities clear) 20 hours per week includes teaching plus holding office hours for students, grading student work, posting grades, answering student e-mails, creating course assessments, and planning for your teaching. These tasks are essential to the success of your students and must be done promptly and regularly. Expectations, for example, may be to check and respond to student or course supervisor e-mails within 2 working days or to post graded student work within 1-2 weeks.
3. Your GTA assignment starts the Monday before classes start (or for some courses, earlier) and lasts through the end of finals. Unless excused by your department and course supervisor, you are expected to be in town to attend the pre-semester organizational meeting, to teach each week of the semester, and to assist with grading, grade entry, or exam proctoring through finals.
4. For multi-section labs and discussions, adhering to course policies and delivering the course material in a manner consistent with other GTAs is critical for curricular integrity and student learning. Many courses of this nature coordinate and communicate this information via weekly preparation meetings. Attendance at these meetings is essential and absences must be excused in advance by the course supervisor. Unexcused absences may result in a verbal warning (see below).

*"Typical" is hard to define, so please clarify your specific responsibilities with your course supervisor. Your course supervisor is the faculty member who is directing the course you are teaching, not your faculty mentor, and all questions about teaching expectations and absences should be directed to your course supervisor.

Feedback and Evaluation

- You should expect and receive teaching feedback from your course supervisor. This may include student feedback or teaching observations. If you want feedback in writing, please let them know.

- If, DURING the semester, your course supervisor thinks you are not meeting your teaching expectations, they will give you a verbal warning with specific recommendations for improvement. If those expectations are not met, a written warning to the departmental graduate affairs representative will start a process of outlining corrective actions.
- Each department will provide a yearly evaluation of your performance as a GTA based on written feedback from your course supervisor (which may include student feedback or teaching observation information) and student evaluations. GTAs exceeding expectations will be eligible for teaching awards. GTAs not meeting their teaching expectations will meet with the graduate affairs committee to establish an intervention plan and timeline for improvement. In all cases, GTAs should be provided with the performance evaluation and be given a chance to appeal or amend the evaluation.
- GTAs not meeting teaching expectations after an intervention may lose their GTA position.

The Division of Biology is committed to supporting your teaching abilities. If you encounter challenges, you should request assistance from your department's graduate affairs representative or Department Head. The Division also offers teaching workshops (contact Dr. Stephanie Madison (smadiso2@utk.edu)).

Appendix 3. For international students that have advanced to candidacy

(thanks to a former international grad student)

When foreign students start enrolling for EEB 600 credits, we all have to enroll continuously (including over summer) until the end of our PhD program. As foreign students under F1 visas, we also have to maintain full-time enrollment, which means 9 credit-hours in general and only 6 credit-hours provided that we have an employment contract of 20 hours a week on campus (GTAs or NIMBioS GRAs positions, for example).

Depending on when we start enrolling for EEB 600, that could mean that we have to go way above the 24 credit-hour requirement for EEB 600, thus potentially having to pay substantial extra tuition for no good reason.

It's actually possible to request a "below full time enrollment" permission from the CIE, hence maintaining proper visa status while avoiding unnecessary costs. It is very simple and the only thing that needs to be done is filling the form I linked below, having it signed by the student's advisor and handing it back to the CIE (front desk) at the time of enrolment.

<http://international-utk-edu.wengine.netdna-cdn.com/files/2015/12/Below-Full-Time-Form-20151207.pdf>

As you can see, other reasons for below full-time enrollment are also possible (such as academic difficulties or end of program).

The form needs to be submitted before the start of classes for the semester in which you want reduced hours (they said that it would probably be ok up to one week in, due to time it takes them to check enrolments).

Also, in general, potentially useful visa-related forms can be found here:

<https://international.utk.edu/forms/>