

TROPICAL CONSERVATION BIOLOGY AND ENVIRONMENTAL SCIENCE GRADUATE PROGRAM

MISSION STATEMENT

The primary purpose of the M.S. in TCBES is to provide graduate training in conservation biology and environmental science to people with baccalaureate degrees and others currently working in the field. The program utilizes the extraordinary biological, physical and cultural complexity on the Island of Hawaii as a focus of investigation and study. The program prepares students for technical positions and for entry into Ph.D. programs in related fields.

PROGRAM OBJECTIVES:

- Foster knowledge of current trends and issues in conservation biology and environmental sciences including basic and applied research and natural resource problems;
- Provide participants with experiences in conceptual and technical research in ecology, evolutionary genetics, geographic analysis, environmental monitoring and assessment in marine and terrestrial environments;
- Promote research and scholarly activities that will enable participants to enter the scientific research community.

Participants of the Program will:

- Perform scientific research in the interdisciplinary field of conservation biology and environmental science;
- Develop skills in natural resource and protected area management;
- Use advanced technological equipment, perform quantitative analyses and interpret complex data;
- Present scientific results in oral and written publications;
- Interpret and critique professional scientific literature.

A GUIDE TO COMPLETING YOUR MASTER'S DEGREE IN THREE YEARS OR LESS

Semester 1 (Fall)

Your first semester is about settling into the TCBES program, completing course work, and thinking more about what you want your thesis research to be. You should meet regularly as a lab group, and one-on-one with your advisor. You should spend time reading journal articles to help you focus your research interests; our one-on-one meetings will include discussion of your interests and questions you have about the papers you read. By the end of the semester your advisor and you should have a very good idea about what your thesis focus will be. Depending on how fast things progress, and your interests, you may even begin some preliminary data collection or analysis. By the end of the semester you should be able to congratulate yourself on a job well done, and take a nice long holiday break to come back refreshed for your second semester.

Semester 2 (Spring)

For your second semester, you will complete your required course work, and one or two electives. You should continue to meet regularly as a group, and one-on-one as needed. You have two major goals for your second semester: 1) Establishing your thesis committee, and 2) Completing your thesis proposal. The latter can also be completed over the summer, but you should not wait any longer in order to finish your Master in maximum three years.

The committee: Along with your primary supervisor, it is typical to have two committee members (Thesis track only). However, more than two are allowed. Two committee members must be UHH faculty and a 3rd member can be an affiliate or adjunct. Affiliate faculty do not have to be based at UHH, and may be faculty at another institution, or can belong to another organization. For example, researchers from US Geological Survey (USGS), or US Fish and Wildlife (USFWS) often serve on graduate committees. However, your non-faculty member must send a CV and a letter explaining its motives to become adjunct or affiliate faculty at UH Hilo to ostertag@hawaii.edu. A reminder will be sent every Fall semester. The TCBES faculty and graduate council will vote and if accepted, the Dean will appoint the member. When choosing your committee, it is a good idea to aim for a well-rounded team where members are able to offer complimentary knowledge and skill sets that relate to your thesis. You should discuss options for committee members with your advisor before making requests.

The thesis proposal: Do not underestimate the value of a well-constructed research proposal, or the amount of time and effort it will take to write one. A good thesis proposal will tell a story, and will justify your thesis research. It should start with a big picture concept and follow-up question. It will include a literature review connected to the big picture concept, and a justification as to why your study system is excellent for addressing the follow-up question. It should then identify the specific goals of your thesis, your hypotheses, and the methodology you will use to test your hypotheses or answer your questions. It will include a timeline for completing the research and writing the thesis, and it will include a detailed budget. Your proposal is a working document, a plan for executing your thesis research. It is very likely that some things will change between your proposal and your actual research – that is the nature of research; things don't always work the way we expect (if we had all the answers, there would be no need for research). But the point is, you cannot begin research without first having a very good plan for how to proceed. By the end of Semester 2, you should have a proposal or a very good draft that you are ready to present to the entire committee. Note also that your final thesis structure will include general introduction (hopefully based on your thesis proposal, but again, expect that some things will change), two or maximum three data chapters, then a general discussion. Generally, you should expect to submit 2-3 proposal drafts to your advisor for comments/suggestions before submitting it to the rest of the committee. You should give your committee at least a week to review it before we meet as a group for your "Thesis Proposal Committee Meeting". During this meeting, you will give a short presentation or discuss the general outline of your proposal. Then each committee member will have a chance to ask questions and/or make recommendations. After the meeting, you will likely need to make revisions to your proposal before it can be submitted to the Graduate Division (note that it does not have to be submitted by the end of Semester 2, but it **MUST** be submitted before the end of Semester 3).

In addition to the two major goals described above, Semester 2 offers a great opportunity to present at the annual TCBES symposium, which usually happens in early April. Depending on your progress, you may choose to present a 5-minute proposal talk, or a 15-minute research presentation. In Semester 2, a 5-minute presentation may be most appropriate for this particular symposium. See the TCBES website for more detail: <http://tcbes.uhh.hawaii.edu>

1st Summer

One way that graduate programs usually differ from undergraduate programs is that you don't get the entire summer off. Semester 3 is important for conducting research and/or data analysis for your thesis. If for some reason you were unable to complete/present your thesis proposal in the previous semester then you **MUST** do so before August so that you are able to register for thesis credits in Semester 3. There are some local conferences that happen during the summer that you may wish to attend or present at. You should also plan to take some time off (remember throughout your program that a M.Sc. is a lot of work, but you should also try to maintain a good work-life balance). You may not have regular group meetings during the summer.

Semester 3 (Fall)

You should have presented your thesis proposal to your committee, and hopefully they have signed off on it and you have been able to submit it to the Graduate Division (Form 2). In Semester 3 you should continue to meet as a group with your lab, and one-on-one with your advisor as needed. You should plan to spend most of your time on thesis-related research (and course work if/as necessary), data analysis and writing. By the end of the semester you should be able to congratulate yourself on a job well done, and take a nice long holiday break to come back refreshed for your fifth semester.

Semester 4 (Spring)

In Semester 4 you will continue to meet as a group for lab meetings, and one-on-one as needed. You should plan to spend most of your time on thesis-related research (and course work if/as necessary), data analysis and writing. You should plan to present a 15-minute research talk at the annual TCBES symposium in April. If you are well ahead in your research you can apply to Fill and submit the Thesis/Project/Dissertation Defense Schedule form by the deadline at <http://hilo.hawaii.edu/registrar/currentterm.php> to defend your Master's thesis in time (see defense deadlines at same link).

2nd Summer

The 2nd summer is all about your thesis. You should plan to spend most of your time on thesis-related research, data analysis and writing. If you defended your thesis in Spring, you should finish your thesis dissertation and submit Form 3 by the deadline at <http://hilo.hawaii.edu/registrar/currentterm.php>.

Additional time

It is **NOT** unusual for a Master's program to take longer than two years. However, by thinking about and planning your thesis research early in the program, hopefully we will not require many more semesters for a finished thesis. We should work hard to ensure that you are able to complete your degree requirements within eight semesters.

TIMELINE FOR THE COMPLETION OF THE TCBES M.S. PLAN A (THESIS TRACK)

2 years track	3 years track	Goals:
1 (Fall 1)	1 (Fall 1)	<ol style="list-style-type: none"> 1. Discuss plan of thesis projects with advisor 2. Core courses and electives credits taken (min 7 credits) 3. Thesis Committee Selection
2 (Spring 1)	2 (Spring 1) Summer	<ol style="list-style-type: none"> 1. Fill and Submit Form 1: Graduate Committee Formation 2. Discuss thesis projects with committee 3. Thesis Proposal Writing 4. Core courses finished, more electives credits taken
Summer	3 (Fall 2)	<ol style="list-style-type: none"> 1. Thesis Proposal Approval by committee 2. Fill and Submit Form 2: Thesis/Project/Dissertation Proposal 3. Fill and Submit Thesis/Dissertation Form for Graduate Level Degrees (700 and 800) before the first week of Fall semester in order to take Thesis credits
3 (Fall 2)	4 (Spring 2)	<ol style="list-style-type: none"> 1. Discuss thesis projects with committee 2. Thesis and Electives credits taken
4 (Spring 2)	Summer/ 5 (Fall 3) 6 (Spring 3)	<ol style="list-style-type: none"> 1. Fill out Graduation Application form early (even if you are not a 100% this Spring or Fall). See deadlines 2. Course work complete and confirmed with committee 3. Thesis completed 4. Fill and Submit Thesis/Project/Dissertation Defense Schedule by the deadlines to defend on time
4-6 (Spring/Summer 2)	6 (Spring 3) Summer	<ol style="list-style-type: none"> 1. Master's thesis defense/approval 2. Fill and Submit Form 3: Thesis/Project/Dissertation Completion

TIMELINE FOR THE COMPLETION OF THE TCBS M.S. PLAN B (NON-THESIS TRACK)

2 years track	Goals:
1 (Fall 1)	<ol style="list-style-type: none"> 1. Discuss plan of study and internship or thesis projects with advisor 2. Core courses and electives credits taken
2 (Spring 1)	<ol style="list-style-type: none"> 1. Fill and Submit Form 1: Graduate Committee Formation 2. Discuss internship (Fill and Submit the Graduate Internship Form) 3. Core courses finished, more electives credits taken
Summer	<ol style="list-style-type: none"> 1. Break or Internship credits taken
3 (Fall 2)	<ol style="list-style-type: none"> 1. Electives or Internship credits taken 2. Internship completed
4 (Spring 2)	<ol style="list-style-type: none"> 1. Fill out Graduation Application form early (even if you are not a 100% this Spring or Fall). See deadlines 2. Course work completed and confirmed with advisor 3. Fill and Submit Thesis/Project/Dissertation Defense Schedule by the deadlines to defend on time
4-6 (Spring/Summer 2)	<ol style="list-style-type: none"> 1. Master's project presentation/approval 2. Fill and Submit Form 3: Thesis/Project/Dissertation Completion

FORMS

All Graduate forms available at: <https://hilo.hawaii.edu/registrar/forms.php#gradforms>

- Form 1: Graduate Committee Formation
- Form 2: Thesis/Project/Dissertation Proposal
- Thesis/Project/Dissertation Defense Schedule
- Room reservation for Thesis/Project/Dissertation Defense
 - For Defenses Monday-Friday 8am-4pm:
 - Most buildings: CAS Secretary, Lisa Mendoza lmendoza@hawaii.edu
 - Agriculture: CAFNRM Secretary, Marsha Oshiro marsha@hawaii.edu
 - For Defenses Monday-Friday after 4 :30pm and Saturday-Sunday:

Fill form *5 days in advance minimum at
<https://hilo.hawaii.edu/academics/ccecs/CCECSRooms.php>

Return:
 - By email: ccecs@hawaii.edu
 - By fax: [808-932-7831](tel:808-932-7831)
 - Hand delivered: PB-6 Rm 103

***The form does need to be completed with advisor's information & signature on the bottom.

- Form 3: Thesis/Project/Dissertation Completion
- Petition to Substitute and/or Waive Courses - Graduate
- Permission to Register in (Subject) 500 Course
- Directed Reading or Research Course Form for Graduate Degree Courses (599V, 699V and 799V)
- Graduation Application
- Student Overload Approval Form Graduate Program
- Graduate Repeat Course Notification
- Petition for Leave of Absence
- Permission to Enroll in Graduate Coursework as an Unclassified Student
- Permission to Enroll in Graduate Coursework as an Undergraduate Student
- Petition to Continue from a Master's Program to a Doctoral Program
- Recommendation for Admission to Candidacy for a Doctoral Degree
- Thesis/Dissertation Form for Graduate Level Degrees (700 and 800)
- Graduate Internship

ROOM ACCESS AND EMAIL LIST

- To be removed or added onto the TCBES-All and -student email list, email Becky Ostertag at ostertag@hawaii.edu
- Salto key cards: One salto key card will be given to you during orientation week, this will give you access to the Graduate Room. Access renewal are every two years on August 15. If your card does not work, it might need to be re-activated after the two years period. If you need to get access to other lab or rooms, you need to ask directly your supervisor.
***SAVE the PLANET and give your salto card back at the end of your studies as it is plastic but can be re-used!!! ***
- Room key: Fill out the form at <https://hilo.hawaii.edu/auxsvc/> with the appropriate signatures and return it to the Auxiliary Services

LABORATORY SAFETY TRAINING

- Discuss your need with your advisor and contact Ken Ikeda from the Environmental Health and Safety Office (EHSO) at (808) 932-7638 or by email at keni@hawaii.edu to request a training session.

PROGRAM CURRICULUM

Total Credits Required:

- Plan A = 30 credits • Plan B = 36 credits

Core Courses (8) credits required for all M.S. TCBES students):

- CBES 600 (3) Conservation Biology and Environmental Science
- CBES 601 (3) TCBES Field and Laboratory Methods
- CBES 602 (1) Research Seminar in TCBES
- CBES 603 (1) Natural Resource Management Seminar

Elective Courses*:

Plan A: 16 elective credits of 600-level CBES courses. Plan B: 25 elective credits of 600-level CBES courses.

**A maximum of 6 credits of 400-level courses may count toward these elective credits.*

- CBES 609 (3) Principles of Landscape Ecology
- CBES 610 (3) Environmental Chemical Analysis
- CBES 615 (3) Global Environmental Change
- CBES 620 (3) Research Techniques in Molecular Conservation Biology
- CBES 630 (3) Nearshore Monitoring and Analysis
- CBES 633 (3) Biodiversity
- CBES 635 (3) Physical Environment of Ecosystems
- CBES 640 (3) Advanced Remote Sensing and Digital Image Processing

- CBES 643 (3) Ecological Physiology
- CBES 645 (3) Applying Social Science to Marine and Coastal Resource Management
- CBES 650 (3) Oceanographic Monitoring and Analysis
- CBES 665 (3) Environmental Toxicology
- CBES 660 (3) Molecular Ecology
- CBES 670 (3) Advanced Techniques in Geographic Information Systems
- CBES 675 (3) Conservation Genetics
- CBES 677 (3) Quantitative Ecology
- CBES 680 (3) Advanced Statistical Analysis and Research Design
- CBES 681 (3) Spatial Data Analysis and Modeling
- CBES 685 (3) Behavioral Ecology and Evolutionary Analysis

WHAT GOES INTO A THESIS PROPOSAL? (Thesis track- For plan A)

Make sure to discuss with your advisor and committee members what they expect in each section. Content and structure varies with projects.

General structure of a project proposal:

Background information

Chapter's Objectives

Methods

Timeline

Budget

PROPOSAL DEFENSE

Discuss with your primary advisor and your committee members what are their expectation for the meeting and how you should prepare i.e. presentation slides, timeframe, structure of your presentation, which section to focus on, etc.

MASTER THESIS/PROJECT DEFENSE

Similarly, to your proposal defense, you should discuss with your primary advisor and your committee members what are their expectation for the meeting and how you should prepare i.e. presentation slides, timeframe, structure of your presentation, which section to focus on, etc. It is important to meet you committee to discuss those things early in the semester you are expecting to graduate.

- Room reservation for Thesis/Project/Dissertation Defense

➤ For Defenses Monday-Friday 8am-4pm:

- Most buildings: CAS Secretary, Lisa Mendoza lmendoza@hawaii.edu
- Agriculture: CAFNRM Secretary, Marsha Oshiro marsha@hawaii.edu

➤ For Defenses Monday-Friday after 4 :30pm and Saturday-Sunday:

Fill form *5 days in advance minimum at

<https://hilo.hawaii.edu/academics/ccecs/CCECSRooms.php>

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***The form does need to be completed with advisor's information & signature on the bottom.

TCBES FACULTY

An updated list of the TCBES Faculty members can be found at:

https://hilo.hawaii.edu/catalog/ms_tcbes

Research and Training Facilities: <http://tcbes.uhh.hawaii.edu/support>

PROFESIONNAL BEHAVIOUR AND DEVELOPMENT

Psychological problems, not intellectual deficiencies, are the most common stumbling block in graduate school. Keep yourself engaged, motivated and on-task. Take advantage of this opportunity to develop colleagues – your fellow graduate students, faculty, and professional biologists in your area of interest. They will help keep you excited about scientific research. Schedule regular meetings with your advisor and keep her/him up to date with your progress, concerns, and any difficulties you are having. Keep in mind that your advisor (and the rest of your committee) is here to help you. They want to see you succeed almost as much as you do. If you are having problems, let your advisor know early on; he/she will appreciate your candor and may likely have some good suggestions for helping solve your difficulties.

To gain the respect of your committee, act professionally in the scheduling of and participation in committee meetings. Always follow through on commitments, however small, that you make with your committee members and other colleagues. Never underestimate how difficult it can be to get busy people together at one time for over one hour. Anticipate difficulty in scheduling people for meetings and plan ahead! Set meetings up in advance, giving each committee member sufficient notice so you can find a mutually agreeable time. Reserve a room. Shortly before the meeting, remind each member of the time, date, and room of the meeting. Committee meetings are for you. Know ahead of time exactly what you want to get out of the meeting and get feedback from your advisor. Write an agenda and lead the meeting. Take notes on decisions and recommendations made during each meeting.

All graduate students are expected to attend department-sponsored seminars and other graduate student defense seminars. Be sure to check the schedule for the TCBES Seminar Series and other seminars on campus each semester and plan to attend these.

Tips for Developing Your Professionalism

You are in this program to obtain a degree and make a difference in your field. Taking courses is one part of the big picture. Every single one of these items below is vital to your professionalism. Post them as a list of goals to achieve and work on every semester.

1. Attend seminars on campus. Every week there are several seminars on campus that have relevance to tropical conservation biology and environmental science. There is no way to attend them all. Be alert and schedule them into your plans when possible. Go to the TCBES seminar! You will learn many things and become aware of research and conservation issues in your specific area and areas outside of your specific interest. To grow as a professional, you should become knowledgeable of topics outside your specific area of interest. There will be other seminars in departments such as Anthropology, Biology, Chemistry, Marine Science, Geology, Geography, and the College of Agriculture Forestry and Natural Resource Management. There are outside UH Hilo seminars at the USDA Forest Service. You will find your own sources based on your interests.

2. Attend professional meetings. Every year students attend a number of meetings. Presenting at professional meetings is highly encouraged at the MS level. The Society for Conservation Biology is a natural meeting to attend, but students attend a diverse selection.

3. Belong to a professional society (or several). It is important that you develop these ties early. Ask your advisor for guidance. All of these societies produce professional journals and have annual meetings. They have student rates. Why should you join? There are many reasons (e.g., you will become a member of a group who will be your professional peers after graduation; you will keep up to date on research in your field (through the journal); you will begin to learn the politics of your profession). You should decide on a society and become a member by the end of your first semester.

4. Update your resume/curriculum vitae. This is your professional record and one of the most important “tools” for obtaining funding while in the program or future employment. Some have highly sophisticated CVs; others are not well prepared. Ask your student colleagues for advice and your advisor to review your CV. You should update it at least once/semester.

5. Establish an office space and use it. Do not hole up at home and deprive yourself of graduate school life. The most important thing you will get from graduate school is your interaction with colleagues, faculty and visiting scholars. Graduate school is not an extension of college; it is a way of life. If you need to study at home, do so, but leave time every day to come and interact through seminars, etc. One of the biggest mistakes new students make is to use grad school only as a route to taking more courses. If you plan only to come to campus, attend class, and go home, you are in the wrong program and field. You need to understand the culture of science. You need to engage in conversations. You need to develop friendships with your colleagues as they will be critical professional links for you in the future.

6. Obtain funding for research and graduate training. Students come into the program with a variety of funding support systems. Some of you are almost completely funded. Some have little or no funds other than personal ones. Very few of you have funds to support your research. Everyone can be funded at some level, but it will take work and creativity on your part. Obtaining funds for a living stipend, tuition or research is part of being a professional. You need to be continuously alert to sources of funding, no matter how small, because developing a funding record is also important for your professional-ism. Discuss funding support and options with your advisor.

7. Publications are important. You will be judged on your publications for any academic or research-oriented positions you seek (this includes MS students who plan to enter a PhD program as well as people seeking positions at the university level). Publications may be required and will

definitely provide an advantage for a number of other positions. Interact with your advisor regarding publications.

8. Seek opportunities for leadership and community involvement: These opportunities can be within the TCBES Program, the broader university system, or at the regional, national or international level. Some of you already have these connections. Evidence of leadership and “community” involvement is often a criterion for outside funding/fellowships and is definitely a plus when you seek employment.

STUDENT LIFE

Students in the TCBES program do more than just study; they are active members of the university and Hilo community. As a member of a vibrant group of researchers and professionals committed to scientific scholarship and conservation, TCBES students engage in a challenging and enriching curriculum while participating in a variety of campus activities and groups.

TCBES MATER Student Club

Students participant in campus life as a registered club –Tropical Conservation Biology & Environmental Sciences, Marine and Terrestrial Environmental Researchers. As a club, the TCBES MATER can access campus resources provided by the University of Hawai‘i at Hilo Student Association (UHHSAs) included funding for campus events and activities. The club also helps organize service activities and supports environmental sustainability initiatives on campus.

TCBES New Student Orientation

Designed by students for students, the new student orientation program takes place before the fall semester begins. Each year, a committee of second-year TCBES students and program faculty design a mandatory orientation for new TCBES students. The TCBES orientation introduces students to many of the resources the university and community provide, as well as the diverse cultures and ecosystems of the island. Previous TCBES students have commented that orientation is when the class bonded as a group and enduring friendships were forged.

Graduate Student Council

As one of the graduate programs at UH Hilo, TCBES student representatives meet regularly with students from other program to discuss, share and strategize ways to improve graduate student life and research opportunities. The GSC serves as an advisory panel and makes policy recommendations that are forwarded to university administration. As a member of the GSC, TCBES students are the student voice of the program.

Annual TCBES Student Symposium

The Annual TCBES Student Symposium began in 2009 to provide the opportunity for students to present their research in conservation biology and environmental science to people of the UH community and others currently working in the field. It also prepares TCBES students for professional research conferences outside of Hawai‘i. Symposium participants utilize the extraordinary biological, physical and cultural complexity on the Island of Hawai‘i as a focus of investigation and study. Students may present a poster or a PowerPoint presentation highlighting

their research. A panel of faculty judges award students prizes for best student presentation and poster which includes funds for research supplies.

Whether on campus, out in the field or in the water, our students enjoy an unparalleled quality of life while working towards their degree. In addition to the opportunities presented here, TCBES students enjoy the newly-built Student Life Center and pool, music and cultural activities at the UHH Performance Center, and share in the exciting outdoor adventures Hawai'i provides!

COMMITMENTS OF GRADUATE STUDENTS

- **I acknowledge that I have the primary responsibility for the successful completion of my degree.** I will be committed to my graduate education and will demonstrate this by my efforts in the classroom, the research laboratory, and the field. I will maintain a high level of professionalism, self-motivation, engagement, scientific curiosity, and ethical standards to include but not be limited to proper stewardship of the land and sea.
- **I will meet regularly with my research advisor and provide him/her with updates on the progress and results of my activities and experiments.**
- **I will work with my research advisor to develop a thesis project.** This will include establishing a timeline for each phase of my work. I will strive to meet the established deadlines. In the event of unforeseen circumstances, I will communicate with my advisor so that any necessary adjustments to deadlines can be made.
- **I will work with my research advisor to select a thesis committee by the end of year one.** I will commit to meeting with this committee according to the schedule established between me, my advisor, and the other members of my committee. I will be responsive to the advice of and constructive criticism from my committee.
- **I will be knowledgeable of the policies and requirements of my graduate program and institution.** I will commit to meeting these requirements, including teaching responsibilities and safety regulations.
- **I will attend and participate in laboratory meetings, seminars and journal clubs that are part of my educational program.**
- **I will comply with all institutional policies, including academic program milestones.** I will comply with both the letter and spirit of all institutional safe field and/or laboratory practices and any applicable animal-use and human-research policies at my institution.
- **I will participate in my institution's Responsible Conduct of Research Training Program and practice those guidelines in conducting my thesis research.**
- **I will be a good laboratory and field citizen.** I agree to take part in shared laboratory and field responsibilities and will use laboratory and field resources carefully and frugally. I will maintain a safe and clean laboratory space. I will be respectful of, tolerant of, and work collegially with all laboratory and field personnel.
- **I will maintain a detailed, organized, and accurate laboratory/field notebook.** I am aware that my original notebooks and all tangible research data are the property of my institution but that I am able to take a copy of my notebooks with me after I complete my thesis.

• **I will discuss policies on work hours, sick leave and vacation with my research advisor.** I will consult with my advisor and notify fellow lab members in advance of any planned absences.

Compact Between TCBS Graduate Students and Their Research Advisors

• **I will discuss policies on authorship and attendance at professional meetings with my research advisor.** I will work with my advisor to submit all relevant research results that are ready for publication in a timely manner prior to my graduation.

• **I acknowledge that it is primarily my responsibility to develop my career following the completion of my degree.** I will seek guidance from my research advisor, career counseling services, thesis committee, other mentors, and any other resources available for advice on career plans.

COMMITMENTS OF RESEARCH ADVISORS

• **I will be committed to the life-long mentoring of the graduate student.** I am committed to the education and training of the graduate student as a future member of the scientific community.

• **I will be committed to the research project of the graduate student.** I will help to plan and direct the graduate student's project, set reasonable and attainable goals, and establish a timeline for completion of the project. I recognize the possibility of conflicts between the interests of externally funded research programs and those of the graduate student, and will not let these interfere with the student's pursuit of his/her thesis research.

• **I will be committed to meeting one-on-one with the student on a regular basis as scheduled between me and my student.**

• **I will be committed to providing financial resources for the graduate student as appropriate or according to my institution's guidelines, in order for him/her to conduct thesis/dissertation research.**

• **I will be knowledgeable of, and guide the graduate student through, the requirements and deadlines of his/her graduate program as well as those of the institution, including teaching requirements and human resources guidelines.**

• **I will help the graduate student select a thesis committee.** I will assure that this committee meets according to the schedule established between me, my student, and the other members of the committee.

• **I will lead by example and facilitate the training of the graduate student in complementary skills needed to be a successful scientist, such as effective time management, oral and written communication skills, grant writing, lab management, animal and human research policies, the ethical conduct of research, and scientific professionalism.** I will encourage the student to seek opportunities in teaching, if not required by the student's program.

• **I will expect the graduate student to share common laboratory and field responsibilities and utilize resources carefully and frugally.**

- **I will not require the graduate student to perform tasks that are unrelated to his/her training program and professional development.**
- **I will discuss authorship policies regarding papers with the graduate student.** I will acknowledge the graduate student's scientific contributions to the work in my laboratory and/or field site(s), and I will work with the graduate student to publish his/her work in a timely manner.
- **I will discuss intellectual policy issues with the student with regard to disclosure, patent rights and publishing research discoveries.**
- **I will encourage the graduate student to attend scientific/professional meetings and make an effort to secure and facilitate funding for such activities.**
- **I will provide career advice and assist in finding a position for the graduate student following is/her graduation.** I will provide honest letters of recommendation for his/her next phase of professional development. I will also be accessible to give advice and feedback on career goals.
- **I will provide for every graduate student under my supervision an environment that is intellectually stimulating, emotionally supportive, safe, and free of harassment.**
- **Throughout the graduate student's time in my laboratory, I will be supportive, equitable, accessible, encouraging, and respectful.** I will foster the graduate student's professional confidence and encourage critical thinking, productive skepticism and creativity.

Student Name: _____

Student's Signature: _____

Advisor Name: _____

Advisor's Signature: _____