



**UNIVERSITY OF  
CENTRAL FLORIDA**

**Department of Biology  
Integrative and Conservation Biology Ph.D.  
Handbook**

# Table of Contents

I.	<b>Introduction</b> .....	3
	A. Independent Learning.....	3
	B. Research.....	3
	C. Academic integrity.....	3
II.	<b>General Degree Requirements</b> .....	3
	A. Track specialization.....	3
	B. Credit hour .....	3
	C. Enrollment .....	4
	D. GPA .....	4
	E. Program of study.....	4
	F. Annual report.....	4
	G. Publication requirement.....	4
	H. Ph.D. defense .....	4
	I. Academic integrity training .....	4
	J. Student orientation .....	4
III.	<b>Dissertation Advisor &amp; Committee</b> .....	5
IV.	<b>Curriculum</b> .....	5
	A. Coursework .....	6
	B. Coursework definitions .....	7
	C. Qualifying Examination .....	7
	D. Proposal Review / Candidacy Examination .....	8
	1. Proposal .....	9
	2. Proposal Presentation.....	9
	3. Public Defense .....	9
	4. Candidacy Examination Details .....	9
	E. Admission to Candidacy .....	10
	F. Dissertation Defense .....	10
V.	<b>Dissertation Requirements</b> .....	11
	A. Dissertation Submission .....	11
	B. Review for Originality .....	11
	C. Dissertation Dissemination .....	10
VI.	<b>Coursework</b> .....	12
	A. Coursework Type .....	12
	B. Coursework Schedule .....	12
VII.	<b>Academic Progress and Performance</b> .....	13
	A. Academic Progress Review .....	13
	B. Program Dismissal .....	13
VIII.	<b>Timeline for Completion</b> .....	14
IX.	<b>Graduate Research</b> .....	15
	A. Animal Subjects .....	15
	B. Ethics in Research .....	15
	C. Patent and Invention Policy .....	15
X.	<b>Financial Support</b> .....	15
	A. Graduate Assistantships .....	15
	B. Grants & Fellowships .....	16
	C. International Students .....	17
XI.	<b>Professional Development</b> .....	17
	A. Instructional Strategies and Resources .....	17
	B. Biology Graduate Student Association.....	17
	C. Graduate Research Forum .....	17
	D. Graduate Excellence Awards .....	18
XII.	<b>Student Resources</b> .....	18
	A. General Resources .....	18
	B. Useful Links .....	18
	C. Forms .....	19
	D. Research Support/fellowships .....	19

## I. Introduction

The Integrative and Conservation Biology PhD Handbook and the [Graduate Student Handbook](#) serve to guide you through your PhD. The program handbook describes details about degree requirements and curriculum specific to the ICB PhD program. The Graduate Student Handbook includes university information, policies, requirements and guidance for all graduate students. While both handbooks are useful resources, know that you are always encouraged to talk with faculty and staff both in your program and in the Graduate College.

But what is a PhD? A Doctor of Philosophy is not only a learned individual driven by curiosity, but someone who has contributed original knowledge to their chosen field. This makes novel research a central tenet of any Ph.D. program. It is through a doctoral student's capacity to conduct independent, novel research that they are assessed; it ultimately determines if a PhD is to be awarded. Independent learning is also a key component of graduate coursework, where emphasis is placed on the development of analytical skills and critical thinking. The emphasis on independence in a PhD is of the utmost importance. The central activities and missions of a university rest upon the fundamental assumption that all members of the university community conduct themselves in accordance with a strict adherence to academic and scholarly integrity. As a graduate student and member of the university community, you are expected to display the highest standards of academic and personal integrity.

Here are some resources to help you better understand your responsibilities:

[Academic Honesty](#)

[Academic Integrity Training](#) - Open to all graduate students at no cost

[Plagiarism](#)

## II. General Degree Requirements

- A. Track specialization** – Upon applying to the program, doctoral students are required to identify a track of study. Tracks have different course requirements and should be chosen according to the student's interests and research program. The track may be changed at any time during the student's tenure within the program. The tracks are as follows:

**Conservation Biology Track** – aims to understand the consequences of anthropogenic activities on biodiversity and ecosystem health, and to develop management tools directed at mitigating the impact of these activities. Conservation biologists are well suited to careers as scientific educators, researchers, and in particular managers and policy makers.

**Integrative Biology Track** – aims to understand the complexity of life by integrating research from across the continuum of biological disciplines, from molecules to ecosystems, as well as from other scientific fields. Integrative biologists are well suited to careers as managers and policy makers, and in particular scientific educators and researchers.

- B. Credit hour requirement** - Both tracks require a minimum of 72 semester hours of graduate credit, including general and track-specific required courses, elective coursework, and dissertation research. All coursework in a doctoral program must be at 5000 level or higher with a minimum of 36 credit hours at or above the 6000 level and include a minimum of 27 hours of formal course work exclusive of independent study, research and dissertation hours.

- C. Enrollment Requirements** – Students employed as a GTA or GRA must enroll for 9 credit hours during any spring or fall semester in which they are employed, and enrolled for 6 credit hours if employed in summer. Once advanced to candidacy, employment as a GTA or GRA requires only 3 credit hours of registration in each semester. Credits in excess of these requirements are not covered by tuition remission (waiver or payment from a grant). After a PhD candidate accumulates 15 credit hours of dissertation, they may enroll in a minimum of one dissertation hour per semester, with approval of the dissertation chair and if not employed as a GTA/GRA. If a student does not wish to enroll in summer, they must file for a 1 semester leave of absence with the College of Graduate Studies. A student may request up to 6 consecutive semesters of leave; however, a maximum of 3 semesters of leave can be added to the student's 7-year time limit for earning a PhD. **IMPORTANT:** All students must be registered for classes by August 1<sup>st</sup> for the Fall semester and November 1<sup>st</sup> for the Spring semester.
- D. GPA requirement** - The College of Sciences requires that students maintain a 3.00 GPA in their program of study in order to qualify for graduation. "C" grades (C, C+, C-), as well as D, D+, D-, F, and U grades, are all considered unsatisfactory grades. A student may apply a maximum total of six semester credit hours of "C" grades, or the "C" grade credits associated with at most two classes, whichever is greater, to satisfy degree program requirements. Exceeding six semester credit hours of unsatisfactory grades is grounds for dismissal for all degree-seeking and non-degree students. A grade of "I" (incomplete) is assigned by the instructor when a student is unable to complete a course due to extenuating circumstances, and when all requirements can clearly be completed in a short period of time following the close of regular classes. Grades of "I" must be resolved within one calendar year or prior to graduation, whichever comes first. Incompletes in regular course work left unresolved will be changed to "F" if not changed in the allowed time period.
- E. Program of study** – A program of study outlines the courses the student will take to fulfill their coursework requirement. It is important to involve your committee in developing this program. The form must be approved by your advisor and filed with the Graduate Program Assistant by the end of the second semester.
- F. Annual Progress Report** – The student is responsible for filing an Annual Progress Report, which is due November 1<sup>st</sup> of each year (first semester PhD students are not required to submit the report). To fulfill the report requirements, it is mandatory that the student meet with their committee once per year (January 1<sup>st</sup> – November 1<sup>st</sup>), where the majority of the committee is simultaneously present (i.e. a group meeting, including telepresence). Any committee meeting where a majority is present satisfies the report requirements, including proposal defenses.
- G. Publication requirement** – Ph.D. candidates are required to have at least one peer-reviewed paper accepted for publication and a second paper submitted based on work done while in the Conservation Biology Ph.D. program in advance of their defense. The student must be the first author on at least one paper. In the event that there is not a decision from the journals after 6 months of the submission or if the articles are rejected, the graduate program faculty will review the student's work and determine by vote if it fulfills the requirement.
- H. Ph.D. defense** – It is recommended that Ph.D. students have their public defense during the scheduled time of the department seminar and should reserve a date no later than the end of the first week of the semester during which the student intends to defend.
- I. Academic Integrity** - All newly admitted students in doctoral programs are required to complete [Academic Integrity Training](#) prior to the student's advancement to candidacy.
- J. Student Orientation** - An orientation is required of all incoming students and will be scheduled one week prior to each fall semester. Expectations for Graduate Teaching Assistants (GTA) and Graduate Research Assistants (GRA) will be covered. In addition, students will be required to participate in the program for GTAs offered by the UCF Faculty Center for Teaching and Learning and the College of Sciences. This requirement includes

Assistant and Associate TA training. An additional university orientation is also held approximately one week prior to the fall semester and students are encouraged to attend.

### III. Dissertation Advisor and Advisory Committee

**A. Dissertation Advisor** – The student’s dissertation advisor helps to shape their research and guide them through the PhD requirements. This includes helping to outline the scope of the research being undertaken, assisting with project design and implementation, as well as assisting with other degree requirements such as the selection of coursework. It is important to note that the advisor’s role is supportive and they should not be expected to take a lead role in the formulation or execution of the student’s research, or to formally impart the knowledge necessary to complete the degree. Such an advisor-advisee relationship allows the student to develop as an independent scientist who can ultimately operate without supervision. In general, the advisor will be the student’s most frequent point of contact regarding the dissertation and degree requirements. Accordingly, an advisor should make themselves available throughout the year (including summers) to the student for regular meetings to assess student progress, and to assist the student with research needs. Advisors should also be available to read and comment on all formal documents associated with the degree (e.g. proposals or dissertation drafts) and return comments to the student within a reasonable timeframe.

If an advisor is unable to meet the student’s needs, a student may request to change their dissertation advisor at any time. The student’s advisor also reserves the right to step down in their role as advisor at any time. In both cases, it is the student’s responsibility to secure a replacement advisor within 3 months. If an approved faculty advisor replacement is not found, the student will be dismissed from the program.

**B. Dissertation Advisory Committee** - The role of the student’s Dissertation Advisory Committee is to advise the student in their dissertation research, mediate conflicts between the student and the advisor (generally in regards to the scope and nature of the proposed work), and ultimately to judge whether a Ph.D. is to be awarded. This involves assessing and advising the student on the relevancy of their research, study design, data analysis, and results interpretation. The committee will serve as a resource for the student throughout the dissertation process. In turn, the student must keep their adviser and committee regularly informed of progress and problems during the annual progress meeting (see section II.F. above).

To properly advise the student, the Dissertation Advisory Committee should be formed within the first year of the Ph.D. program. Prior to the Qualifying Exam (section IVB), the Dissertation Advisory Committee must consist of a minimum of three Graduate Faculty members, including the dissertation adviser and two Biology graduate faculty. After successful completion of the Qualifying Exam, a member from outside the department (or university) who qualifies as a Graduate Faculty or Graduate Faculty Scholar must be added to the committee. It is recommended that this external member is added only after the student passes the qualifying exam. Emeritus faculty are considered outside members, but may also serve as committee co-Chair. **To avoid conflicts of interest, current and potential employers of the student should be excluded from the dissertation committee.** The Curriculum Vitae of potential off-campus committee members are reviewed by the Graduate Program Coordinator and the College of Graduate Studies for suitability. When more than four members are appointed to a committee, UCF Graduate Faculty members must form the majority. The Dissertation Committee must be approved by the Graduate Program Coordinator and the College of Graduate Studies prior to any formal examinations. The student reserves the right to replace a dissertation committee member at any time. Committee members also reserve the right to step down from their committee role. The College of Graduate Studies reserves the right to review appointments to a Dissertation Committee, place a representative on the committee, or appoint a co-chair. The Dissertation Committee Approval Form is at: <http://graduate.cos.ucf.edu> > Current Students > Forms. For more details about the Dissertation Advisory Committee, please refer to the UCF Graduate Catalog: [www.graduatemanager.ucf.edu](http://www.graduatemanager.ucf.edu) > Policies > Doctoral Program Policies > Dissertation Requirements > Dissertation Advisory Committee Membership.

### IV. Curriculum

Please visit the Graduate Catalog to see the current curriculum for our program.

**A. Coursework** - A minimum of 72 semester hours, including a minimum of 27 formal coursework credits and 15 Doctoral Dissertation credits, are required to graduate. All coursework in a doctoral program must be at 5000 level or higher with a minimum of 36 credit hours at or above the 6000 level.

	<b>Conservation Biology Track</b>	<b>Credits</b>
<b>Formal Coursework</b> (27 credits total)	PCB6095 Professional Development I	1
	PCB6096 Professional Development II	1
	PCB6935 Seminar in Biology	2
	PCB6466 Methods in Experimental Ecology I	3
	PCB6042 Conservation Biology Theory	4
	PBC6053C Restoration Ecology	4
	Electives - Any 5000 level or greater course at UCF (chosen in consultation with advisor or committee). A second graduate level statistics course is strongly encouraged. At least 4 credits of the formal coursework electives must be offered through the biology department (excludes Intendent Study, PCB 6908).	12
<b>Dissertation Hours</b> (15 credits min)	PCB7980 - Dissertation Research	15
<b>Additional credits</b> (30 credits)	May include additional formal coursework electives, Dissertation Research (PCB7980), Doctoral Research (PCB7919), independent study (PCB6908) and/or internships. A maximum of 12 credits can be comprised of Doctoral Research and/or independent study.	30

**Total Credits:** 72

	<b>Integrative Biology Track</b>	<b>Credits</b>	
<b>Formal Coursework</b> (27 credits total)	PCB6095 Professional Development I	1	
	PCB6096 Professional Development II	1	
	PCB6935 Seminar in Biology	2	
	PCB6466 Methods in Experimental Ecology I	3	
		Electives - Any 5000 level or greater course at UCF (chosen in consultation with advisor or committee). A second graduate level statistics course is strongly encouraged. At least 12 credits of the formal coursework electives must be offered through the biology department (excludes Intendent Study, PCB 6908).	20
<b>Dissertation Hours</b> (15 credits min)	PCB7980 - Dissertation Research	15	
<b>Additional credits</b> (30 credits)	May include additional formal coursework electives, Dissertation Research (PCB7980), Doctoral Research (PCB7919), independent study (PCB6908) and/or internships. A maximum of 12 credits can be comprised of Doctoral Research and/or independent study.	30	

**Total Credits:** 72

**Note:** Doctoral students, who have already completed a M.S. may request enrollment in formal coursework be waived based on previous course work. Requests should be made to the Graduate Coordinator.

**Coursework definitions:**

**Formal Coursework** - Existing UCF courses that involve standard class instruction of a defined body of disciplinary knowledge. These courses involve interactions between a formal course instructor and the students that make up the class, and can be traditional, face-to-face courses, web courses, and media-enhanced courses. Such classes include both core/required courses as well as elective courses, seminar courses and independent study courses (PCB6908), but are distinguished from the various categories of individualized research and scholarly courses.

**Independent Study (PCB 6908)** – A course of study created outside of the standard-format formal courses offered by the university. Independent study must have a formally defined core of knowledge to be learned by the student(s). The core of knowledge to be learned by the students(s) must be specified in written form and approved by the student(s), the instructor, and the program coordinator prior to enrollment in independent study. Independent Study can be used to satisfy the “formal coursework” requirement.

**Doctoral Research (PCB 7919)** – Doctoral-level research/scholarly work. Research hours taken prior to passing candidacy. These can include laboratory rotations, preparation for candidacy exams, or standard research and scholarly endeavors directed toward completion of a project or a dissertation. Doctoral Research cannot be used to satisfy the “formal coursework” requirement.

**Doctoral Dissertation (PCB 7980)** – Research or scholarly hours taken after advancement to candidacy and directed toward completion of a dissertation. Doctoral Dissertation cannot be used to satisfy the “formal coursework” requirement.

**B. Qualifying Examination (a.k.a. the candidacy exam)** – The goal of the exam is to test a student’s knowledge base and competency as a functioning scientist. The qualifying exam is a written exam and administered individually to each student within their first 2 years. The chair of the advisory committee must coordinate and implement the exam. Each committee member will assess the student’s performance on an official Examination Form obtained from the Graduate Admissions Specialist. Following the exam, the committee chair will also submit a copy of the exam to be included in the student’s file. In order to continue in the program, the majority of committee members must assign a passing grade. Any student scoring below this must repeat the exam within six calendar months. A second failed attempt will result in dismissal from the program. Upon successful completion of this exam, the external member should be added to the dissertation committee.

The structure of the qualifying exam is at the discretion of the dissertation committee, but might include (1) formal questions provided by each committee member, (2) a mock grant proposal, or (3) a review paper. With regard to the formal questions, the exam seeks to cover areas of general knowledge and discipline specific knowledge within the student’s declared track or research area. Committee members must clearly articulate in writing the areas that may be examined and how the exam will be evaluated. With regard to the grant proposal or review-paper style exam, the following rules apply:

1. Exam should take the form of a critical review paper or grant proposal for an identified extramural agency (e.g. NSF). The mock grant proposal must be a novel document that is not part of the student’s proposed dissertation research at the time of the exam.

2. For the review-paper exam, the goal is to offer a novel synthesis of the field, identify knowledge gaps, provide new insights, and/or offer suggestions for future research. The paper should not simply be a summary of the literature.
3. For the proposal exam, the goal is to address a novel topic that has the potential for funding (as deemed by the committee) at a specified agency.
4. Failure to adhere to exam goals should result in a failed grade, regardless of the other exam merits.
5. This is an exam. Deadlines must be observed. The student will have 6 weeks to complete the exam. If the exam is not submitted within 6 weeks, the exam will default to the traditional exam comprised of written questions.
6. The exam must be the sole product of the student; no communication between the student and others (including the student's advisor and committee) regarding the exam can occur unless to clarify exam expectations.
7. With regard to grading, the submitted exam will be assigned one of the following categories: accept, revise & resubmit, or reject. If the document is to be revised, the student has 3 weeks to resubmit, at which point the document will be either accepted or rejected (no resubmission). If the document is rejected, the second exam attempt will default to the traditional question-based exam.
8. The exam product cannot be used as the publication requirement, but it can act as a supplemental chapter.
9. Recommended: Student provides committee with potential, well-formulated topics on which the exam is based. The committee will then decide on the topic. Once the topic is agreed upon, the exam begins.
10. Recommended: The student's goal should be to create a submit-able product. For the purpose of the exam, however, the product need not be publication-ready.

**C. Proposal Defense (a.k.a. candidacy examination)** - No later than 36 months after matriculation into the PhD program, each student will be required to write a proposal outlining their research to their dissertation committee. After the proposal is approved by the dissertation advisor, the student will schedule a public presentation of the proposal. The proposal must be submitted to the dissertation committee for review four weeks prior to the public presentation. In an effort to prepare students in effective grant writing, the proposal should use the format of the funding agency most likely to fund the student's research (e.g. NSF, NIH, USDA, EPA, etc.). Review of the proposal is comprised of three sequential components: (1) a review of the written proposal by the dissertation committee, (2) public presentation of the proposal and (3) a public defense of the proposed work. During the review process, the following criteria will be assessed:

- Oral communication
- Written communication
- Knowledge content
- Study / experimental design and analysis

At the end of the review, the committee will assess all criteria and make one of the following recommendations to the student for each component

- Accept with minor revision
- Revise and resubmit
- Reject

If the written communication component receives a "revise and resubmit" designation, the student must revise and resubmit the written proposal according to the committee's recommendations. If the oral communication component receives a "revise and resubmit" the student must schedule another public presentation. This process may be repeated until the committee either accepts or rejects the proposal. If the proposal is rejected, the student may be asked to leave the graduate program. If the proposal is accepted by the dissertation committee (and all additional criteria listed in section IV.A are met), then the student will be advanced to candidacy, at which time they can register for dissertation hours. Only one dissertation committee member is



permitted to use remote telepresence during the dissertation proposal review. The dissertation advisor must be physically present.

1. Proposal - An example format is described below. In general, the proposal should be approximately 10 to 15 pages in length not including references, single-spaced and typed in 12-point font with one-inch margins on all sides. The use of figures and tables is encouraged. With rare exceptions, it is expected that dissertation research will be hypothesis-driven. Alternative formats may be used with the approval of the dissertation adviser and/or committee.

***a. Recommended proposal structure***

- i. Specific Aims: Describe concisely the problem(s) to be addressed and the specific goals of the dissertation research as they relate to the problem(s), including clear statements of hypotheses to be tested.
  - ii. Background and Significance: Review background literature relevant to the dissertation topic, indicating clearly where gaps in knowledge exist. Justify the need for the research by explaining its anticipated significance. Conclude by linking gaps in current knowledge to the proposed specific aims.
  - iii. Methodology and study design: Outline carefully the study design (observations, experiments, models, statistical analysis, etc.) related to, and the methodology to be used for, each specific aim. Methodologies should be explained in sufficient detail to allow committee members to assess the validity of its use in the study. Potential outcomes and alternative approaches should be discussed.
  - iv. Literature Cited: References should be indicated in the main body of the proposal wherever appropriate and should follow the format of a peer-reviewed journal in a field of study appropriate to your research. This section can be as long as necessary.
2. Proposal Presentation – The candidate will present the dissertation proposal in a forum open to faculty, students and the public. The oral presentation should focus on background information, outline specific aims, and describe how the proposed objectives fill a significant gap in knowledge in a manner that clearly demonstrates mastery of the literature in his/her chosen field. Presentation of preliminary data is neither required nor expected, but should be provided if available and relevant. Presentations are typically 30 to 45 minutes with a public question period to follow. All members of the public are welcomed. Students must schedule a room that can accommodate a minimum of 20 people. The presentation should be advertised two weeks in advance of the presentation date. Please see the Graduate Program Assistant to schedule and advertise the presentation.
  3. Public Defense -The public phase of the proposal defense will take place directly after the proposal presentation and will cover all areas within the scope of the student’s doctoral program. It requires that the student demonstrate knowledge of the theory, literature and research methodologies relevant to (1) the proposed area of research, and (2) how their work relates to the field of Biology as a whole. You are encouraged to ask your committee members to have them clearly define the specific topics they expect you to have expertise in. All committee members (including an outside member) must be present at the public defense, although remote electronic attendance is permitted.
  4. Candidacy Examination Details –At least two weeks prior to the proposal review, an abstract describing the proposed research will be posted in the Biological Sciences Building, department web page and circulated by e-mail among faculty and graduate students

After the public phase of the question-and-answer session, the general public and candidate are dismissed. At this time, non-committee faculty have an opportunity to provide private comments to the dissertation committee on the presentation. After non-committee faculty have been dismissed, the dissertation committee and student will continue the exam in closed session. ***Questions can be directed***

**to any matter relevant to the research proposal, areas of weakness previously identified in the written (qualifying) exam, proposal or presentation.** The purpose of the examination is to ascertain that the student can demonstrate knowledge of the theory, literature, research methods, and potential significance of the proposed area of research. A majority vote is required to pass the examination.

- D. Admission to Candidacy** - After passing the Qualifying examination and Proposal review the student will be admitted to candidacy and can register for dissertation hours. To this end, students must have the candidacy and dissertation advisory committee documentation received and processed by the College of Graduate Studies prior to the first day of classes for the term in order to enroll in dissertation hours for that term. Candidates enrolled in three dissertation credit hours are considered full-time students. Most students require 2-3 years to conduct research and write their dissertation after advancing to candidacy. During this time, students should remain in close contact with the dissertation advisor and advisory committee. Annual progress reports must be filed with the Graduate Program Assistant. The following steps are required to be completed in order to be admitted to candidacy and enroll in dissertation hours (in suggested order of completion):
- i. Program of study submitted and approved.
  - ii. Dissertation Committee formed (including outside member).
  - iii. Successful completion of qualifying exam.
  - iv. Completion of all formal course work (27 credits).
  - v. Successful completion of proposal review.

**E. Dissertation Defense** - The dissertation represents an original and significant contribution to the discipline and must be successfully defended to earn a Ph.D. To defend a dissertation, the candidate must submit the written dissertation to their committee, make a formal presentation of their research findings in seminar format to the committee and the public, and defend their dissertation to the committee in a closed-door question-answer session. The purpose of each defense component is to respectively assess the candidate's (1) written communication ability, (2) oral communication ability, and (3) capacity to demonstrate deep knowledge and understanding of the dissertation (and related areas) independent of outside assistance. The dissertation must meet format specifications of the university. The most commonly preferred structure would be to have chapters that are targeted for publication, with an overall introduction, summary, and appendices for accessory information. Each candidate must consult their dissertation adviser and advisory committee on the preferred structure.

A final committee meeting must occur in the semester prior to the defense to determine the candidate's readiness to defend. Only after approval by the dissertation committee can the student schedule their defense date. A penultimate dissertation must be delivered to the advisory committee for assessment after the candidate and dissertation adviser have agreed upon editorial changes; this should occur no later than one month before the public defense. The penultimate document represents the official dissertation that is to be defended, not the ultimate (final) document submitted to the university. Prior to submission of the penultimate dissertation, the candidate should seek committee feedback on the developing document. The student should also recognize that the committee exists to offer guidance on project appropriateness, content knowledge, experimental design, data analysis, and data interpretation, but does not exist to help the student achieve editorial improvements. Once the PhD candidate submits the penultimate dissertation, the committee's role will switch from advisory to assessment. Committee members have the right to reject documents that fail to meet customary scientific standards. Furthermore, the committee is under no obligation to communicate errors or deficiencies in the penultimate document prior to defense. It is recommended that the student allow for several weeks after the defense to accommodate the committee's recommended edits to the ultimate (final) dissertation.

Defense details - At least two weeks prior to the defense, a 250 word abstract describing the research conducted and conclusions reached will be posted in the Biological Sciences Building, the department web page, circulated by e-mail among faculty and graduate students, and posted on the College of Graduate

Studies Events Calendar. Students must submit their abstract to the Graduate Program Assistant. The candidate will present the research, in an open forum, to all faculty, students, and visitors. The oral presentation should be approximately 45-50 minutes in length and be followed by a question-and-answer period. In the presentation the candidate should focus on background information, describe the research performed, and draw attention to the significance of the conclusions reached. Department faculty have an opportunity for private comment to the advisory committee at the conclusion of the question-and-answer period, and then the committee and candidate will continue the defense and the candidate will answer questions about the subject matter presented and defend the conclusions drawn. The committee will ask questions of the process used and assess the candidate's level of competency with the research topic. A majority vote is required to pass the examination.

## V. Dissertation Requirements

**A. Dissertation Submission** - The College of Graduate Studies Thesis and Dissertation page contains information on the university's requirements for dissertation formatting, format review, defenses, final submission, and more. A step-by-step completion guide is also available at "[Completing Your Thesis or Dissertation.](#)" Students must format their dissertation according to the standards outlined at "[Formatting the ETD.](#)" Formatting questions or issues can be submitted to the Format Help page in the [Thesis and Dissertation Services](#) site. Format reviews and final submission must be completed in the Thesis and Dissertation Services site. The Dissertation Approval Form is also available in the Thesis and Dissertation Services site. The following requirements must be met by dissertation students in their final term:

1. Submit a properly formatted file for initial format review by the format review deadline
2. Submit the Thesis and Dissertation Release Option form
3. Defend by the defense deadline
4. Receive format approval (if not granted upon initial review) and submit signed approval form by final submission deadline
5. Submit final dissertation document by final submission deadline

The College of Graduate Studies offers several thesis and dissertation [Workshops](#) each term. Students are highly encouraged to attend these workshops early in the dissertation process to fully understand the above policies and procedures. The College of Graduate Studies thesis and dissertation office is best reached by email at [editor@ucf.edu](mailto:editor@ucf.edu). All university deadlines are listed in the [Academic Calendar](#).

**B. Review for Originality** - The University requires all students submitting a dissertation as part of their graduate degree requirements to first submit their electronic documents through iThenticate.com for advisement purposes and for review of originality. The dissertation chair is responsible for scheduling this submission to iThenticate.com and for reviewing the results from iThenticate.com with the student's advisory committee. The advisory committee uses the results appropriately to assist the student in the preparation of their thesis or dissertation. Before the student may be approved for final submission to the university, the dissertation chair must indicate completion of the iThenticate.com requirement by signing the Dissertation Approval Form.

**C. Dissertation Dissemination** - The following is from the UCF Graduate Catalog Dissertation Requirements section: "While UCF respects the wishes of students who would like to publish their work and/or apply for patents, it is essential for scholarly research conducted at a university to be available for dissemination. While several options are available for the release of an ETD, it is the goal of the university that all theses be available through the UCF Libraries catalog. Upon uploading the final ETD to the UCF Libraries ETD website, students, in some cases with their advisers, must choose one of the options for the availability of their ETD through UCF. Students with potential patent concerns are required to discuss the dissemination options with their thesis adviser and indicate the availability choice on the Thesis and Dissertation Release Option electronic form, which the student submits in the myUCF Student Center."

## VI. Coursework

**A. Coursework Type** - There are four types of courses in the graduate curriculum; Core Electives, Split-Level Electives, Independent Study, and Extra-Departmental Electives.

- Core Electives provide fundamental concepts for graduate students, with a special emphasis on imparting specific skill sets that empowers the student's research capability and marketability upon leaving the program. These regularly taught courses are aimed at the graduate level and do not have undergraduates enrolled. Some Core Electives are required in the Conservation Biology Track.
- Split-Level Electives provide a topic of interest for graduate students, but are not generally fundamental to a student's education. These regularly taught courses are aimed at advanced undergraduate /beginning graduate student level and generally contain more undergraduates and graduate students.
- Independent Study provides the student the opportunity to create a course that does not currently exist. To accomplish this, they must identify a graduate faculty member who is willing to teach the independent study course. Independent Study courses should quantifiably transfer knowledge to the student. In some instances, advanced undergraduate courses may serve as the basis of an independent study, with additional work added at the graduate level. These courses do not currently count towards the formal coursework requirement of 27 credits.
- Extra-Departmental Electives provide the student the opportunity to take a class in other UCF departments, or at other academic institutions. Before enrolling in such a course, you must first receive approval from the Graduate Coordinator.

### B. Coursework Schedule

#### Core Electives

	Fall	Spring
Even	Advanced Ecology Marine Conservation Biology GIS Methods I Professional Development I	Molecular Evolution & Phylogenetics Ecological Modeling Restoration Ecology Methods II Professional Development II
Odd	Biogeography Complex Data in Biology Conservation Biology Methods I Professional Development I	Conservation Genetics Global Change Biology Evolution Machine Learning in Conservation Professional Development II

#### Split Level Electives

	Fall	Spring
Even	Plant Micro-techniques Programming for Biologists Plant Physiology Plant Genomics and Biochemistry	Sensory Ecology Wetlands Eco & Biogeochemistry Entomology
Odd	Wildlife Genomics Disease Ecology & Eco-immunology Plant Physiology Programming for Biologists	Herpetology Marine Ecology of Florida Entomology

## VII. Academic Progress and Performance

**A. Academic Progress Review** - In the Integrative and Conservation Biology PhD program, student dissertation progress is assessed via two different mechanisms: assessment by the dissertation committee and the Biology department Graduate Curriculum Committee. For this assessment to occur, each student beyond their first complete year in the program is **required to meet annually with their dissertation committee**. The student must then submit the Annual Progress Meeting form to the Graduate Curriculum Committee for review. Failure to achieve any of the below criteria can lead to the student's progress being deemed as unsatisfactory. After the first unsatisfactory designation, the student will be placed on probation (internal to the department). Once on internal probation, the dissertation committee is asked to devise an intervention plan and meet with the student within 6 months to reassess their progress. Failure of the student to convene a second meeting within 6 months will lead to an additional unsatisfactory assessment. A second unsatisfactory designation at any time during the student's tenure in the PhD program could lead to formal academic probation, a lack of future departmental financial support, and/or dismissal from the program.

### **Criteria for satisfactory progress:**

1. Submit a Program of Study (POS) by the end of year 1
2. Complete the Qualifying exam by the end of year 2
3. Undergo candidacy exam / proposal review by the end of year 3
4. Enroll fulltime in each semester (spring and fall)
5. Enroll in consecutive fall and spring semesters, unless a formal leave of absence has been filed.
6. Maintain a GPA of 3.0, with a limited number of "C" grades (see GPA requirement above)
7. Maintain satisfactory scientific progress as determined annually by the dissertation committee or by the departmental Graduate Curriculum Committee.
8. Convene an Annual Progress Meeting with the dissertation committee
9. Submit the Annual Progress Meeting form by November 1<sup>st</sup>

**B. Program Dismissal** – As stated in the Graduate Catalog, *"The primary responsibility for monitoring academic performance standards rests with the [Integrative and Conservation Biology PhD program]. However, the academic college and the UCF College of Graduate Studies will monitor a student's progress and may dismiss any student if performance standards or academic progress as specified by the program, college or university are not maintained. Satisfactory academic performance in a program includes maintaining at least a 3.0 graduate status GPA in all graduate work taken since admission into the program. Satisfactory performance also involves maintaining the standards of academic progress and professional integrity expected in a particular discipline or program. Failure to maintain these standards may result in dismissal of the student from the program"*. Please see the UCF Graduate Catalog at [www.catalog.ucf.edu](http://www.catalog.ucf.edu) for more detail.

As already mentioned, a student may be dismissed from the program if they are without a dissertation advisor for 3 months (Section III) or earn two or more unsatisfactory progress reports (Section VIIA above). A student may also be dismissed at any time for a significant breach of UCF's student rules of conduct (see UCF's Golden Rule Student Handbook for details). In each of these cases, the student will be informed by the Graduate Program Coordinator of their dismissal. A student may appeal their dismissal with the College of Graduate Studies.

## VIII. Timeline for Completion

### A. (Recommended for students without a Master's)

Fall	Spring	Summer
------	--------	--------

<b>YEAR 1</b> PCB6095 Professional Development I PCB6935 Seminar in Biology PBC6466 Methods in Exp. Ecology I <b>Required track course I</b> PCB7919 Doctoral Research <b>Form Advisory Committee</b> <b>Submit Program of Study</b> <i>credits: 9</i>	PCB6095 Professional Development II PCB6935 Seminar in Biology PBC6466 Methods in Exp. Ecology II <b>Required track course II</b> PCB7919 Doctoral Research  <i>credits: 9</i>	<b>Qualifying Exam</b> Form Dissertation Committee
<b>YEAR 2</b> Elective Course 1 Elective Course 2 PCB7919 Doctoral Research <i>credits: 9</i>	Elective Course 1 Elective Course 2 PCB7919 Doctoral Research <i>credits: 9</i>	
<b>YEAR 3</b> <b>Oral Candidacy Exam</b> PCB7919 Doctoral Research <i>credits: 9</i>	PCB7980 Doctoral Dissertation  <i>credits: 3</i>	PCB7980 Doctoral Dissertation  <i>Minimum credits: 3</i>
<b>YEAR 4</b> PCB7980 Doctoral Dissertation <i>credits: 3</i>	PCB7980 Doctoral Dissertation <i>credits: 3</i>	PCB7980 Doctoral Dissertation <i>Minimum credits: 3</i>
<b>Year 5</b> PCB7980 Doctoral Dissertation <i>credits: 3</i>	PCB7980 Doctoral Dissertation <i>credits: 3</i>	PCB7980 Doctoral Dissertation <i>credits: 3 or 9</i> <b>Dissertation Defense</b>

## B. (Recommended for students with a Master's and formal statistical training)

Fall	Spring	Summer
<b>YEAR 1</b> PCB6095 Professional Development I PCB6935 Seminar in Biology PCB7919 Doctoral Research <b>Transfer 30 credits from Master's</b> <b>Form Advisory Committee</b> <b>Submit Program of Study</b> <i>credits: 9</i>	PCB6095 Professional Development II PCB6935 Seminar in Biology PCB7919 Doctoral Research  <b>Qualifying Exam</b> <i>credits: 9</i>	Form Dissertation Committee
<b>YEAR 2</b> PCB7919 Doctoral Research <b>Oral Candidacy Exam</b> <i>credits: 9</i>	PCB7980 Doctoral Dissertation <i>credits: 3 or 9</i>	PCB7980 Doctoral Dissertation <i>Minimum credits: 3</i>
<b>YEAR 3</b>  PCB7980 Doctoral Dissertation <i>credits: 3 or 9</i>	PCB7980 Doctoral Dissertation  <i>credits: 3 or 9</i>	PCB7980 Doctoral Dissertation  <i>Minimum credits: 3</i>
<b>YEAR 4</b>		

PCB7980 Doctoral Dissertation <i>credits: 3 or 9</i>	PCB7980 Doctoral Dissertation <b><i>Dissertation Defense</i></b> <i>credits: 3 or 9</i>	
---	---	--

## IX. Graduate Research

### A. Animal Subjects

1. Human Subjects - If the student chooses to conduct research that involves human subjects (surveys, interviews, etc.), he or she must gain Institutional Review Board (IRB) approval prior to beginning the study. For access to the IRB submission form and sample consent forms, please visit the Office of Research & Commercialization website: <http://www.research.ucf.edu/> > Compliance > Institutional Review Board (IRB) > Investigators > UCF Principal Investigator Manual. An approved copy of your protocol must be on file with the Program Graduate Coordinator.
2. Non-human vertebrates - If the student chooses to conduct research that involves vertebrate subjects, he or she must gain Institutional Animal Care and Use Committee (IACUC) approval prior to beginning the study. For access to the IACUC submission forms, please visit the Office of Research & Commercialization website: <http://www.research.ucf.edu/> > Compliance > Institutional Animal Care and Use Committee (IACUC) > Animal Use Approval Form. An approved copy of this protocol must be on file with the Program Graduate Coordinator.

B. **Ethics in Research** - Researchers in every discipline have a responsibility for ethical awareness as the status of the profession rests with each individual researcher. The ethical collection and use of information includes, but is by no means limited to, the following: confidentiality, accuracy, relevance, self-responsibility, honesty, and awareness of conflict of interest. Students guilty of academic dishonesty or improper ethical behavior will be dismissed from the program.

C. **Patent and Invention Policy** - UCF has three fundamental responsibilities with regard to graduate student research. They are to (1) support an academic environment that stimulates the spirit of inquiry, (2) develop the intellectual property stemming from research, and to (3) disseminate the intellectual property to the general public. UCF owns the intellectual property developed using university resources. The graduate student, as inventor, will, according to this policy, share in the proceeds of the invention. The full policy is available online from the Graduate Catalog: <http://www.graduatecatalog.ucf.edu/> > Policies > General Graduate Policies > Patent and Invention Policy.

## X. Financial Support

A. **Graduate Assistantships** - UCF has several different graduate assistantships, including research, teaching, and general assistantships. Students can be offered Graduate Teaching Assistantship (GTA) or Graduate Research Assistantship (GRA) positions. If a doctoral student is offered a GTA in their letter of admission, the student is guaranteed eight semesters (fall/spring) of support. Graduate Research Assistant (GRA) positions are funded by grant accounts and there is no guarantee of continued support. For general information about assistantships, see [www.graduatecatalog.ucf.edu](http://www.graduatecatalog.ucf.edu/) > Financial Information > Graduate Assistantships. For complete information about university assistantships, tuition remission, and health insurance, please see the UCF Graduate Catalog: <http://www.graduatecatalog.ucf.edu/> > Financial Information. See also <https://funding.graduate.ucf.edu/>. GTA support is not guaranteed for doctoral students beyond six years in the program. Students may supplement their GTA or GRA with University fellowships.

To be employed and to maintain employment in a graduate assistantship position, the student must be in good academic standing and enrolled full time. E-mails will be sent informing students when Assistantship

Agreements need to be signed to ensure correct processing. If the student does not sign and turn in their Assistantship Agreement by the specified deadline, payment will likely be delayed. Agreements must be approved at three levels before the student will be granted payment.

1. GTA Training Requirements - GTA (graduate teaching assistantships) can help students develop their training, experience and skills in preparation for future employment. UCF requires students to complete GTA training requirements before their Assistantship Agreement can be approved. These GTA requirements, registration instructions, and schedule of training can be found at [www.students.graduate.ucf.edu/graduate\\_teaching/](http://www.students.graduate.ucf.edu/graduate_teaching/). Students who are non-native speakers of English and do not have a degree from a U.S. institution must pass the SPEAK test before they will be permitted to teach as Graduate Teaching Associates (position code 9183) or Graduate Teaching Assistants (position code 9184). If a student is unable to pass the SPEAK test within a year student financial support should not be expected from the Department.
2. GTA Performance Assessment - At the completion of each semester in which a student is employed as a GTA or GRA, the student's performance will be evaluated by the faculty member teaching the course or supervising the work. These assessments will be used to review strengths and weaknesses in the student's performance in preparation for future employment.
3. Tuition remission – Tuition remission covers the tuition fee, but not other local fees (health fee, athletic fee, building fee, etc.). Students must enroll as soon as possible to assure that assistantships and tuition remission are processed in a timely manner. Failure to be registered full time will result in the tuition remission being revoked from the student.
4. Health Insurance - For university fellows and graduate assistantships with appointments totaling 20 hours per week, the College of Graduate Studies will provide health insurance coverage. Full annual coverage will be provided in two separate time periods. Students with qualifying assistantships and fellowships in the fall term will receive fall coverage, running from August 15 through December 31. Students with qualifying assistantships and fellowships in the spring term will receive coverage for the remainder of the year, running from January 1 through August 14.
5. Payroll - The current payroll schedule may be found on both the BGSA website and also the graduate section of the Biology webpage. Time sheets are due the Wednesday prior to the Friday on which the student will be paid. Failure to turn timesheets in on the correct day will delay payment to the student.

## B. Grants & Fellowships –

- a. Intramural Fellowships (see <https://funding.graduate.ucf.edu/fellowships/> for more information)
  - i. Trustees Doctoral Fellowship - \$25,000 per year for four years. Nomination for this fellowship is decided by the Graduate Curriculum Committee at the time of admission into the PhD program.
  - ii. Presidential Doctoral Fellowship - \$20,000 per year for four years. Nomination for this fellowship is decided by the Graduate Curriculum Committee at the time of admission into the PhD program.
  - iii. ORC Fellowship - \$25,000 for the first year, with a sustaining stipend of \$21,600 for years 2-4. Nomination for this fellowship is decided by the Graduate Curriculum Committee at the time of admission into the PhD program.
  - iv. Boyd Lyon Fellowship - \$19,000 per year for two years. Nomination for this fellowship is decided by the Graduate Curriculum Committee at the time of admission into the PhD program.
  - v. **Multidisciplinary Doctoral Fellowship** - \$20,000 for three years. All active PhD students in good standing can apply. Due date is April 1.
  - vi. **Dean's Dissertation Completion Fellowship** – \$10,000 for the spring semester.



- vii. Graduate Deans Fellowship - \$5000 supplement to a qualifying assistantship or fellowship for one year. Nomination for this fellowship is decided by the Graduate Curriculum Committee at the time of admission into the PhD program.
  - viii. Summer Mentoring Fellowship - \$3500 for summer semester. All new incoming underrepresented graduate students.
  - ix. McKnight Doctoral Fellowship - \$12,000 per year for five years. New African American or Hispanic doctoral students.
  - x. **Delores A. Auzenne Fellowship** - \$5000 for one year. New and continuing graduate minority students.
- b. Intramural Grants
    - i. **Boyd Lyon Travel Award** - \$300 awarded by the Biology Graduate Student Association
    - ii. **Department of Biology Travel Award** – Up to \$1000 awarded for travel related expenses associated with research or professional conferences.
  - c. Extramural Grants and Fellowships (See Appendix B for a list of external grants and fellowships students may wish to apply for).
- C. International Students** - Several types of on-campus employment are available to international students. For more information about the types of employment available to international students, and the requirements and restrictions based on visa type, please see the International Services Center's website: <http://www.intl.ucf.edu/> > Students > Employment.

*Note: bolded items represent fellowships and awards that continuing students can apply for.*

## XI. Professional Development

- A. Instructional Strategies and Resources** - The UCF Faculty Center for Teaching and Learning provides classes and programs designed to assist graduate students with the educational issues they face in the classroom as teaching assistants or instructors. These resources include assistance in course design and syllabi development, learning theories, and the use of different technologies in the classroom or on the internet. Further information on these resources is available at <http://www.fctl.ucf.edu/TeachingAndLearningResources/>.
- B. The UCF Biology Graduate Student Association (BGSA)** was established in 1997 to provide opportunities for UCF Biology students to participate in extracurricular activities in Biology. These activities include:
1. Regular seminars by visiting professors as well as UCF faculty and grad student presentation seminars
  2. Active service organization, participating in both roadside and beach cleanup activities
  3. Social events (canoeing, nature walks, volunteer activities, social gatherings)
  4. Journal Club Paper Discussions of scientific data in areas studied in the department (e.g., Behavioral Ecology, GIS modeling, Conservation Biology).
- C. UCF Graduate Student Association** - The Graduate Student Association ([GSA](#)) is UCF's graduate organization committed to enriching graduate students' personal, educational and professional experience.
- D. UCF Graduate Research Forum** - The Research Forum will feature poster displays representing UCF's diverse colleges and disciplines. The Research Forum is an opportunity for students to showcase their research and creative projects and to receive valuable feedback from faculty judges. Awards for best poster presentation in each category will be given and all participants will receive recognition. The College of Graduate Studies and the Graduate Student Association invite all UCF students, community, and employers to attend the Graduate Research Forum. For more information, contact: [researchweek@ucf.edu](mailto:researchweek@ucf.edu). For more information see: [www.graduate.ucf.edu/ResearchForum](http://www.graduate.ucf.edu/ResearchForum).

- E. UCF Graduate Excellence Awards** - Each year, the College of Graduate Studies offers graduate students who strive for academic and professional excellence the opportunity to be recognized for their work. For the nomination process and eligibility criteria, see [www.graduate.ucf.edu/gradawards](http://www.graduate.ucf.edu/gradawards). The award categories include the following:
1. Award for Excellence by a Graduate Teaching Assistant - For students who provide teaching support and assistance under the direction of a lead teacher. This award focuses on the extent and quality of the assistance provided by the student to the lead instructor and the students in the class. (Not intended for students who are instructor of record.)
  2. Award for Excellence in Graduate Student Teaching - For students who serve as instructors of record and have independent classroom responsibilities. The focus of this award is on the quality of the student's teaching and the academic contributions of those activities.
  3. Award for the Outstanding Dissertation - To recognize doctoral students for excellence in the dissertation. The focus of this award is on the quality and contribution of the student's dissertation. Excellence of the dissertation may be demonstrated by evidences such as, but not limited to: publications in refereed journals, awards and recognitions from professional organizations, and praise from faculty members and other colleagues in the field.
  4. Council of Southern Graduate Schools (CSGS) thesis and dissertation awards. See their website: [www.csogs.org](http://www.csogs.org) > Awards.
  5. F: UCF Pathways to Success <http://www.students.graduate.ucf.edu/pathways/>

## **XII. Student Resources**

### **A. General Resources**

1. Biology Graduate Student Lounge: BIO 311
2. Graduate Student Teaching Office: BIO 201 - GTAs may request to hold their office hours in BIO 201 to avoid disruptions in their laboratories. Desks are assigned on a space available basis. During some terms GTAs will have to share desks.
3. Computer Lab: BIO 305 (Note: Your adviser must request that your ID card be activated to have access to this lab).
4. For grant-proposal writing resources: <http://uwc.ucf.edu/gradwriting.php>
5. Job Search - UCF's Career Services department offers a wide range of programs and services designed to assist graduate students. These services include evaluation and exploration of career goals, preparation for the job search and job search resources. To learn more, visit their website at [www.career.ucf.edu](http://www.career.ucf.edu).

### **B. Useful Links**

1. [UCF Graduate Catalog](#)
2. College of Graduate Studies [Students Home](#)
3. [Thesis and Dissertation \(ETD\)](#)
4. [Academic Calendar](#)
5. [UCF Libraries](#)
6. [Graduate Student Association](#)
7. [University Writing Center](#)
8. [Counseling Center](#)
9. [Graduate Student Center](#)

### **C. Forms**

All forms need to be processed through the Graduate Program Assistant

1. [College of Graduate Studies Forms](#) - A listing of general forms and files for graduate students including student services and records and graduation forms.
2. [Official Transcript Request](#) - In order for transfer courses to be requested for use in a UCF degree, the official transcripts from the institution where the courses were taken must be sent to UCF's College of Graduate Studies.
3. [Traveling Scholar Form](#) - If a student would like to take advantage of special resources available on another campus but not available on the home campus; for example, special course offerings, research opportunities, unique laboratories and library collections, this form must be completed and approved prior to the start of the semester.
4. [Doctoral Committee/Candidacy Status Form](#) - Dissertation committees must be in place and approved by the Graduate Program Coordinator, the Department Chair/Director, and the College of Sciences Associate Dean of Graduate Studies prior to a student's enrollment into Dissertation Research (PCB 7980).
5. [Graduate Petition Form](#) -When unusual situations arise, petitions for exceptions to policy may be requested by the student. Depending on the type of appeal, the student should contact his/her program adviser to begin the petition process.

#### D. Research Support/Fellowships Appendix

	Award Name	Information
1	EPA Science to Achieve Results (STAR)	<a href="http://www.epa.gov/ncer/fellows/">http://www.epa.gov/ncer/fellows/</a>
2	NSF Graduate Research Fellowship	<a href="http://www.nsfgrfp.org/">http://www.nsfgrfp.org/</a>
3	NSF Doctoral Dissertation Improvement Grant (DDIG)	<a href="http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5234">http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5234</a>
4	National Academies - Ford Fellowship	<a href="http://sites.nationalacademies.org/pga/fordfellowships/index.htm">http://sites.nationalacademies.org/pga/fordfellowships/index.htm</a>
5	Smithsonian Institution Fellowships (general)	<a href="http://www.smithsonianofi.com/fellowship-opportunities/">http://www.smithsonianofi.com/fellowship-opportunities/</a>
6	Smithsonian Marine Station Fellowship	<a href="http://www.sms.si.edu/Education_and_fellowships.html">http://www.sms.si.edu/Education_and_fellowships.html</a>
7	Smithsonian - Center for Tropical Forest Science	<a href="http://www.stri.si.edu/english/education_fellowships/fellowships/index.php">http://www.stri.si.edu/english/education_fellowships/fellowships/index.php</a>
8	NOAA Coastal Management Fellowships	<a href="http://www.coast.noaa.gov/fellowship/">http://www.coast.noaa.gov/fellowship/</a>
9	NASA Graduate Student Researchers Program	<a href="http://www.nasa.gov/offices/education/programs/descriptions/Graduate_Student_Researchers_Project.html">http://www.nasa.gov/offices/education/programs/descriptions/Graduate_Student_Researchers_Project.html</a>