



**UNCG**

**The  
Graduate Program  
in Biology**

**Department of Biology**

**Biology Graduate Handbook**

**August 12, 2019**

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## INTRODUCTION

We welcome you to the Department of Biology (BIO) and wish you the very best of success in your graduate career. The Biology Graduate Handbook has been prepared to provide information about the policies, procedures, and degree requirements of the Master of Science Program in Biology and the PhD Program in Environmental Health Science, both housed in the Department of Biology (BIO) at UNCG. The information provided here adds to that already covered in the University Catalog. It is the responsibility of the Director of Graduate Studies in Biology to keep the Biology Graduate Handbook current and to clarify issues related to the content of this document.

The Biology Graduate Handbook reviews some of the information that can be found in greater detail in the University Catalog. The University Catalog is the best source for information on Graduate Studies and most of the information contained in the Biology Graduate Handbook comes from the Catalog. In order to benefit from the information in this Biology Graduate Handbook, you must be prepared to take responsibility for your progress in the program. Do not assume that your advisor, other faculty members, or the Director of Graduate Studies will remind you of every step that you need to take. We urge you to meet with your advisor regularly to review your progress.

**It is the responsibility of graduate students to read the Biology Graduate Handbook in its entirety and to consult with their advisor or the Director of Graduate Studies in Biology if any of the requirements described in it seem unclear. It is also the responsibility of graduate students to be familiar with the academic regulations of the Graduate School (<https://catalog.uncg.edu/academic-regulations-policies/graduate-policies/>) and the Graduate Program in Biology (this handbook).**

Generally, students are subject to the policies in effect when you first matriculate into your graduate program. Minor changes in policy do will not affect progress toward degree completion may be implemented immediately when it is determined to be in the best interest of students and/or the University, or if the changes are required by a legislative or regulatory body.

## NOTE ABOUT DISCREPANCIES

The Biology Graduate Handbook is a working document. Updates will be made regularly and there inadvertently may be some discrepancies among sources. If you find discrepancies in the Biology Graduate Handbook relative to the University Catalog, please consult with the Director of Graduate Studies in Biology and do not assume that the information in the University Catalog automatically supersedes that in the Biology Graduate Handbook.

## OFFICIAL UNIVERSITY COMMUNICATION

According to UNCG University policy, email is the official method of communication. Thus, all official communications will be transmitted through UNCG University email to your official UNCG email address at the "uncg.edu" domain. It is your responsibility to monitor this email account at all times while enrolled at UNCG. Failure to monitor this account may cause you to miss important announcements and deadlines and will not serve as a basis for an appeal or modification of deadlines.

## GRADUATE PROGRAM MISSION

The Department of Biology (BIO) offers graduate programs leading to the Master of Science (M S) in Biology and Doctor of Philosophy (PhD) in Environmental Health Science degrees. Graduate students enrolled in either program have the opportunity to work with a research advisor from among faculty whose research areas range from the ecological to the cellular level, and include aquatic ecology, trophic interactions in lakes and streams,

plant-microbe-herbivore interactions, microbial food chains, infectious disease ecology, plant evolution and population ecology, animal behavior, aging, cell motility, developmental, chromosome, cell cycle and viral genetics, neuroendocrine control of metamorphosis and glucose homeostasis. The broad range of training and research expertise among faculty members allows for an integrative approach to research studies in Biology for the MS degree and in Environmental Health Science for the PhD degree. Faculty in the department are funded from the National Institutes of Health, the National Science Foundation, and a variety of private funding agencies.

## **ROLES AND RESPONSIBILITIES**

### **The Student**

While the faculty in the Department of Biology is committed to providing a quality education for each of its students, it is the role of each student to take responsibility for their own education. This means that the student should read and adhere to the policies, requirements, and timetables described within this manual. In addition, should any problems arise that might affect your education while at UNCG, you should inform your advisor and the Director of Graduate Studies in Biology so that you may receive proper guidance to help you through any difficulties.

### **The Thesis/Dissertation Advisor**

Each student should select an advisor as primary academic mentor as soon as possible. The advisor must be able and willing to mentor the student. The primary role of the advisor is to guide the student through the degree process. An advisor will counsel a student on their Plan of Study (i.e. courses to be taken), research directions, and career goals. During the writing of the thesis proposal, thesis, dissertation proposal, or dissertation, the advisor is responsible for reading each draft of these documents and for mentoring the student in written communication skills. Students should meet with their advisors as often as necessary, but **no less than twice a semester** (once at the beginning and once at the end of each semester). While many faculty members have an “open-door” policy with regards to graduate students, advisors are not obligated to see students without an appointment. Thus, students should respect the other obligations of the faculty and schedule meetings that fit their schedule. The relationship between an advisor and student should be collegial and not antagonistic.

### **The Advisory/Thesis/Dissertation Committee**

The Advisory Committee is a group of faculty members whose initial function is to assist the student in the development of the student’s Plan of Study. MS and PhD students should meet with their primary advisor to identify faculty members who would be appropriate to serve on the committee. This committee is chaired by the student’s primary advisor and committee reviews and approves the Plan of Study for students in each program. After a student has received approval for the Plan of Study, the committee’s focus is on the students’ research. The Advisory Committee becomes the Thesis Committee (for MS students) or Dissertation Committee (for PhD students) after the Plan of Study is approved. Like the advisor, members of the Thesis/Dissertation Committee should be available to advise the student on issues related to the research directions and career goals. Each member of the committee should be selected based upon the expertise they can bring to the student’s training. Members should be contacted to help refine ideas and plans developed by the student and their advisor, or for specific help with technical difficulties related to thesis or dissertation research. Meeting individually with your committee members outside of formal meetings is encouraged.

### **The Director of Graduate Studies in Biology**

The Director of Graduate Studies (DGS) in Biology is the faculty member who oversees and organizes the departmental graduate programs (MS and PhD). The Head of the Biology Dept. appoints the Director for a period of three years, which may be renewed. The DGS’s roles include student recruitment, admissions, review of program policies, orientation of new students, and counseling enrolled students on issues related to their

research, courses, and career goals. If a student is having difficulties with their advisor or committee, the student may discuss this matter in full confidentiality with the DGS or with any other member of the Graduate Studies Committee.

### **The Graduate Studies Committee**

The Biology Graduate Studies Committee (GSC) consists of four graduate faculty members including the Director of Graduate Studies. The GSC is responsible for the formation and implementation of policies, procedures, and curriculum changes of the Biology graduate programs in accordance with the policies set by the UNCG Graduate School. The GSC reviews and decides student petitions for transfer credits and waiving course requirements. Finally, the GSC evaluates applications to the Biology graduate programs.

### **The Biology Graduate Student Association**

This association is open to all graduate students in the Biology graduate programs. There are two elected Senators. The purpose of the association is to provide a vehicle for graduate students (and faculty when appropriate) to discuss directly, and on a regular basis, issues that may enhance or inhibit the well-being and progress of graduate students in their programs of study. One or more Senators should attend UNCG Graduate Student Association Meetings each semester.

## **GRADUATE REGULATIONS, POLICIES, AND PROCEDURES**

### **A. THE GRADUATE CURRICULUM**

#### **1. *Master of Science Thesis (MS thesis) Course Work.***

The Master of Science in Biology requires completion of at least 30 semester hours of graduate level course work and research hours. Students entering the MS program are not required to take particular courses, outside of six credit hours of BIO 699. Generally, students take approximately 15 hours of formal courses and 15 hours of research (BIO 695) and thesis credits (BIO 699). No course below the 500 level will be counted towards graduate degree requirements and at least one half of the work credited toward the degree must be in 600-level courses or above. Students may apply up to 9 credit hours of Bio 695 (Biological Research) to the MS degree.

Selection of formal coursework will be made in consultation with the student's thesis advisor or with the Director of Graduate Studies, if necessary, and the courses chosen will depend on the topic of the thesis project, the student's interests, and the educational background of the student. The core courses for the PhD in Environmental Health Science are open to MS students. Credit that is applied to one master's degree cannot be applied to another master's degree. In some cases, students may need to take a lower-level course for non-graduate credit to correct a deficiency; credit from these courses cannot be applied toward completion of the MS degree.

#### **2. *Doctor of Philosophy (Ph.D.) Course Work***

The PhD in Environmental Health Science (EHS) prepares students for senior-level positions in professions related to environmental health science in its broadest sense. The program trains students to become leaders in biological research relevant to environmental issues that directly and/or indirectly affect human health, and the program trains students to convey information effectively to the public. Students acquire an understanding of the multidisciplinary nature of environmental health issues from molecular to ecosystem levels. Students learn relevant research skills and conduct research under the guidance of one or more faculty members in the program. The PhD degree program requires a minimum of **55** hours beyond the Baccalaureate

degree. Required and elective course work and research are listed below. *At least 75% of all coursework included on the Plan of Study, exclusive of dissertation hours, must be at the 600 or 700 level.*

*Required Core Courses (17 hours minimum).*

BIO 600 Introduction to Graduate Studies (1)

BIO 707 Seminar in Environmental Health Sciences (2)

BIO 731 Environmental Health Science I (3)

BIO 732 Environmental Health Science II (3)

BIO 734 Current Research in Environmental Health Science (1 credit; 3 total required)

BIO 749 Lab Rotation (1 credit; 2 total required)

STA 661 Advanced Statistics in the Behavioral and Biological Sciences (3)

Note: This list is not flexible. No deletions, only substitutions. All should be taken in first three semesters in order to advance to candidacy at the appropriate time.

*Electives (9 hours minimum)*

Students in consultation with the Graduate Studies Committee, research advisor, and/or Advisory/Dissertation Committee will select additional courses that pertain to their area of research to fulfill their degree requirements.

*Research and Dissertation*

The remaining credit hours to equal a minimum of 55 hours (minimum of 29 hours) will be obtained by taking the following:

BIO 790 – Directed Study in Env Health Science (maximum of 12 credits)

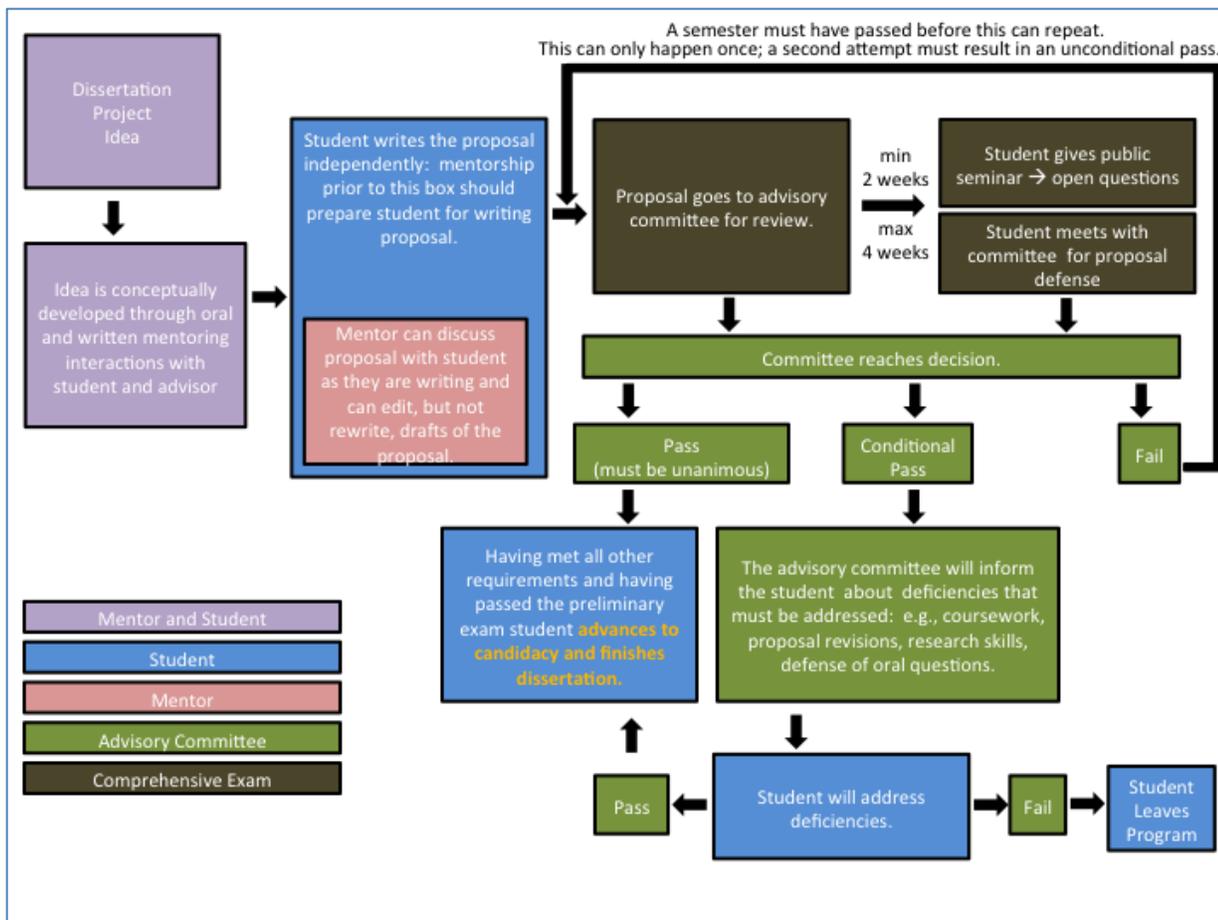
BIO 791 – Independent Doctoral Research (maximum of 15 credits)

BIO 799 – Dissertation (12 hours minimum required by Graduate School; maximum of 18 credits)

BIO 791 and BIO 799 cannot be taken until the student has advanced to candidacy.

*Comprehensive Examination*

The student will consult with his/her Advisory/Dissertation Committee about the expectations for the written and oral sections of this examination. The framework for the process and outcomes of the examination can be found below in Figure 1.



## B. INFORMATION RELEVANT TO BOTH MS AND PHD STUDENTS

Some of the information in this section is university-wide policy that was established by the UNCG Graduate School. If in doubt, students should refer to the University Catalog to determine the details of these policies.

### 1. Transferring Prior Courses Toward Graduate Degree Requirements.

Only courses that were not used to fulfill the requirements for another graduate degree can be used to replace course requirements in the Graduate Program in Biology. If you have taken graduate courses in another department or at another university that you wish to substitute for some of the department's MS or PhD requirements, they cannot have counted toward a degree you received and such work must have been taken within the five-year time limit. The request for transfer course credit must first be approved by your Advisory, Thesis, or Dissertation Committee. Following this approval, you should make a written request to the Director of Graduate Studies in Biology. Your advisor must sign the request. Within this request you should include: Copies of course syllabi of all courses that are to be substituted and that are used for substitution.

A list of required textbooks and readings. Any other materials that describe the content of the courses.

The materials you provide will be examined by the Director of Graduate Studies in Biology to decide whether the courses are acceptable for substitution. If acceptable, the request then needs to be submitted to the Graduate School to be entered on your transcript according to the university's policy for "transfer credit" and you will not have to take additional (elective) courses in their place. The Director of Graduate Studies in Biology will inform the Graduate School of the action taken. In rare cases, the Vice Provost and Dean of the Graduate Education can overturn such decisions. If this occurs, the student must take the UNCG course for which a

substitution was requested. In no case more than one third of non-dissertation (Bio 799) course credit hours beyond the master's degree will be transferred to doctoral program. **An important consideration in transferring prior course credit is that any TA/RA/GA still needs to be enrolled in at least 9 hours of credit.**

## **2. Waiving Course Requirements.**

Occasionally a student may have a significant amount of practical experience that is directly relevant to courses that are a part of the Graduate Program in Biology's degree requirements. For example, a student may have acquired a significant number of technical skills in the workplace. Under these conditions a student may wish to request to have a specific course requirement waived (for example STA 661). *Waiving a course requirement does not reduce the total number of courses or credits that a student needs to graduate.* If you have technical experience that you feel eliminates the need to take some of the PhD requirements, you must first have the proposed waiver approved by your advisor and Advisory Committee. Following this approval, you should make a written request to the Director of Graduate Studies in Biology. Your advisor must sign the request. The request should include a detailed description of the technical experience and should outline how this experience relates to the course to be waived. The Director of Graduate Studies in Biology will examine the materials you provide and decide whether the experience justifies a waiver. If acceptable, you will have to take additional (elective) courses or research credits in place of any waived course. The Director of Graduate Studies in Biology will inform the Graduate School of the action taken. In rare cases, the Graduate School can overturn such decisions. If this occurs, the student must take the UNCG course for which a waiver was requested. Unless specific provision is made in the course description, no student may repeat for credit a course for which the student has earned credit.

## **3. Cross Registration.**

In some cases, students may want to take advantage of relevant courses being offered at other University campuses in the Triad/Triangle area. UNCG has agreements with many of these campuses and has policies that regulate how a student can cross-register for classes in their degree program. These *Cross-Registration* policies are outlined in the Application, Admission and Registration section of the University Catalog. Some important highlights of the policies from the University Catalog include but are not limited to the following and should be used when considering cross-registration. In any given semester, a graduate student must be registered for 50% of their credit hours at UNCG. For example, if you cross register for a 4 credit course at Duke, you must be enrolled in at least 4 UNCG credits. Because 9 credits are considered full time, you will at a minimum need to be enrolled in 3 UNCG credits during any semester in which you want to be considered as full time if cross registering. Cross registration is limited to traditional campus-based courses. Independent study cannot be taken through cross-registration. Cross-registration must be approved by the Department (either by the Director of Graduate Studies or the Advisory/Dissertation Committee) and the Graduate School before registration. Courses need to fall within one of the three inter-institutional agreements listed in the University Catalog. You must earn a B or higher in any cross-registered course. Your work from a cross-registered course will be covered in your preliminary exam. Your cross-registered course details, including your grade, may not show up on your transcripts until the completion of all of your degree requirements (this depends on which inter-institutional agreement the course falls under). Up to 1/3 of your degree requirements (not including dissertation credits) can be from cross-registered courses.

In addition to the policies in the University Catalog, there are the following Biology Department policies for Cross-Registration. The course must be listed as a graduate level course by the host institution. A written petition is required for approval of a cross-registered course. The written petition must include the course syllabus, information on course materials (i.e., textbook, articles, books), and the contact information for the course instructor. To ensure sufficient time for processing the paperwork, the written petition should be received by the Director of Graduate Studies (if the Dissertation Committee has not been formed) or the Chair of the Dissertation Committee at least one month before the start of the course, if possible.

### 3. **Core Courses**

The only required course for the MS in Biology degree is BIO 699 (six credits). Up to 9 credits of BIO 695 can be applied towards the MS in Biology, but are not required. There are several core courses that all degree students in the PhD in Environmental Health Science must take: BIO 600, BIO 707, BIO 731, BIO 732, BIO 734, BIO 749, STA 661, and BIO 799. The PhD in Environmental Health Science Degree requirements are clearly outlined in the University Catalog in the Department of Biology Section in this Handbook. As a rule, students should work with their advisors to ensure that the core requirements are met as soon as is feasible.

### 4. **Areas of Specialization.**

There are no areas of specialization in the MS in Biology or PhD in EHS degree options.

### 5. **Continuous Enrollment Policy.**

The Graduate School requires that you pursue your graduate degree continuously from the time of entry through the completion of all required course work including the thesis (699) or dissertation (799). This policy is clearly stated in the University Catalog. You should not miss more than two consecutive semesters (each with a minimum of 6 hours), not including summer. If you have already enrolled in the maximum number of 695 or 699 / 790 or 791 or 799 hours, but have not fully completed the requirements of the thesis or dissertation, you are required to enroll in one to three hours of continuing completion of thesis (BIO 801), dissertation (BIO 802), or research extension (BIO 803) credits, without missing two consecutive semesters (not including summer), until you have graduated. **All thesis and dissertation students must be enrolled in at least one credit of either 699/799 or 801/802 for credit during the semester in which they complete their graduate work and are scheduled to receive their degrees. (Note: This includes summer.)** If you have been admitted with full graduate standing to a graduate degree program, but have not completed any 500-level or above courses at the University for two consecutive semesters, or a semester and a summer session, you will be considered to have withdrawn from the curriculum (see section on Leave of Absence below). At that point, you will be required to file an application for readmission to the Graduate School to resume the course of study. A student who withdraws will be required to comply with regulations and requirements in effect at the time of readmission to the Graduate School.

### 6. **Leave of Absence.**

Students who wish to be absent for more than one semester must apply for (and receive) a leave of absence in order to maintain continuing student status. If a student does not enroll for two or more continuous semesters and does not have an approved leave of absence, the student will be terminated from the program. Such a student may apply for readmission through the Graduate School, but must first receive the endorsement of the Director of Graduate Studies in Biology. An **Educational Leave of Absence** is appropriate for students who will be engaged for the majority of the leave time in an activity, other than attending an accredited college or university, that is directly related to their formal academic careers. Students must complete three steps for an educational leave of absence: (1) apply in advance for the educational leave of absence, (2) be recommended by the Director of Graduate Studies in Biology and (3) gain the approval of the Vice Provost for Graduate Education. Students can get application forms from the Graduate School. Refer to the University Catalog for additional information about leaves of absence.

### 7. **Grading Policy.**

Most courses other than research, thesis, or dissertation credits that you will take are graded on a scale of A, A-, B+, B, B-, C+, C, F/WF. The grade of "A" is awarded for "superior" performance and the grade of "B" is awarded for "very good" or "good" performance. A grade of "C" indicates that one's performance has been weak and marginal relative to the expectations of graduate students. An overall minimum average of "B" is required (equivalent to a 3.0 grade point average) in order to hold a graduate assistantship and for completion of a graduate degree program at UNCG. All grades except S and U will be counted in all courses that are attempted and carry graduate degree credit. No more than 6 semester hours of credit evaluated as C+ (2.3)

and/or C (2.0) may be applied toward the minimum hours required of the master's degree. **Grades in all courses applied toward the Doctorate must be B (3.0) or better, and additional hours must be taken for any hours earned with a grade of B- (2.7) or lower.**

Because grades of "C" are discouraged, the Graduate Committee will review the progress of students in any of the degree programs who receive a "C" in two or more classes. Students who receive a "C" or below in three or more courses, or an "F" in two or more courses, will be automatically terminated from the program. Students should refer to the University Catalog to learn about the University policy regarding withdrawing from courses and the grade of incomplete.

Students who are working on their thesis or dissertation research will receive "IP" (in progress) grades for their enrollment in 699/799 until they have completed the research. Upon completion, the "IP" will revert to an "S" (satisfactory) or a "U" (unsatisfactory). The grade of "I" may be given in content courses where the student is unable, for reasons beyond the student's control, to complete course requirements by the end of the term in which the course was offered. The "I" may be removed by completion of the deferred requirements within six months from the last day of examinations in the term, in which the course was taken. An "I" not removed within this time limit automatically becomes an "F".

#### **8. *Establishing In-State Residency for Tuition Purposes.***

As a state supported institution, the tuition rate for legal residents of North Carolina is less than the tuition rate for nonresidents. After 12 months of continuous residence in NC, out-of-state students are expected to apply for NC residency in order to qualify for in-state tuition and to be considered for continued support by the Department. All students wishing to claim North Carolina residency must file through the State's Residency Determination Service at <https://ncresidency.cfnc.org/residencyInfo/>.

In order to qualify as a resident of North Carolina for tuition purposes you must have established legal residence ("domicile") in North Carolina and maintained that legal residence for at least twelve months before you apply for classification as a North Carolina resident. In addition to this twelve-month physical presence requirement, there are numerous other factors that must be considered in determining whether or not an individual is a resident for tuition purposes.

Domicile is a legal term defined as a place where a person intends to remain and live permanently, and the place a person intends to return to after any absence. Permanency is the key. Thus, a person who lives in a place for a temporary purpose, for a vacation or to attend college and who intends to live elsewhere when that purpose is accomplished, is not considered to be a legal resident for tuition purposes.

In order to obtain an in-state residency status for tuition purposes, University Administrators must be able to conclude from the information you provide them that your intent is to make North Carolina your permanent dwelling place. Rather than a single action, it is a cluster of events that must produce a preponderance of circumstantial evidence suggesting your intent to remain in North Carolina permanently. In other words, have you done the kinds of things that a permanent resident would do, or have you been acting like a temporary visitor? Each case has its own set of facts and there is no set checklist of items that will guarantee that you will be classified as a resident for tuition purposes. However, some important questions that are likely to be asked are:

- Do you have a current North Carolina Driver's License?
- Is your vehicle registered in North Carolina?
- Are you registered to vote in North Carolina?
- Where and when did you last vote?
- Where do you keep your personal property?

- Have you filed a North Carolina Income Tax return indicating that you were a resident during the last tax year?
- Do you own real estate in North Carolina?
- Do you participate in or volunteer for community activities away from the campus?
- Where did you live before enrolling in an institution of higher learning?
- Are you financially independent of your parents?
- Have you been living in North Carolina but worked for a period in another state?

This is not a complete list, but it should give you an indication of the types of factors that will be looked at in deciding your residency status.

### **9. The Plan of Study.**

The Plan of Study is a roadmap used by the student to guide their progress through the coursework necessary for the MS in Biology and the PhD in Environmental Health Science degrees. The Plan of Study must be outlined by the student and the Advisory/ Thesis/Dissertation at the earliest possible time following admission of the student to the program.

The plan must indicate:

- The major field of study.
- The area of specialization.
- The specific courses that the student will take to complete the minimum degree requirements.
- All specific core, seminar, and research requirements.
- A timetable as to when these courses will be taken.

A record of all graduate work the student has taken must accompany the proposed Plan of Study. The Advisory (Thesis/Dissertation) committee must evaluate the student's Plan of Study to determine whether the proposed plan is appropriate and whether additional coursework is appropriate. If planned, any graduate level courses to be taken off-campus at another university (see section above on Cross Registration) must be included in the Plan of Study. Courses taken at other universities are generally applied as electives to a Plan of Study. **After approval of the Plan of Study, the student must submit it to the Dean of the Graduate Education for final approval. Copies of the final Plan of Study are submitted to the Director of the Graduate Program in Biology for inclusion in the departmental records.** Any changes in the Plan of Study after it has been approved must be reported to the Graduate School for review and approval

***MS Plan of Study:*** The MS Plan of Study form is located in the Appendix of this handbook. Students in the MS program should submit a Plan of Study no later than the end of second semester of the program. The student also should select their Advisory/Thesis committee by the end of the second semester. **The MS student in consultation with their advisor will complete the Plan of Study.** This should include all the courses the student has taken and those they plan to take to meet the minimum requirements of the MS degree. The MS student will then organize a short meeting of their Advisory to discuss and get approval of their Plan of Study. Any changes in the Plan of Study after it has been approved must be approved again by this Advisory Committee and the Director of Graduate Studies and then submitted to The Graduate School no later than the end of the third week of classes of the semester in which the student applies for graduation.

***PhD Plan of Study:*** The Biology PhD Plan of Study form is located in the Appendix of this Handbook. This form and the official Graduate School Doctoral Advisory Committee and Plan of Study approval form must be completed prior to the completion of 18 credit hours. **The student and advisor should work together to complete the Plan of Study form.** The completed Plan of Study will be distributed to the Doctoral Advisory Committee. By the end of their third academic semester and no later than completion of 18 semester hours

the PhD student should meet with their Doctoral Advisory Committee for discussion and approval of the Plan of Study. The signed Graduate School Doctoral Advisory Committee and Plan of Study approval form, along with **the completed Plan of Study should be submitted to the Graduate School**. The student must submit a copy of the form and Plan of Study to the Director of Graduate Studies, which will be placed in the student's departmental file. Any amendments to the Plan of Study must be approved by all committee members and the Director of Graduate Studies of the Biology Department. Any changes in the Plan of Study after it has been approved must be reported to the Graduate School for review and approval. Changes to the Plan of Study are not allowed after the student has reached candidacy.

**11. Changing Committee Members or Advisors.**

Occasionally, a student may find it necessary to change advisors. Changing advisors is generally discouraged, but can be arranged through consultation with the Director of Graduate Studies in Biology and the student's current advisor. Changes in composition of doctoral committees can be made by filling out the appropriate form located at the Graduate School website. Such changes may be necessary because faculty leave the University, because your research focus changes, or because scheduling conflicts make the original committee structure untenable. It is inadvisable to change a committee between the approval of a proposal (M.S. thesis or Ph.D.) and completion of the research, because the new member may wish to recommend changes that will delay completion of the degree.

**12. Thesis or Dissertation Extension.**

If a student has completed all of the course requirements for the degree, including all credit hours of MS thesis research (BIO 699) or doctoral dissertation research (BIO 799), but they have not completed their thesis or dissertation, they are required to enroll in extension credits until they have graduated. The proper course for this additional requirement is BIO 801 if they are completing a M.S. or BIO 802 if they are completing a Ph.D. BIO 801 and 802 are variable credit courses. Additionally, students can enroll in research extension (BIO 803) if additional credits are required for any reason. Please see the University Catalog for more details. **Permission to enroll in extension courses requires verification by the committee chair that the student is making satisfactory progress.**

**13. Responsibilities of Graduate Assistants (GA) and Research Assistants (RA).**

All graduate students holding positions as a GA or RA are expected to maintain the highest professional behavior throughout their graduate career, and especially while carrying out their assigned duties. Any problems encountered by the GA or RA during the assignments should be reported to the Director of the Graduate Program in Biology as soon as possible. GAs and RAs are expected to begin their work responsibilities approximately four working days before classes officially begin and end their work responsibilities on the last day of final exams. Any exceptions to these start and stop dates must be requested to the Director of the Graduate Program in Biology three weeks prior to the beginning or end of each semester. GAs and RAs are not required to perform their duties on official university holidays, nor are they expected to make up these hours during the semester.

**14. Policy on Length of Departmental Stipend and In-State/Out-Of-State Waiver Support.**

- **MS students:** Departmental support for graduate study toward the MS degree is provided if funds are available. Support can include an assistantship (TA, GA or RA) and/or tuition waiver. If a student is supported in the first year of an MS degree, support is not guaranteed beyond that year of support, but will depend on funding availability. Support is also contingent on satisfactory progress toward completion of degree requirements.
- **PhD students:** PhD students will be supported by the department for up to four years, if funds are available. Support may include an assistantship (TA, GA or RA) and a tuition waiver. Continued support is contingent on satisfactory progress being made towards their degree requirements and satisfactory performance in prior TA/GA/RA assignments.

**15. Policy on Final Research Presentation for MS and PhD.**

Within two weeks of their MS or PhD defense meeting with their committee members, all graduate students are required to present a publicly-announced seminar of their research. This seminar may coincide with the day of their defense meeting.

- *MS student presentation:* The MS student is responsible for having a notice of the public seminar posted one week prior to the seminar.
- *PhD student presentation:* The PhD student is responsible for having a notice of the public seminar advertised by flyer and email by the Biology Department Office two weeks prior to the seminar. In addition to the Biology Department advertisement, two weeks prior to the dissertation defense, the student must submit the **Final Oral Examination Schedule Form** and **Dissertation Abstract Form** to the Graduate School for inclusion on the defense calendar. This is strictly enforced by the Graduate School.

**16. Policy on Dual Enrollment in M.S. and Ph.D. Degree.**

A student may not be concurrently enrolled as a MS and PhD student.

**17. Policy on Students Receiving Assistantships and Working Outside the Department.**

Graduate student employees are prohibited from seeking additional employment (further restrictions may apply to international students) without express permission of your academic advisor, assistantship supervisor, and the Dean of the Graduate School; each must sign the Permission for Off-Campus Employment Form with the Graduate School. Students who are asked to work more than 20 hours per week on campus must have the department complete the Work Hours Exception Form for ACA and receive approval from the Dean and the Director of Budget, Personnel and Planning in the Graduate School. At no time will a student be allowed to work on campus more than 29 hours per week. International students check with IPC on additional visa requirements relevant to additional work activities.

**18. Policy on Full Time Status in Relation to Course Loads.**

Graduate students enrolled in **nine or more credit** hours per semester are considered full time, however the following exceptions apply for students with approved Plans of Study:

- **After entering candidacy status**, a doctoral student may be considered full-time while enrolled in a 3 credit hour dissertation course (799), as long as those dissertation credits are listed on the student's Plan of Study and that the student has completed all of the other coursework on their Plan of Study. Doctoral candidates may maintain full-time status in this way until completion of the number of dissertation credit hours specified by their Plan of Study. Likewise, MS students may take 3 credit hours of BIO 699 and maintain full-time status as long as those 699 hours are listed on the student's Plan of Study and the student has completed all other coursework on the Plan of Study.
- Continued enrollment in thesis (699) or dissertation (799) credit hours **beyond those that are required** (i.e. on the student's Plan of Study) will not provide full-time status at 3 credit hours unless the student also enrolls in thesis extension (801), dissertation extension (802), and/or research extension (803) courses to fulfill the 9 credit hour requirement.
- Even though nine credits are required for full time status, students can qualify for an assistantship (TA/RA/GA) and benefits (including health care, and perhaps a tuition waiver), with only 6 credits or if students qualify for an exception with only 3 credit hours (see above).

Exceptions listed above under course loads apply to both international and domestic students. It is highly recommended that international students check with IPC on additional visa requirements relevant to course load and full-time status.

## **C. MASTER OF SCIENCE (MS) PROGRAM**

### **1. *Selecting Your MS Thesis Advisor.***

Students will select MS thesis advisors based upon shared research interests. This is done either during the application process or during the first semester of the program. In both cases, the selection involves a mutual agreement between the student and the advisor, which must be signed by both parties (see the Rotations in the MS in Biology Form in the Appendix) and will be retained in the student's file. Advisor selection may also occur during the application process through email exchanges or in-person meetings. Students admitted to the program who have not selected an advisor prior to arriving on campus are required to register for Research Lab Rotations (BIO 749, 1 cr) during their first semester. Students enrolled in Bio 749 rotate through the research labs of one to three potential advisors. Review of the Graduate Faculty research interests on the Biology web page and discussions with the Director of Graduate Studies are helpful in selection of labs for rotation. By the end of the first semester, students should complete their selection of a thesis advisor.

### **2. *Selecting Your MS Advisory/Thesis Committee.***

The MS Advisory Committee serves to approve the Plan of Study, participate in planning of the thesis, evaluate the written thesis and evaluate the defense of the thesis. The committee consists of at least three faculty members, at least two of whom, including the Chair, must be non-adjunct faculty members of the Department of Biology. A third member could be an adjunct member of the Biology Department. Additional members from outside the Biology Department are also permitted and should be listed on the Plan of Study with the advisor's justification for their participation appended to the Plan of Study. All members of the committee must be members of the Graduate Faculty of the UNCG Graduate School. The Chair of the committee is generally the Advisor, and the other committee members should be selected in consultation with the Advisor. The Thesis Committee must be formed during the first year in the program.

### **3. *MS Plan of Study.***

MS students must prepare a Plan of Study (see MS Plan of Study form in the Appendix) as soon as possible or by the end of the second semester. The Plan of Study lists the courses that the student will take, the topic of the thesis, and the members of the Advisory Committee, and thereby serves as an outline of the student's MS program. See the [University Catalog](#) for course requirements for the MS degree in Biology. The Plan of Study should be completed in consultation with the Advisor and the Advisory Committee. The Director of Graduate Studies must approve the plan of study before the scheduling of the proposal presentation to the Department. The Director of Graduate Studies needs at least 2 weeks to review a Plan of Study. Changes made to the plan of study must be submitted to The Graduate School no later than the end of the third week of classes of the semester in which the student applies for graduation.

### **4. *The MS Thesis Proposal.***

In close consultation with the Advisor, the student selects a master's research project, prepares a thesis proposal, presents the proposal to the department, and defends the proposal to their Thesis Committee. The Advisor must approve the proposal prior to submission to the Thesis Committee. Typically, there are several drafts of a thesis proposal before approval by the Advisor, so students should plan their time accordingly. Preliminary results may be included in the proposal, but this is not a requirement. The proposal must be submitted to the committee members at least one week prior to the review meeting. The student is also responsible for arranging the date/time and location of the meeting and for ensuring the event is advertised to the Department (by email and flyer) at least one week before the presentation. The presentation component should be scheduled at a time when classes are being taught (e.g. not during breaks, holidays, or between semesters). Summer proposals are discouraged, but not prohibited.

*The Proposal Presentation:* The student shall give a presentation (usually around 30 minutes) that typically includes sufficient background information for the audience to understand the proposal, a discussion of the

research hypotheses/questions/aims of the project, details of the experimental methods and approaches that will be used, and a discussion of the predicted outcomes. Preliminary results may be included in the presentation, but they are not required. Immediately following the presentation, there will be a period of open questioning by all in attendance.

*The Proposal Meeting/Defense:* After the presentation, the thesis committee will meet with the student to discuss the merits of the proposal and provide suggestions for changes intended to improve the quality of the research. While the proposal meeting is not an exam, it is often the practice that the committee asks open-ended questions that challenge the student to think critically about their work and to test their understanding of the scientific and intellectual foundations of the proposed research. Prior to the meeting, the thesis committee should come to a collective understanding of how the meeting will proceed with respect to questioning of the student and the Advisor's participation in that process. After the meeting and the student leaves the room, the committee (including the Advisor) will discuss the proposal and the student's proposal. A vote is not required, but the thesis committee may approve the research as proposed or may ask for revisions. If major revisions are required, the committee may request to see the revised proposal and/or may decide that another proposal meeting is required. The final approved proposal should be submitted to the Director of Graduate Studies who will place it in the student's file.

If the proposal defense is the first meeting of the Thesis Committee, the committee should also discuss the courses listed on the Plan of Study at the meeting.

#### **5. The MS Thesis Defense.**

A thesis must be prepared based on data collected during the thesis research. Typically, the Advisor works closely with the student until they are satisfied that the document is of sufficient quality for defense. The thesis document must be submitted to the committee members at least one week prior to the presentation and defense. The student is also responsible for arranging the date/time and location for the presentation and the meeting to follow, and for ensuring the event is advertised to the Department (by email and flyer) at least one week before the presentation. The thesis presentation and defense must be scheduled at a time when classes are being taught (e.g. not during breaks, holidays, or between semesters) and the thesis defense should not occur during the same semester as the thesis proposal meeting. Summer proposals are discouraged, but not prohibited.

*The Thesis Presentation:* The thesis defense begins with a presentation of the thesis research (typically 30 to 40 minutes). Thesis presentations typically include sufficient background information for the audience to understand the context and rationale for the research, a discussion of the research hypotheses/questions/aims, details of the experimental methods and approaches, presentation of experimental results, and a conclusions/summary discussion. This portion of the process is open to the university community and immediately following the presentation there will be a period of open questioning by all in attendance.

*The Thesis Defense:* A closed session will follow the thesis presentation in which committee members will ask the student questions related to the thesis research approaches, findings, and conclusions. Questions are often open-ended and challenge the student to think critically about their work. The student should be able to explain and defend the thesis work on their own; thus, it is recommended that the mentor not attempt to lead the student to the correct answer or to clarify a student's answer. After questioning has ended and the student leaves the room, the committee (including the Advisor) will discuss and evaluate the student's performance. Three outcomes are possible:

- *Acceptance:* In this case, the student has met the standard set forth for theses by the committee and the department. Minor revisions may still be required of an acceptable thesis prior to submission to the

Graduate School. The Advisor alone can supervise these revisions and the committee has the option to request to see the document before final approval.

- *Provisional acceptance*: This outcome indicates that there are substantial format, content, or analysis problems with the thesis that make it unacceptable as written, but upon revision, the document will likely be acceptable. The committee will outline the problems and present them to the student. The student may be asked to resubmit the document to the committee and/or may be asked to convene an additional meeting to explain and defend the revisions to the committee. Provisional acceptance may also be granted if the student's thesis is acceptable, but their ability to defend the thesis is inadequate. In such cases, the committee will clearly define the steps needed for the student to overcome the inadequacies. The inability of a student to rectify any inadequacies may result in rejection of the thesis. All committee members must approve the revised thesis.
- *Rejection*: A thesis is rejected if the student has not adequately conducted, analyzed, or interpreted the research in the thesis, and the committee judges that the problems cannot be amended through simple revision of the document. In such cases, the student will be required to complete additional data collection and/or perform analyses and revisions to the thesis. Prior to acceptance of the revised thesis, the student may be asked to resubmit the document to the committee and/or may be asked to convene a meeting with the committee to explain and defend the revisions. All committee members must approve the revised thesis. In some cases, the problems are so serious that the final decision is to reject the thesis, leading to the student's dismissal from the program.

In the majority of cases, the thesis defense meeting will result in a number of suggested or required revisions in the thesis document. Accordingly, the student should allow sufficient time for revisions prior to the Graduate School deadline for receiving the thesis.

#### **6. Filing the Thesis with the Graduate School.**

The thesis must conform to rules established by the Graduate School. The process for submitting the thesis to The Graduate School has two components: submitting the copy for formatting approval and submitting the final copy. Be sure to note the specific instructions and deadline dates affiliated with each step. These dates are available in the University Academic Calendar of Events.

Students file the thesis electronically via the online submission system available on The Graduate School's website. The approved electronic submission must conform to the format requirements stated in the guide and must be uploaded by the deadline date as specified in the Calendar of Events. Publication of the thesis by UMI Dissertation Publishing/ProQuest Information and Learning is required by The Graduate School. The candidate must pay associated publishing fees. Your committee members may also request a paper copy of your thesis.

#### **7. Applying for Graduation.**

Students must make a formal application for graduation to The Graduate School by the end of the first week of classes of the term in which the degree will be granted (see the University Academic Calendar of Events). Degrees are granted at the end of each semester and the second summer session. A graduation fee must be paid to The Graduate School by the end of the first week of classes of the term in which the degree is earned. Students who do not graduate in the semester for which they originally applied may be charged an additional fee when they reapply for graduation.

**8. Suggested Time-Line for the MS Thesis.** See the biology department website for a detailed timeline (<https://biology.uncg.edu/wp-content/uploads/2019/01/MS-Timeline-2.pdf>)

<u>Action</u>	<u>Time</u>
Completion of Rotation Form	End of second week in first academic semester
Selection of Advisor	Either during application process or by the end of the first semester
Selection of Advisory Committee	By the end of the second semester
Plan of Study approved by advisor and committee	By the end of the second semester
Defense of the thesis proposal and completion of Plan of Study submitted to The Graduate School	Preferably by the end of the second semester, but no later than the end of the thirist semester
Majority of course work completed	End of the third semester
Distribution of thesis to committee members	During the fourth semester (no later than 1 week prior to defense meeting)
Thesis defense meeting	During the fourth semester
Applying for graduation	By the end of the first week of the semester in which the degree is granted (e.g. the first week of the Spring semester for May graduation)

## **D. DOCTOR OF PHILOSOPHY (PHD) PROGRAM**

The Ph.D. is a degree that trains students for careers in Environmental Health Science. Training is both in intellectual (e.g. integrative thinking, organization, logic, analytical approaches to problem solving, etc.) and communication (both written and oral) skills.

### **1. *Changing from the MS Thesis Program into the PhD program.***

If you were admitted as an MS thesis student into the Graduate Program in Biology and finished the degree requirements, you must still file an application to the Graduate School to be considered for admission into the PhD program. If accepted, you must complete the MS degree prior to matriculation into the PhD program.

### **2. *Selecting your PhD Dissertation Advisor.***

Students will select PhD dissertation advisors based upon shared research interests. For some PhD students, this may be done well before they arrive on campus. For others, a selection will be made at the end of the rotation period (i.e., at the end of the Spring semester of the first year). Selection of an advisor involves a mutual commitment from both the student and advisor (see Rotations for the PhD in EHS form of the Appendix).

### **3. *Selecting your PhD Advisory/Dissertation Committee.***

A student should establish an advisory committee and advisor by the end of the first year after admission. The advisor and advisory committee will council the student on coursework for the second year and outline a plan of study. Among many other responsibilities, the dissertation/advisory committee will administer and grade the preliminary exam and assess the quality and acceptability of the dissertation. The PhD Advisory/Dissertation Committee must be comprised of at least four members. Three members of the committee, including the Chair of the committee, must be members of the Biology Faculty and members of the UNCG graduate faculty. The chair of the PhD Dissertation Committee must be a full member of the Biology Department faculty and the UNCG Graduate School and must have an Endorsement to Chair Doctoral Committees. One member on the committee must be from outside the BIO department. Faculty from other departments or institutions who also have official adjunct appointments to the Biology department are considered Biology faculty. All members of the committees, including any external members, must have Graduate Faculty Status at UNCG. The Director of Graduate Studies coordinates committee appointments and adjustments and is ultimately responsible for ensuring compliance with Graduate School policies; thus, requests for adjunct or courtesy appointments to the Graduate Faculty should be made by the Director of Graduate Studies.

Committee members should be chosen on the basis of their expertise relative to the student's area of specialization and dissertation research. A person with specific research expertise is in a better position to assist the student and to examine the student's competence and progress through the degree process. After prospective committee members have consented to serve on the committee, the student should file the "Recommendation for Doctoral Advisory/Dissertation Committee Appointment" form with the Graduate School. The student is responsible for obtaining all of the necessary signatures for approval. A copy should also be submitted to the Director of Graduate Studies in Biology for the students file. If the Dean of the Graduate School approves of the proposed committee, the Dean will send a formal letter of appointment to each committee member.

### **4. *Plan of Study.***

A plan of study for the doctoral degree must be outlined by each student and her/his advisory/dissertation committee preferably in the first year and no later than the completion of 18 semester hours. The plan of study must be approved by the Director of Graduate Studies or Biology Department Head and then forwarded to the Vice Provost and Dean for Graduate Education for approval. The Director of Graduate Studies needs at least 2 weeks to review a Plan of Study. See form in Appendix.

### **5. Annual Committee Meeting.**

The full advisory committee (or the Graduate Studies Committee if the advisory committee has not been selected) should be assembled to review the progress of the student no less than once per year. The date of these meetings will be recorded on the Plan of Study form. Two weeks prior to a committee meeting, students should provide a written progress report to the committee. The report should summarize the work conducted since the last meeting (including figures and tables of data), problems that are impeding progress, a plan for work to be conducted in the next year, and a timetable for completion of degree requirements. The document should be no more than two pages. Within two weeks after the meeting, a summary should be prepared and signed by the major advisor and then submitted to the Director of Graduate Studies.

### **6. Annual Report.**

Each year every student will complete a written report that details research progress made during the preceding year and that proposes a plan of action for the following year. Students will be notified of the deadline for submitted the annual report and the Annual Report Form will be provided by the Director of Graduate Studies at least two weeks prior to that deadline. Submitted reports will be reviewed by the Graduate Studies Committee and feedback on the student's progress and proposed future activities will be provided to the student and the Graduate School. A student who fails to make satisfactory progress towards the degree may be dismissed from the Graduate School or may lose financial support from the department.

### **7. Admission to PhD Candidacy and Dissertation Proposal.**

Before a student can proceed to the dissertation, they must write, present, and defend a proposal, which states the goals and aims of the dissertation research, justifies the research, and provides a detailed plan to carry out the objectives of the research. This proposal defense is the Preliminary Exam for the PhD in EHS. The general roadmap for the written proposal and the oral presentation and defense of the proposal can be seen in Figure 1. A student should submit and defend the proposal as soon as possible during the degree program. Once a student has passed the Proposal Defense and has completed all non-dissertation coursework (everything but BIO 791 and BIO 799 on the Plan of Study), the student makes a formal application to the Graduate School for admission to candidacy for the doctoral degree. Students are encouraged to *submit* their application for admission to candidacy at the point when all elective and core course work is complete, they have passed the proposal defense, and 75% of all Bio 790 credits are complete (admission will not be granted until all BIO 790 course credits are complete).

### **8. The Dissertation Proposal and Preliminary Exam.**

Before a student can advance to candidacy and proceed to the dissertation, they must write and defend a proposal which states the goals and aims of the dissertation research, justifies the research, and provides a detailed plan to carry out the objectives of the research. The purpose of the Dissertation Proposal and Qualifying Exam is for the student to demonstrate that they have mastered technical writing skills and are able to synthesize material from courses and self-study into a plausible, testable hypothesis. **A student should submit and defend the proposal as soon as possible during the degree program.**

Students will develop a Dissertation Proposal in consultation with their primary research mentor **in an NIH or NSF format**. Briefly, the proposal is similar to a "seed" grant for an investigator who is initiating a new line of research. As such, the feasibility of the project will be evaluated based upon the student's logical arguments that have been built upon the primary literature and previous data from the research mentor's experiments. In addition, the proposal should describe the skills needed to complete the proposed project and that the student has acquired those skills or defined how they will acquire those skills. A high-quality proposal will be hypothesis-driven, rather than methods-driven.

The student has the responsibility to schedule the Dissertation Proposal Defense/Qualifying Exam. Students must submit the finished proposal two weeks prior to the scheduled proposal defense date to give the committee ample opportunity to review and comment on the document. On the scheduled proposal defense date, the committee will assemble and provide written comments regarding the proposal to the committee chair. At this point, the proposal will be discussed in the presence of the student. The student must be prepared to defend the details of the proposal (e.g., logic, hypothesis, experimental design, etc.) and to discuss all issues regarding the scientific and intellectual foundations of the proposed research. This includes general background from EHS course degree program material.

- **The Research Mentor:** The role of the research mentor during the Dissertation Proposal is clearly defined:
  - **Role in Proposal Development:** The mentor is active and is expected to guide the student towards a worthwhile project. The mentor assists the student by discussing issues related to the research including philosophy, aims, and methodology. It is expected that the student writes the proposal, whereas the mentor's role in the proposal writing is limited to making minor editorial revisions and suggesting organizational changes. The mentor may not re-write major portions of the proposal for the student. It is realized, however, that the proposal serves multiple functions as an educational and training exercise in grant writing, as a roadmap for the completion of the student's dissertation research, and as an evaluation tool.
  - **Role in the Proposal Defense/Qualifying Exam:** The mentor will introduce the student, set the agenda for the meeting, and make sure that the defense and qualifying exam proceeds in a timely and orderly fashion. **Beyond that role, the mentor does not ask questions of the student related to the dissertation research and may not speak in an attempt to lead the student or clarify a student's answer.** After questioning has ended and the student leaves the room, the mentor will fully participate in the evaluation of the student's performance. The reason for this policy is that the faculty wishes to ensure that the student can independently explain and defend the proposal.
- **The Proposal Defense/Qualifying Exam:** Three factors will be used to assess whether a student has successfully defended their proposal – the **written proposal**, the **public presentation**, and the **oral defense**. The student's performance in these three areas is evaluated as an overall picture, not as three separate entities.
  - The **written proposal** will be evaluated as a stand-alone document. In this case, the student's ability to effectively communicate their ideas and research plan will be evaluated based upon readability, clarity, logic, and completeness. This is the written component of the qualifying exam.
  - The **oral component** of the exam involves a **public presentation** and **oral defense**. The student will be evaluated on their ability to clearly explain the details of the proposal and to answer questions about the content of the proposal. During this process the student will be expected to know the intellectual and scientific foundations that underlie the proposed research (e.g. ecosystem function, toxicological mechanisms, genomics) and **questions may cover any aspect of the coursework** taken by the student during the period of graduate study on any subject logically related to, and basic to an understanding of, the subject matter of the major and minor areas of study (Graduate School Policy). Finally, the student will be expected to defend the proposed work from criticism levied by the Dissertation Committee (i.e. **oral defense**).
- **Outcome of Proposal Defense/Qualifying Exam:** Unanimous approval by the committee is required for passing the preliminary examination, and there are three possible outcomes to the proposal defense: Acceptable, acceptable with the need for improvement, and unacceptable.
  - **Acceptable:** Indicates the student is prepared for PhD candidacy and that their proposal can be viewed as an approved roadmap for completion of the dissertation. Thus, any major changes in an approved

proposal should be discussed with, and approved by, the Dissertation Committee. The accepted proposal and any subsequent changes must be submitted to the Director of the Graduate Program in Biology.

- *Acceptable with the Need for Improvement*: This outcome means that the idea and the experiments proposed are adequate, but the student's performance in one of the three areas of evaluation (i.e. Proposal presentation, oral defense, or written proposal) was inadequate. The Dissertation Committee is to provide a written evaluation that explains how the student is to "improve" and a time frame within which the student must meet the conditions set forth by the committee. Common outcomes may require that a student to take another course, revise the written proposal, or repeat the oral defense of the proposal (i.e. the oral exam). A student may resubmit a revised proposal and/or set a new defense no earlier than three months and no later than six months after the initial review. Failure to meet the conditions of the Dissertation Committee within the time frame set by the committee will result in dismissal from the program.
- *Unacceptable*: The Dissertation Proposal is one that lacks clarity and focus and is poorly presented and/or poorly defended. Following this outcome, a student may resubmit a revised proposal and set a new review date no earlier than 3 months and no later than 6 months after the initial review. If the second dissertation review also leads to an unacceptable rating, the student will be terminated from the program.

Because the purpose of the Dissertation Proposal and review are to aid the student in the planning of the dissertation research, a **completed dissertation** will not be accepted until one year after an acceptable proposal has been submitted to the Director of Graduate Studies in Biology.

#### **9. Filing for Admission to PhD Candidacy.**

When the student has completed all required non-dissertation course work (everything but BIO 791 and BIO 799), and has passed the dissertation defense, the student can apply to the Graduate School for admission to candidacy for the PhD degree. **It is the responsibility of the student to complete this essential step.** Students are encouraged to *submit* their application for admission to candidacy at the point when all elective and core course work is complete, they have passed the proposal defense, and 75% of all Bio 790 credits are complete (admission will not be granted until all BIO 790 course credits are complete). The following two forms must be submitted along with the Application for Admission to Candidacy.

<https://grs.uncg.edu/wp-content/uploads/2012/02/Results-of-Doctoral-Preliminary-Examinations.pdf>

<https://grs.uncg.edu/test/wp-content/uploads/2016/08/Application-for-Admission-to-Candidacy-Doctoral-Candidates-Only.pdf>

#### **10. Defending the Dissertation.**

It is the advisor's role to determine when the written dissertation is acceptable and defensible. A student cannot schedule a dissertation defense without the approval of the research advisor. As with the proposal, the final dissertation should not, in the advisor's view, need major foreseeable modifications. On the other hand, the student should understand that revisions would almost certainly be forthcoming. The student must give each committee member a copy of the dissertation no less than two weeks (ten business days) prior to the scheduled defense date. Students should follow the guidelines set forth by the UNCG Graduate School when preparing the dissertation.

The Graduate School requires that all PhD students submit the Final Oral Examination Schedule form at least two weeks prior to the scheduled oral defense (<https://grs.uncg.edu/wp-content/uploads/2016/08/Final-Oral-Examination-Schedule.pdf>). The dissertation defense will begin with a presentation of the completed thesis research. This portion of the process will be open to the university community and will be announced through the BIO department office and will be added to the Graduate School calendar. After a period of open

questioning by all that are in attendance, a closed session will commence where committee members will ask the student questions related to the dissertation research. After the questioning, the committee will deliberate to assess the performance of the student. Three outcomes are possible: acceptance, provisional acceptance, and rejection. Acceptance of the dissertation indicates that the student has met the standard set forth for dissertations by the department. Minor revisions may still be required of an acceptable dissertation prior to submission to the Graduate School. However, the major advisor can supervise these revisions. Provisional acceptance indicates that there are substantial format, content, or analysis problems with the dissertation that make it unacceptable as written, but that upon revision, the document will likely be acceptable. The committee will outline the problems in writing and present them to the student. Prior to acceptance of a revised dissertation, the student must convene an additional meeting to explain the revisions to the entire committee. All committee members must approve of the revised dissertation. Inability of a student to rectify any inadequacies will result in a rejection of the dissertation. A dissertation is rejected if the student has not adequately conducted, analyzed, or interpreted the research that was proposed. In such cases, the student will be dismissed from the program or will be required to initiate a new thesis project. When the committee accepts the dissertation, a form is filed with the Graduate School.

**11. Filing the Dissertation with the Graduate School.**

The process for submitting the dissertation to The Graduate School has two components: submitting the copy for formatting approval and submitting the final copy. Be sure to note the specific instructions and deadline dates affiliated with each step. These dates are available in the University Academic Calendar of Events. Students file the dissertation electronically via the online submission system available on The Graduate School’s website. In final form, the dissertation must comply with the rules prescribed by the Graduate Studies Committee in the “Guide for the Preparation of Thesis and Dissertations” in addition to the requirements of the Department of Biology. The approved electronic submission must be uploaded by the deadline date as specified in the University Academic Calendar of Events. Publication of the dissertation by UMI Dissertation Publishing/ProQuest Information and Learning is required by The Graduate School. The candidate must pay associated publishing fees. Your committee members may also request a paper copy for their files.

**12. Applying for Graduation.**

Students must make a formal application for graduation to The Graduate School by the end of the first week of classes of the term in which the degree will be granted (see the University Academic Calendar of Events). Degrees are granted at the end of each semester and the second summer session. A graduation fee must be paid to The Graduate School by the end of the first week of classes of the term in which the degree is earned. Students who do not graduate in the semester for which they originally applied may be charged an additional fee when they reapply for graduation.

**13. General Time-Line for the Ph.D.** See the biology department website for a detailed timeline (<https://biology.uncg.edu/wp-content/uploads/2019/01/MS-Timeline-2.pdf>)

<u>Action</u>	<u>Time</u>
Selection of major advisor	Prior to the first semester (during application process), or at the end of the first academic year.
Selection of Advisory Committee	By the end of the first year
Plan of study approved by advisor and committee	Before completion of eighteen semester hours
Annual Committee Meeting and Report	Annually after the committee has been formed.

Dissertation Proposal Defense	By the end of the fourth or fifth semester
Student Applies for Candidacy	After successful completion of written and oral exams and acceptance of dissertation proposal and plan of study approved by Graduate school
Distribution of Dissertation	No sooner than one year after approval to committee members of the proposal
Final oral Presentation Schedule Form (Graduate School)	Complete and file two weeks prior to the scheduled dissertation defense
Dissertation Defense Meeting	No later than two weeks after distribution to committee members
Apply for graduation	By the end of the first week of the semester in which the degree is to be granted

#### **F. USE OF TEACHING SPACE AND EQUIPMENT FOR RESEARCH.**

Research activities associated with the MS and PhD degrees need to be contained within research labs. The BIO Department will do everything within reason to accommodate the odd/limited request for use of teaching space and equipment for use in research, but the granting of these requests will be limited and requires prior approval from the Department Head.

#### **ACKNOWLEDGEMENTS**

The [Biology Graduate Handbook](#) has been modeled after the [The Graduate Manual: A Guide for Success](#) from the Department of Nutrition (NTR) at UNCG. The Graduate Studies Committee in Biology is grateful for the template and advice provided by the Graduate Studies Committee in Nutrition, especially the efforts of Drs. Keith Erikson. The Graduate Studies Committee in Biology is also grateful for comments from Biology faculty that improved previous versions of this document.

## APPENDIX

## Rotations for the PhD in EHS Degree Program

Rotations are blocks of time that incoming students spend working with potential faculty mentors on research projects. The purpose of a rotation is to let both the student and potential mentors get to know one another's interests to determine if working together on a research project in a student-mentor relationship will be a good fit.

Rotations are mandatory for incoming students to our PhD program.

If students enter the degree program with an advisor in mind who has agreed to mentor the student, then the student will rotate with that mentor. A signature from both the student and faculty mentor is required if this is the case (see below) and should be submitted at the start of the first semester.

If students enter the degree program without an advisor in mind or if the advisor who the student would like to work with believes the student would benefit from a rotation experience, the student should rotate with 1-3 potential mentors.

Students should sign up for the Research Lab Rotation course (Bio 749; 1 credit) in both the Fall and Spring Semesters. A signature from both the student and 1-3 potential graduate advisors who are willing to have the student rotate through their lab is required if this is the case (see below) and should be submitted at the end of the first year.

The expectation for the rotation is that the student will spend approximately 8 weeks working with the faculty member for the rotation.

Students who are going to rotate should discuss the rotation options with the Director of Graduate Studies when being advised what courses to enroll in during their first semester.

Incoming student has already established their faculty mentor.

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Faculty Mentor

\_\_\_\_\_  
Date

Incoming student has not already established their faculty mentor.

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Rotation Faculty

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Date

## Rotations for the MS in Biology Degree Program

Rotations are blocks of time that incoming students spend working with potential faculty mentors on research projects. The purpose of a rotation is to let both the student and potential mentors get to know one another's interests to determine if working together on a research project in a student-mentor relationship will be a good fit.

Rotations are not mandatory for incoming students to our MS programs if students enter the degree program with an advisor in mind who has agreed to mentor the student. A signature from both the student and faculty mentor is required if this is the case (see below).

Rotations are mandatory if the student enters the MS degree program without an advisor in mind or if the advisor who the student would like to work with believes the student would benefit from a rotation experience. If a student is going to rotate, she/he is required to sign up for the Research Lab Rotation course (Bio 749; 1 credit). The student is required to rotate with 1-3 faculty members. A signature from both the student and 1-3 potential graduate advisors who are willing to have the student rotate through their lab is required if this is the case (see below). The expectation for the rotation for MS students is that the student will spend approximately 4 weeks working with the faculty member for the rotation.

MS students who are going to rotate are required to sign up for this course in the semester that they enter the program (either Fall or Spring).

Students who are going to rotate should discuss the rotation options with the Director of Graduate Studies when being advised what courses to enroll in during their first semester.

Incoming student has already established their faculty mentor.

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Faculty Mentor

\_\_\_\_\_  
Date

Incoming student has not already established their faculty mentor.

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
\_\_\_\_\_  
Rotation Faculty

\_\_\_\_\_  
\_\_\_\_\_  
Date

## PhD EHS Doctoral Plan of Study Form

The University of North Carolina at Greensboro  
Department of Biology  
PhD Program in Environmental Health Science (EHS)  
Plan of Study and Approval Forms

Current Date:

### I. GENERAL INFORMATION

Student's Name:

Student ID#:

Advisor's Name:

Contact Information

Local Address:

Email:

Home or Cell Phone Number:

### II. EDUCATIONAL BACKGROUND

#### A. Undergraduate degree

Name of Degree:

Major:

Date Obtained:

Institution:

#### B. Graduate Degree (S) earned (if applicable)

Name of Degree:

Major:

Date Obtained:

Institution:

### III. EHS PHD PROGRAM

#### A. General Information

Month and Year of Enrollment:

Date Admitted to the Graduate Program:

Month and Year of Expected graduation:

#### B. Coursework Summary for EHS

Required Core Courses (17 hours)

Electives (9 hours minimum)

Research and Independent Study (17 hours maximum)

Dissertation (BIO 799, 12 hours minimum)

Total- 55 hours minimum



iii Research

<u>Course Name</u>	<u>Course Number</u>	<u>Credit Hours</u>	<u>Semester</u>	<u>Grade</u>
BIO 790 - Directed Study in EHS – Pre-Candidacy (12 cr limit)				
BIO 791- Independent Doctoral Research - Post Candidacy (15 cr limit)				
<b>TOTAL Research Credits</b>				

iii Dissertation

<u>Course Name</u>	<u>Course Number</u>	<u>Credit Hours</u>	<u>Semester</u>	<u>Grade</u>
BIO 799 - Dissertation (at least 12 cr required)	BIO 799	12-18		

iv Credit Hour Totals

Core Courses	17
Elective Courses	9
Directed or Independent Study	
Dissertation	12-24
<b>TOTAL CREDITS</b> (55 credit hour minimum)	

Student Signature \_\_\_\_\_ Date \_\_\_\_\_

Dissertation Advisor Signature \_\_\_\_\_ Date \_\_\_\_\_

Graduate Director Signature. \_\_\_\_\_ Date \_\_\_\_\_



E. Other Requirements (For Student and Departmental Records Only)

Completed/Accepted	Proposed Date	Date Completed
i. Formation of Dissertation Committee		
ii. Submission of Plan of Study to Graduate School		
iii. Dissertation Proposal		
Accepted Title:		
iv. Dissertation Proposal Oral presentation and Defense		
v. Admission of Candidacy		
vi. Oral Defense of Dissertation		
vii. Dissertation Completed		

f. Yearly committee meeting dates and summary Remove this section since the student will submit forms with grad committee and they will also submit summaries of meetings to the DGS

Student Name \_\_\_\_\_

Committee Members

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

Meeting Date	Meeting Summary

## **MS in Biology Plan of Study Form:**

The University of North Carolina at Greensboro  
Department of Biology  
Master of Biology Program  
Plan of Study and Approval Forms

Current Date:

### **I. GENERAL INFORMATION**

Student's Name:

Student ID#:

Advisor's Name:

#### **Contact Information**

Local Address:

Email:

Home or Cell Phone Number:

### **II. EDUCATIONAL BACKGROUND**

#### **A. Undergraduate degree**

Name of Degree:

Major:

Date Obtained:

Institution:

#### **B. Graduate Degree (S) earned (if applicable)**

Name of Degree:

Major:

Date Obtained:

Institution:

### **III. MS PROGRAM**

#### **A. General Information**

Month and Year of Enrollment:

Date Admitted to the Graduate Program:

Month and Year of Expected graduation:



C. **Other information:** (For student and departmental records only)

Completed/Accepted	Date Completed
i. Selection of Thesis Advisor Name:	
ii. Formation of Thesis Committee Names of Members:	
iii. Thesis Proposal Title	
iv. Thesis Proposal Oral presentation and Defense	
v. Submission of Plan of Study to Graduate School	
vi. Oral Defense of Thesis	
vii. Thesis accepted by committee	

**Department of Biology**  
**MS in Biology**

**Thesis Proposal Presentation and Meeting Approval Page**

This form should be signed after the proposal has been accepted by the committee members and then submitted to the Director of Graduate Studies and then placed on record in the department.

Student Name \_\_\_\_\_

Student Signature \_\_\_\_\_

Date of Proposal Presentation and Meeting \_\_\_\_\_

Title of Thesis Proposal \_\_\_\_\_

**Committee Members and Signatures:**

Advisor \_\_\_\_\_  
Signature \_\_\_\_\_

Member \_\_\_\_\_  
Signature \_\_\_\_\_

Member \_\_\_\_\_  
Signature \_\_\_\_\_

Member \_\_\_\_\_  
Signature \_\_\_\_\_

Graduate Director Signature \_\_\_\_\_ Date \_\_\_\_\_

**Department of Biology**  
**MS in Biology**

**Final Thesis Acceptance Approval Page**

This form should be signed after the thesis has been accepted by the committee members and then submitted to the Director of Graduate Studies and then placed on record in the department.

Student Name \_\_\_\_\_

Student Signature \_\_\_\_\_

Date of Thesis Presentation and Defense \_\_\_\_\_

Date of Final Acceptance by Committee \_\_\_\_\_

Title of Thesis: \_\_\_\_\_

**Committee Members and Signatures:**

Advisor \_\_\_\_\_

Signature \_\_\_\_\_

Member \_\_\_\_\_

Signature \_\_\_\_\_

Member \_\_\_\_\_

Signature \_\_\_\_\_

Member \_\_\_\_\_

Signature \_\_\_\_\_

Graduate Director Signature \_\_\_\_\_ Date \_\_\_\_\_

## Application for Graduate Student Research Support

Biology graduate students can apply for departmental funds to support their MS or PhD research (not rotation research) each semester. Students must submit the application form and research proposal by the indicated date. Proposals will be evaluated and ranked by members of the departmental Graduate Studies Committee and awarded based on rank and availability of funds.

### General Information:

- **Due dates:** Fall Semester - Noon on Friday 9/20/19. Spring Semester – Noon on Friday 1/24/20
- **Submit to:** Director of Graduate Studies (See mailbox labeled Graduate Studies in the Biology Office)
- **Award Announcements:** Within seven days of submission date.

### Criteria for Review of Proposals:

- **Follows instructions:** Failure to follow instructions and/or formatting guidelines will result in loss of consideration for funding (i.e. rejected without review). In addition, incomplete proposals will not be accepted; this includes proposals missing required signatures.
- **Readability:** Is the proposal written in a clear and accessible manner? Was the proposal written entirely by the student? Importantly, with the exception of the Background and Significance section, the proposal is not be copied from previously submitted proposals.
- **Proposed Research:** Do the experimental approaches align with the hypothesis/question to be explored? Is completion of the proposed research feasible in the time period of a semester? Are expected results described (only in brief)?
- **Relationship to Thesis/Dissertation:** The relationship of the proposed work to the student's thesis/dissertation aim(s) should be clearly articulated. Side projects outside the scope of the student's thesis or dissertation project will not be considered for funding.
- **Meeting Benchmarks:** Is the student meeting benchmarks and expectations as outlined in the Timeline/Checklist documents for the MS and PhD degrees? Is the student making adequate progress on their thesis or dissertation project? Are they attending weekly seminars?
- **Annual Report:** Did the student submit their annual report on time and in a properly completed manner? Note: This does not apply to first-year MS students.
- **Budget:** Has the student been funded by this mechanism previously and how much have they received? Is the budget justified? Are the materials being requested specific for the proposed project or are they general lab supplies/reagents? If the latter, then the justification needs to be very strong that the project cannot move forward without the requested general lab materials.
- Finally, the GSC's budget is limited and we may be able to fund only those proposals that are deemed most meritorious.

## RESEARCH FUNDS APPLICATION COVER PAGE

Title of Proposal: \_\_\_\_\_

Student Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Advisor Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Amount Requested \_\_\_\_\_ (\$500 maximum; if over \$500, address this in your justification)

List ALL prior graduate student research support received from the GSC; indicate amount and semester/year.

Indicate other sources of research support for the proposed project, such as advisor grant or student fellowship:

---

1) **Proposal Document** (Attach to this cover page):

- The proposal is to be no more than one page, written in 12-point font, single-spaced, with 1" margins.
- The proposal should be organized in the following order:
  - Background and Significance
  - Hypothesis and/or Experimental Question
  - Experimental Approaches
  - Expected Results

2) **On a separate page provide** (in the following order):

- A description of the relationship of proposed research to the Dissertation/Thesis Project: 3 to 4 sentences
- An itemized budget with one paragraph justification
- A summary of progress made in the previous cycle of funding. Discuss how funds from previous semester were used and what progress was made and/or if there were problems that hindered progress. (3 to 4 sentences)
- If the proposed project is a continuation of previous funding, indicate why a continuation is needed. If a continuation is needed because problems were encountered that hindered progress, then explain the rationale for using the approaches described in the current proposal to overcome those problems. Write your explanation in 3 to 4 sentences.

## Travel Request Form for Graduate Students

The Biology department has limited funds to support graduate attendance to a professional meeting. There is a maximum award of \$250. If you know of your meeting plans in advance (summer or fall prior to the meeting), it is expected that you also apply for travel funds from the UNCG Graduate Student Association. If you are traveling in the summer, it is best to apply for reimbursement the following fall semester.

Please fill out this form and support it **at least a month in advance of your planned meeting**.

1. Name \_\_\_\_\_

2. Advisor \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

3. Meeting Information:

Name of meeting \_\_\_\_\_

Location and Dates \_\_\_\_\_

Title of presentation \_\_\_\_\_

Poster \_\_\_\_\_ or Talk \_\_\_\_\_ Check One

4. Other sources of funding, including mentor.

5. Budget Registration \_\_\_\_\_

Travel \_\_\_\_\_

Housing \_\_\_\_\_

Total:

6. Amount requested from Department \_\_\_\_\_