



Biology and Marine Biology
Graduate Student Handbook
2014-2015

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This Graduate Student Handbook has been carefully screened for errors and is regularly updated. However, should this handbook and the University Graduate Catalog differ, the University Graduate Catalog for the year of enrollment shall be considered the final authority.

Graduate Programs

The Department of Biology and Marine Biology offers graduate programs leading to the following degrees: Master of Science in Biology, Master of Science in Marine Biology, and Doctor of Philosophy in Marine Biology. Programs are described in detail below.

Master of Science (MS) degrees

The faculty have designed the Master of Science (MS) degree programs to: (1) prepare students for further graduate work leading to the Ph.D.; (2) provide professional biologists with advanced research and education opportunities; (3) prepare students as managers of coastal and marine resources, trained to deal with contemporary problems in the environment; (4) provide students with a broadly-based graduate program allowing for specialization in the diverse fields of inquiry represented by the faculty of the department; and (5) provide increased avenues for secondary school teachers to pursue graduate studies. All students in the MS degree program should gain an in-depth knowledge of a chosen specialty, knowledge of available resource materials, and basic writing and problem-solving skills.

As you enter the MS degree program in the Department of Biology and Marine Biology, you should discuss your educational and job-related goals with your graduate advisor, committee members, and faculty at large. These individuals can help you in determining the most appropriate instructional and research programs available at UNC Wilmington. For example, if your goals include a continuation of your studies at the Ph.D. level, faculty members will probably advise you to pursue extensive independent research, while minimizing the number of formal courses taken. Conversely, if your employment goal is to work in the private or government sectors, understanding the conduct of research is important, but a breadth of course work may be the most appropriate approach to this goal.

MS Degree Requirements

General Requirements for the Master of Science

1. The program requires 30 semester hours of graduate study.
2. Six (6) semester hours of credit, if approved by your graduate committee and the departmental graduate coordinator, may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to a “B” or better.
3. A minimum of 24 semester hours of graduate study must be completed in residence at UNC Wilmington.
4. No more than nine (9) hours of graduate level courses offered by other science departments at UNC Wilmington may be applied toward the 30 credit hour requirement for your degree.
5. Undergraduate courses taken to make up deficiencies will not count toward the 30 hours required.
6. All deficiencies must be remedied before graduation.
7. Students must successfully complete both a comprehensive oral examination and a defense of the thesis.
8. Students will present a thesis based on original research that is acceptable to the committee, before graduation.
9. Students must complete an approved course of study within five years of the date of the first registration for graduate study.

Coursework Requirements for the Master of Science

Required Courses for both Biology and Marine Biology MS degrees

The following courses are required of all students seeking a Master of Science degree in biology or marine biology:

BIO 501 Introduction to science as a profession (2)

BIO 599 Thesis (minimum of 3 and maximum of 6 credits applied toward the 30 credit requirement)

Core courses for each MS degree program

In addition to the required courses for both biology and marine biology degrees listed above, each student, in consultation with his/her graduate committee, shall devise a program of study that meets the requirements below, complements the thesis research, and satisfies individual needs and interests.

MS in Biology students must complete two of the following:

BIO 519 Advanced Topics in Cellular and Molecular Biology (4)
BIO 534 Advanced Ecology (3) and BIOL 534 Advanced Ecology Lab (1)
BIO 549 Advanced Topics in Animal Physiology (4)
BIO 530 Advanced Topics in Evolutionary Biology (3) and BIOL 530 Advanced Topics in Evolutionary Biology Lab (1)

A minimum of 14 hours of elective credit; select from any 500 level biology course, BIO 601-605 and BIO 694. Graduate courses from other disciplines may also be selected, with approval of the student's thesis committee.

MS in Marine Biology students must complete two of the following:

- a) BIO 534 Advanced Ecology (3) and BIOL 534 Advanced Ecology Lab (1) **OR**
BIO 549 Advanced Topics in Animal Physiology (4) **OR**
BIO 519 Advanced Topics in Cellular & Molecular Biology (4) **OR**
BIO 530 Advanced Topics in Evolutionary Biology (3) and BIOL 530 Advanced Topics in Evolutionary Biology Lab (1)
- b) BIO 560 Estuarine Biology (4)
- c) BIO 564 Biological Oceanography (3) and BIOL 564 Biological Oceanography Lab (1)

A minimum of 14 hours of elective credit; select from any 500 level biology course, BIO 601-605 and BIO 694. Graduate courses from other disciplines may also be selected, with approval of the student's thesis committee.

Doctor of Philosophy (PhD) degree

The Department of Biology and Marine Biology offers a program of study and research leading to the doctor of philosophy (PhD) in marine biology. The program provides students with a broad background and overview of the fields comprising marine biology and make use of the diverse interests of the marine biology faculty within the department. As is generally the case, the PhD program is primarily a research degree. As such, it is intended to serve students with interests in conducting research in academia, industry, and government along with those who intend to become faculty in undergraduate teaching institutions, managers in technology-based industries and policy makers in government. Students will learn the process of identifying, defining and solving an original research problem. The program also includes a teaching practicum with classroom instruction in pedagogical techniques and technologies along with lecture experience under the guidance of a faculty mentor.

PhD Degree Requirements

General Requirements for the Doctor of Philosophy

1. The program requires 78 post-baccalaureate (48 post-MS) semester hours of graduate study.
2. The maximum amount of credit that a PhD student may count toward a doctorate from a master's degree program is 30 semester hours. This applies whether the master's degree was earned at UNCW or elsewhere. Six post-MS semester hours of credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to "B" or better and must be approved by the Graduate Advisory Committee.
3. A minimum of 24 semester hours of graduate study must be completed in residence.
4. Each student must pass a Candidacy Exam that includes an oral examination based on the student's dissertation prospectus. The Candidacy Exam should be taken before the beginning of the third year in the PhD program.
5. The student must complete and defend a dissertation based on a research program approved by the student's committee that results in an original, high quality, significant, and substantial body of research.
6. All requirements for the degree must be completed within six years after admission to the PhD program (i.e. post-MS).

Additional requirements for all students seeking the PhD in Marine Biology

1. Students must have a master's degree or must complete course and research requirements of a master's degree program within the department as described above.
2. Students must complete the following course requirements:

Graduate Seminars in Marine Biology

(2-3 credit hr each; minimum of three differently numbered seminars required) (6)

BIO 601 Oceanography and Environmental Science*

BIO 602 Ecology

BIO 603 Physiology and Biochemistry

BIO 604 Cellular and Molecular Biology

BIO 605 Evolution and Biodiversity

* Required of all students. Prerequisite: Biological Oceanography (564) or equivalent

Additional required courses:

BIO 690 Seminar (1)

BIO 694 Practicum in College Biology Teaching (2)

BIO 699 Dissertation (12)

In addition to the above requirements, each student, in consultation with his/her dissertation committee, shall select a minimum of **24** hours of elective credit that may include graduate courses and research hours (BIO 698).

For Biology or Marine Biology MS students considering entering the PhD Program

Admission requirements

Students will be admitted to the PhD program by a majority vote of the Graduate Advisory Committee of the Department of Biology and Marine Biology based on eligibility requirements and available resources. Under most circumstances, students admitted to the program will have met the following requirements:

1. Received a MS degree or equivalent from an accredited university OR, if entering with a BS, completed all the requirements for the MS marine biology degree at UNCW except submission of the bound thesis.*
2. An overall graduate grade point average of at least 3.0 out of 4.0.
3. A score on the Graduate Record Examination General Test with a target of the 65th percentile or better (average for the verbal, quantitative and analytical writing sections).
4. A score of at least 550 on the paper version (79 on the computer version) of the Test of English as a Foreign Language (TOEFL) for applicants whose native language is not English.

*Under certain circumstances, a student may, with the support of his or her faculty advisor, choose to apply to the PhD program before completion of the requirements for the MS biology or marine biology degree. Students who choose this path after their first year of core courses and research planning must complete a new application, including letters of recommendation, to enter the PhD program. If accepted, these students would not take their MS oral preliminary exam, but would continue on with their study and take the PhD candidacy exam in year 3. Students who decide upon a PhD later in their academic career, and who have, thus, already taken their preliminary oral exam, may apply to the PhD program, again with the support of their advisor. Students who choose this path must complete a new application, including letters of recommendation, to enter the PhD program. If accepted, these students may decide to bind a MS thesis, or simply continue on with their study and research and take the candidacy exam in year 3.

Documents to be submitted for admission to the PhD Program

All applicants must submit:

1. An application for graduate admission
2. Official transcripts of all college work (undergraduate and graduate)
3. Official scores on the Graduate Record Examination (verbal, quantitative, and analytical writing)
4. Three recommendations with accompanying letters by individuals in professionally relevant fields, one from the intended faculty mentor.
5. Official score on the TOEFL (if applicable)
6. Current curriculum vitae
7. Detailed summary of M.S. thesis research (maximum of three pages)
8. Statement of interest for Ph.D. research (maximum of three pages)
9. Reprints or copies of any publications (if applicable)

Departmental Policies related to Graduate Study

Role of the Graduate Advisor

You must have a graduate advisor. Your advisor will be determined by mutual consent. Full-time students will not be admitted to the program unless they have obtained the consent of a faculty member to serve as their advisor. Part-time and non-degree students may be admitted without prior consent of an advisor. In such cases, the departmental graduate coordinator will serve as interim advisor. If you are unable to continue with your original advisor and, in consultation with the departmental graduate coordinator, are unable to obtain a new advisor, you will be ineligible to continue in the program.

The primary role of your graduate advisor is to help you choose a thesis topic and assist you with the design of your research program. Your advisor, therefore, should have expertise in the area of your research and usually will agree to advise only those students wishing to pursue a research topic within his or her range of expertise. Your graduate advisor will also help you in selecting other faculty members to serve on your graduate committee. The committee should be selected during your first year in residence. You should choose your graduate committee members based on their ability to provide you with additional expertise in designing and carrying out your thesis research. Any tenure-track graduate faculty member within the department is eligible to be your graduate advisor and the chair of your graduate committee if he or she provides the needed expertise. If pursuing a PhD, graduate faculty must also be eligible to recruit PhD students.

Under unusual circumstances, you may elect to change graduate advisors during the course of your degree. This process must be accomplished with the knowledge and consent of both your new and current graduate advisor, and in consultation with the departmental graduate coordinator, who will oversee the process and provide the necessary forms that must be completed.

The Graduate Committee

All graduate committees are formally appointed by the department chair. You should submit the appropriate form to notify the chair in writing of your committee choices. The chair will then make the formal appointments.

Your graduate committee will help you in many ways. Members will assist in putting together your degree program and must approve your program of courses. They will also assist you with the development of the research proposal and must approve the research project. They will be prepared to offer you advice and counsel throughout your degree program on any aspect of the program. Each committee member will read, edit, and evaluate your thesis and must approve the final draft. Your committee is responsible for conducting your comprehensive examinations and they will evaluate your performance to determine whether you pass or fail.

It is very important that your committee be carefully chosen and that you maintain close contact with each member throughout your degree program. It is especially important to keep them informed of your progress on research and the writing of your thesis. When they do not know what is being done, they will assume that nothing is happening. To assure that your committee is kept informed about your progress, the department suggests that the student's committee be convened **at least** once each semester. Forms reporting the outcome of each meeting are provided to all students and must be turned in to the graduate coordinator. The relationship between you, your advisor, and your committee is a critical one. Maintain good working relations, and generally the advisor and committee will be of great help. If the relationship becomes too distant, you will likely lose much of the opportunity to make the most of your time in the graduate program.

MS

For the master's degree programs in Biology and Marine Biology, the student will have a Thesis Committee.

Before the end of the first semester in the MS program, and in consultation with the major advisor, each student will select a Thesis Committee of at least 3 members.

At least two committee members, including your major advisor, should be from the faculty of the Department of Biology and Marine Biology.

The third committee member may be (1) a graduate faculty within our department, from another department at UNCW, or from a department at another university, (2) an adjunct graduate faculty member of our department, or (3) a PhD (or equivalent terminal degree) scientist outside of a traditional university setting, which would require a review of the individual's CV by the GAC, and approval as adjunct graduate faculty by the Graduate School.

A fourth committee member may be any of the above, or any other individual who can contribute to the MS student's scholarly development, and receives approval as adjunct graduate faculty by the Graduate School.

PhD

For the Ph.D. degree program in Marine Biology, the student will have a Dissertation Committee.

Before the end of the first year in the Ph.D. program, and in consultation with the major advisor, each student will select a Dissertation Committee of at least 5 members.

Three of the committee members, including the major advisor, must be graduate faculty of the Department of Biology and Marine Biology.

The fourth committee member may be (1) a graduate faculty within our department, from another department at UNCW, or from a department at another university, (2) an adjunct graduate faculty member of our department, or (3) a PhD (or equivalent terminal degree) scientist outside of a traditional university setting, which would require a review of the individual's CV by the GAC, and approval as adjunct graduate faculty by the Graduate School.

The fifth committee member may be any of the above, or any other individual who can contribute to the PhD student's scholarly development, and receives approval as adjunct graduate faculty by the Graduate School.

One member must be from outside the department.

Annual Review of Progress

Annually, the departmental graduate coordinator will review the progress of each graduate student in the biology and marine biology programs. The review is designed to determine if you are making satisfactory progress toward your degree. Milestones such as completion of identified deficiencies, selection and meeting of your thesis committee, reports of committee meetings, presentation at the prospectus symposium, submission of a signed prospectus, and satisfactory progress in course work will be reviewed. Should your progress be less than satisfactory, the departmental graduate coordinator will meet with you and your faculty advisor to discuss strategies to help your progress.

MS degree policies

MS Thesis Prospectus

Oversight of your course work and your original research is the responsibility of the university faculty. Failure to monitor these elements may result in considerable strain on the student-graduate advisor-university relationship. To promote a firm understanding of expectations of you in your educational and research program, a prospectus prepared early in your program is essential.

The prospectus should contain three elements: **(1) Program of Course Work**, **(2) Literature Review**, and **(3) Research Proposal**.

1. Program of Course Work

You and your graduate committee should develop, by mutual agreement, a course sequence for one to two years based upon projected course offerings.

- a. Your program should reflect the broad aspects of course offerings in biology or marine biology, but should provide some focus concerning your specific research interests.
- b. Your program should reflect your background and your preparation; it should remedy deficiencies from your undergraduate coursework.
- c. Your program should identify required and collateral courses so that all requirements are met.

2. Literature Review

A review of the pertinent primary literature concerning the specific research topic mutually agreed upon by you and your graduate advisor should be completed. The review should be considered a demonstration of your command of the primary literature within your intended field of study.

- a. Using conventional or computer-based searching techniques, and/or consultation with persons knowledgeable in the field, you should review major relevant research papers in your area of study.
- b. Your review should include broad papers in the field of study and specific papers related directly to the research topic.

- c. Your review should show the data gap which your research will address.
- d. Your review should be written in scientific style and include a literature cited section written in the format of a major journal in your field of study.

3. Research Proposal

A research proposal, written in narrative form, describing the objectives, hypotheses, methodology, and data analyses, should be completed before you start your thesis research.

- a. Your research proposal can be broad-based in nature, especially if the topic or approach is novel.
- b. The document should address the significance of the study considering the literature cited.
- c. The objectives of your study should be clearly stated. Objectives are measurable or demonstrative accomplishments.
- d. Hypotheses and anticipated results should be discussed.
- e. Your research proposal should include a timetable for accomplishment of the proposed objectives.
- f. The entire document should be considered conditional allowing changes because of circumstances beyond your control.
- g. Your methodology for accomplishing each objective should be presented in as much detail as feasible.
- h. The kinds of data to be collected and your method(s) of analysis should be clearly stated.
- i. Your research proposal can be used to measure your progress and to help develop a schedule for accomplishments.

General Timetable

To ensure the timely submission of the prospectus by the end of the second semester:

- a) A copy of the signed prospectus cover sheet must be submitted to the graduate coordinator, who will log the completion of the prospectus (a copy of the prospectus should be submitted directly to the Biology Office for placement in your file).
- b) Failure to submit the cover sheet to the graduate coordinator by the end of your second semester will result in a written warning with copies to your graduate advisor and department chair.
- c) Failure to submit the cover sheet to the graduate coordinator by the beginning of the third semester will result in a block on your registration for the third semester.

The prospectus will be maintained as a part of your permanent record.

Prospectus Symposium

All MS students are **required** to participate in a Prospectus Symposium at the end of their second semester in residence. The graduate coordinator will schedule a Symposium at the end of each semester. Symposium presentations will consist of a 10-minute synopsis (with appropriate visual/multimedia aids) of the research question, hypotheses to be tested, research design and statistical analyses to be performed. Each student presentation will be followed by a 5-minute question-and-answer period.

The MS Comprehensive Examination

The comprehensive examination is an oral exam designed to provide you with the opportunity to demonstrate your competence in the field of general biology and/or marine biology as well as in your area of specialization. It will also serve as a diagnostic tool to identify any areas in which your knowledge is deficient and provide avenues for remediation of any such deficiencies.

The scope of the examination should be discussed during an early committee meeting, and should include coverage of general biological knowledge in addition to a command of the specific discipline related to your thesis research. Questions that address biological topics that you should have in focus (based on recent course work) will be considered in developing the examination; however, your entire biological experience will not be neglected. Questions that explore your knowledge in the area of general biology (for example, physiology, genetics, ecology, structure, etc.) are appropriate for either biology or marine biology programs.

The comprehensive examination will be conducted by members of your thesis committee. Comprehensive examinations will be usually conducted within the first two weeks of each semester. You should plan to take the examination at the beginning of your third semester. The outcome of the examination will be pass, pass with requirements for remediation, or fail (student may retake the examination at the beginning of the next semester). Failure of the exam for a second time will result in dismissal from the program.

The MS Thesis

Thesis Credit

You are required to register for a minimum of three (3) credit hours of thesis. A maximum of six (6) credit hours may be used toward the master's degree requirements. Since course work is usually taken during the initial semesters of graduate study, students often elect to register for thesis during their final semesters, although research may be initiated soon after admission. You should register for some thesis credits during any semester in which you are primarily working on your thesis.

Philosophy

Although course work is important, research and the resultant thesis are the unique experiences of graduate study. Consequently, the design of a realistic and well-defined research project should be considered the highest priority by you and your graduate advisor. A detailed prospectus outline helps you achieve this goal by explaining the steps in developing a review of the pertinent literature and a written narrative of the direction the thesis will take. This prospectus can be used by both you and your graduate committee for evaluating and overseeing your research progress.

Directed research can provide you with an opportunity to make a contribution to science, and more importantly, to learn firsthand the objectives, hypotheses, methodology, and data analyses and interpretations used in research. Since graduate students often lack experience in conducting research, it is important that your graduate advisor take an active role as teacher and advisor in the design and completion of your research.

Authorship

It should be the goal of both student and advisor to publish the results of the thesis research. Since there are many possible arrangements between you and your advisor concerning this work, several authorship arrangements are possible. The most common is for you to be senior author and the advisor to be junior author. However, when your research is part of an ongoing research project, authorship may be reversed. Sometimes, your graduate advisor may choose to not share authorship. Recognizing that these and other arrangements are possible and proper, and to avoid misunderstandings between you and your advisor, each student and advisor must complete the Authorship of Publications form when the thesis project is agreed upon. This form will be forwarded to the departmental graduate coordinator and it will become part of your permanent academic record. The chair's signature indicates that the agreement has been made. If circumstances later dictate that a new authorship agreement is appropriate, the department chair may approve a new arrangement if both parties approve.

Citing the work of others

The writing of a thesis involves both presentation of research findings and evaluation of these findings concerning work done by others. Thus, the incorporation of the body of knowledge existing--relative to the research being reported--is most important. This process involves the frequent and careful citing of work published by others in the body of scientific literature. Such citations should be carefully done and should conform to the principles set forth in the CBE Style Manual¹ and in the journal in which you expect to publish. It is occasionally necessary to cite work not yet published. This is usually done after a personal contact with another researcher and is cited as a "Personal Communication." To prevent misinterpretation of the unpublished findings of another worker, such citations should be based only on the written transfer of information.

Thesis Format

It is the general policy of the Graduate School and the Department of Biology and Marine Biology that your thesis should be in the format of an article ready for submission to an appropriate scientific journal. Thesis guidelines are available on the Graduate School web site: <http://www.uncw.edu/gradschool/thesis.html>

All instructions for the format of the thesis should follow these guidelines. Detailed presentations of data should be in appendices and should be sufficient to allow future students to repeat the work or to make comparisons between your data and newly gathered information. You should realize, however, that graduate advisors will differ in opinion about what is an appropriate length and style of a thesis. You should discuss this with your advisor before beginning to write and make sure that both of you have an understanding about what format is to be used and how much detail is to be included.

Extensive reviews of literature and methods, of course, are rightfully parts of your prospectus, a document where, by design, you show your mastery of relevant background information before committing to a focused project. However, you should **not** submit a thesis clogged with pages and pages of material that will never be published in a respectable journal. Students can refer to the following reference for more information on style and content:

Council of Biology Editors, Style Manual Committee. 1978. Council of Biology Editors style manual: a guide for authors, editors, and publishers in Biology and Marine Biology. 4th ed. Arlington, VA: American Institute of Biological Sciences, 265 pp.

Besides the two copies of the thesis required by the Graduate School, you should submit one copy on 100% cotton rag paper for the Department. This copy will be bound, at Departmental expense, and will be kept on file in the Departmental office. The format of your thesis will be discussed in some detail in *Biology 501 - Methods in Scientific Research*, offered during the fall semester of each year.

Thesis Review by the Graduate Dean

After your graduate advisor and committee have reviewed your thesis and determined that it is in proper journal format and conforms to the thesis guidelines, you should submit one complete copy of your thesis to the Graduate School for format approval. The copy of the thesis must be accompanied by the thesis format form which is available as an interactive/ printable form on the Graduate School web site at: <http://www.uncw.edu/gradschool/thesis.html>

Because this copy will be subject to edit in the Graduate School, it should be printed on low-grade paper. The thesis **must** be submitted for format approval before the defense of your thesis can take place.

Following the defense of your thesis and the incorporation of all changes requested by your committee, you should submit three (3) complete copies of your thesis to the Graduate School. These three copies should be printed on 100% rag-content paper. (Note: You do not pay binding fees for these copies.) At this time, submit as many extra copies of your thesis as you wish to have bound. These copies must be printed on white paper with a quality paper of your choice, although 100% rag-content paper is recommended. These are your personal copies and will require a nominal binding fee (contact the Graduate School for current information). Please include a name, address and telephone number where you can be reached to pick up these copies when they are returned from the bindery.

Your thesis does not fulfill the degree requirement until it has been signed by the dean of the Graduate School. The thesis title and date of approval must be filed in the Graduate School before the degree requirement is officially met.

Theses as Public Documents

It is the policy of the Department of Biology and Marine Biology to make all theses available to the public. The William Madison Randall Library of the University of North Carolina Wilmington will be the location where the public may view theses.

Admission to Candidacy

A candidate for a graduate degree is a student who has been approved for graduation at the end of a specific semester, subject to the completion of ongoing courses and/or research as outlined in the application for graduation. You apply for candidacy by filing an application for graduation. Applications for graduation are obtained from the Graduate School. Semester deadlines for submission of these applications are published annually in the university Calendar of Events and posted on the Graduate School website. Your graduate advisor and the departmental graduate coordinator must sign your graduation application. If you apply for candidacy, but fail to meet the deadline for a particular graduation, you must notify the Graduate School, specifying a new graduation date.

Defense of your Thesis

The defense of your thesis administered by the Department of Biology and Marine Biology is designed to provide you with an opportunity to (1) demonstrate your competence in your chosen field of expertise, and (2) display argumentative and persuasive skills augmented with data collected by sound scientific methods. Your thesis defense may be scheduled once you have completed your research and have prepared the final draft of your thesis and submitted it to the Graduate School for format approval.

Format of the defense

The format of the thesis defense will involve a public presentation (departmental seminar) describing the results of your thesis research. The public seminar will be followed by a private thesis defense before your committee. Your thesis committee will take this opportunity to question you on all phases of your research and your written thesis. Normally, the private defense of your thesis will immediately follow your public presentation (departmental seminar); however, under appropriate circumstances and with **prior** approval of your committee and the graduate coordinator, the date and time of the committee defense may be separate from the date and time of your public seminar. However, in all cases, the public seminar **must coincide with or precede** the committee defense.

The examining committee will include a member of the department's Graduate Advisory Committee or an appointed representative.

This additional member will serve as a reader and may participate in your thesis defense. **It is your responsibility to ensure a reader has been assigned.** See the graduate coordinator at least 2 weeks before your scheduled thesis defense to arrange for a reader assignment. **It is also your responsibility to notify the Graduate School of the time and place of your public seminar and thesis defense before your committee.** You must take a copy of your thesis abstract to the Graduate School office no later than 10 days prior to your thesis defense.

Defense Procedure

At least 15 days before you wish to conduct the defense of your thesis, you should submit a request to your graduate advisor who will then schedule your thesis defense. At least **one week** before the scheduled date of the defense of your thesis, you must submit a copy of your thesis to each committee member and to the appointed departmental reader. This should be a complete copy, as close to final draft as possible. Figures and tables should be of finished quality. Each committee member will study and edit the thesis before your thesis defense. Should the committee determine that your thesis is not sufficient for a defense, they may cancel your scheduled thesis defense and request that it be rescheduled for a future date.

At the conclusion of your thesis defense, the copies of your thesis containing each member's suggestions for changes will be returned to you. Your committee will inform you whether you have passed or failed your thesis defense after the committee has had an opportunity to deliberate on the quality of your responses to their questions, your oral performance, and the condition of your thesis.

If you pass your thesis defense, you must prepare a final copy of your thesis based on the written and oral comments provided by your committee. Should you fail your thesis defense, your committee will schedule a second defense after what it considers an adequate interval for further study or for revision of your thesis, typically a period of three months.

Appeal of Examination Evaluation

The burden of proof of unfair treatment always rests with the student making the appeal. Appeals will not be entertained until the student has exhausted existing policy, namely that a second comprehensive examination has been taken after a three-month waiting period has elapsed; excluding:

- a. when any form of harassment (sexual, racial, national origin, etc.) is alleged.
- b. when the appeal alleges arbitrary or capricious action, including deviations from established procedure that clearly affect the outcome of the examination.

In these instances, the appeals procedure may be initiated without the requirement of having taken a second examination.

If you wish to appeal the decision of the examining committee, you should first present evidence of discrimination or violation of due process to the chair of the department, who may consult with the departmental graduate coordinator and the faculty member(s) involved in evaluating the examination, in seeking resolution of the dispute.

Failing resolution at the departmental level, the student may appeal to the dean of the Graduate School for review and mediation. The appeal must include supporting information, copies of which shall be sent to the departmental graduate coordinator, the chair of the department, and faculty member(s) involved. The dean of the Graduate School shall request written information about the case from the department, with the intent of resolving the issue through informal consultation. However, failing in that effort, the graduate dean will assemble a formal hearing before the Student Affairs Committee of the Graduate Council, with the exception that no member of the hearings panel may be a member of the faculty of the student's department. Other members of the Student Affairs Committee also may disqualify themselves should there be a personal or professional conflict of interest. In such cases where a replacement member to the Student Affairs Committee is required, the dean shall appoint another member from the Graduate Council to serve on the panel.

The Hearings panel shall be supplied with copies of the information at hand and after that hold whatever hearings and meetings it deems necessary. The dean of the Graduate School shall chair the meeting, but shall not be involved in any deliberations concerning the outcome of the hearing. All parties involved have the right to appear before the panel, if they wish, but otherwise need not do so. The panel shall forward its recommendation to the graduate dean who, after considering those recommendations, shall notify the student in writing of the final decision, with copies sent to the departmental graduate coordinator and the chair of the department. The matter, as an academic issue, ends at this time.

PhD degree policies

Procedures for the PhD Prospectus, Prospectus Seminar, and Candidacy Exam (All must

be completed before the beginning of the 3rd year in the Ph.D. program)

Prospectus: All PhD students are required to complete a written dissertation prospectus that outlines their plans for their PhD research. The prospectus should contain well-defined objectives and experimental approaches, and should be of sufficient breadth and depth to demonstrate mastery of the literature in the field and how the intended research will contribute to the discipline. Once a draft of the prospectus is completed, it should be distributed to the committee members, and a committee meeting should be scheduled to discuss and approve its content.

Prospectus seminar: After the prospectus has been approved by the dissertation committee, PhD students must give a seminar during which the proposed research will be presented to the faculty and students in the department. The seminar should be 40-50 minutes in length, with 10 or more minutes for questions.

Candidacy exam: After completing the departmental prospectus seminar, PhD students must take the oral candidacy exam. The purpose of the PhD candidacy exams is to test the breadth and depth of the student's knowledge in the chosen area of marine biology and supporting disciplines. In preparing for the candidacy exam, students should discuss the format and areas of focus with individual members of the advisory committee. While topics central to the prospectus are likely to be emphasized during the exam, some committee members may also wish to explore other areas, so it is important that each student has a clear understanding of the committee's expectations in advance of the exam. The candidacy exam should last 2-3 hours. A passing vote from four of the five committee members is required to pass the oral candidacy exam. Upon successful completion of the candidacy exam, the student will be admitted to doctoral candidacy.

A student who fails the candidacy exam may, at the discretion of the student's advisory committee, be permitted to take a second oral candidacy exam within 3 months. Alternatively, the committee may wish to allow the student to respond in writing to questions covering topics that were inadequately addressed by the student during the oral exam. If a student fails the second candidacy exam (either written or oral), those who do not possess an MS degree would have the option of completing their MS degree; those who already possess an MS degree would have to withdraw from the PhD program.

The PhD Dissertation

You must complete and defend a dissertation based on a research program approved by your dissertation committee that results in an original, high quality, significant, and substantial body of research. You must orally present and successfully defend the dissertation to your dissertation committee in a defense that is open to the public. A copy of the dissertation must be made available for review by your dissertation committee at least two weeks prior to the public defense.

The Defense of the PhD

The format, procedure, and appeals process for the defense of the PhD degree are similar to those outlined above for the MS degree.

Residency Requirement

PhD students must satisfy the residency requirement for the PhD program by completing at least 24 hours, either as course work or research credits, in residence.

Graduation and the Awarding of Degrees (MS and PhD)

Graduate degrees are conferred by the university three times each year: May, August, and December. Students that successfully complete their defense will have their degree conferred based upon the date of completion of all requirements (e.g., spring completion = May degree; summer completion = August degree; and fall completion = December degree). You are eligible to participate in either December or May Commencement ceremonies, based on the expected time that your degree will be conferred. If your degree is conferred in August, you can participate in Commencement ceremonies the following December. No diplomas will be given out at any ceremony. Your diploma will be mailed to you. Students receiving graduate degrees in December and May are expected to participate in Commencement ceremonies. All students participating in the Commencement ceremonies must order academic regalia 2-3 months in advance.

Academic Regulations and Procedures

Transfer of Graduate Credits

You may transfer a maximum of six (6) semester hours of graduate credit from another accredited institution. Under special circumstances, you may transfer additional credit by submission of a petition, endorsed by the chair of the Department of Biology and Marine Biology, to the Graduate Council of the University. You may start this process by indicating your desire to seek additional transfer credits in a written memorandum to the departmental graduate coordinator.

Graduate courses that you have taken while enrolled as an undergraduate are not transferable unless they are approved by the dean of the Graduate School at UNCW **before** taking the course.

No grade less than B, or equivalent, may be transferred. You obtain graduate transfer credit by having the departmental graduate coordinator submit a request to the dean of the Graduate School. This request must have the approval of the chair of the Department of Biology and Marine Biology and must be accompanied by an official transcript.

A student enrolled in the UNCW graduate program may take up to six (6) hours of credit at another accredited institution. You must have prior approval of the dean of the Graduate School **before** taking the course.

Deficiencies in coursework

Your graduate advisor and your graduate committee will evaluate your undergraduate program as you enter one of the MS degree programs and may require that coursework deficiencies be remedied. You may fulfill a deficiency by taking one or more undergraduate courses before graduation, and you must receive a passing grade. However, no graduate credit will be given. In many cases, you can receive graduate credit for an undergraduate course by taking the course under the BIO 591/691 listing. This will require that you meet with the course instructor to agree upon the course listing and credit hours, and the means of evaluating graduate level work in an undergraduate course (graduate students will be expected to perform additional assignments to those of undergraduate students).

Full-Time Status

Full-time status requires a minimum enrollment of nine credit hours. However, a graduate student may also be considered full-time when enrolled for less than nine hours if (1) the student holds a teaching or research assistantship or (2) is enrolled for one to three hours of thesis work or (3) is enrolled in GRC 600 (continuous enrollment) or (4) is enrolled in PSY 598 (Internship). Half-time status begins with at least four and a half (4.5) credit hours. A student may not enroll beyond two terms of continuous enrollment (GRC 600). No course enrollment is required during summer.

Directed Independent Study (BIO 591) and Research (BIO 598 or 698)

Directed Independent Study is designed to allow students to spend focused time researching or studying a particular topic (often, but not always related to your thesis research). This course designation is also sometimes used to enroll for graduate credit when you participate in an upper level undergraduate course to remedy a deficiency. All Directed Individual Study courses must have approval of the instructor (this will generally be either your graduate advisor or the instructor of an upper level undergraduate course that you are taking), the graduate coordinator, and the dean. You may accomplish this by completing a Directed Individual Study form that can be found on the Graduate School website: <http://www.uncw.edu/gradschool/registration/forms.html>. MS thesis (BIO 598) or PhD dissertation research (BIO 698) allow students to receive credit for research that is a part of their thesis or dissertation.

Adding and Dropping Courses

You must obtain a form from the course instructor to add or drop courses. Complete the form and obtain the required signatures. The form must be turned in to the Graduate School office during the add/drop period.

Auditing Courses

If you are interested in auditing a course, you should review the requirements in the Graduate Catalogue and speak to the instructor.

Course Waivers and Substitutions

You should consult the departmental graduate coordinator. The coordinator can request that a particular course be waived; however, the request must be approved by the dean of the Graduate School. You should consult your graduate advisor and the departmental graduate

coordinator to request a substitution of a course or other degree requirement. The departmental graduate coordinator will complete the substitution form and forward it to the dean of the Graduate School for approval.

Degree Time Limit

You have five years from the date of your initial entrance into the graduate school to complete your MS degree; six years for a PhD. When extenuating circumstances warrant, the Graduate School may grant you an extension. Consult the departmental graduate coordinator. You will not be permitted to register beyond five (MS) or six (PhD) years without prior approval of the dean of the Graduate School.

Incomplete (I) Grades

If you do not complete the required materials for a course during the normal academic term (e.g., your field research requires you to miss classes before the semester is completed), you will be assigned a grade of Incomplete (I). Generally, you will have arranged this ahead of time with the course instructor. Once an Incomplete has been assigned, you have a maximum of 12 months to complete the required materials for the course. The instructor may set the maximum allowable period for completion of the course materials at less than 12 months, but the extension can never exceed 12 months. If the time allowed to you is less than 12 months, this information will be transmitted to you in writing, with a copy to the dean of the Graduate School. Once you have completed the course requirements to the satisfaction of the instructor, he/she will re-assign your grade appropriately. If you do not complete the required materials within 12 months (or a shorter time period as assigned by the instructor), the grade of (I) will be converted to a grade of (F). A single grade of (F) renders you ineligible to continue in the graduate program.

Withdrawal from a Course or Graduate School

If you wish to withdraw from a course or from the graduate program, you must complete the withdrawal form obtained directly from the Graduate School. Check the academic calendar each semester for withdrawal deadlines. A grade of (W) is assigned for a course when a withdrawal is processed before the published deadline; after the deadline, a grade of (F) is assigned. See the Graduate Catalogue for details on formal withdrawal from the graduate program.

Grading

Grades for graduate students enrolled in graduate courses are assigned as one of the following:

- A (4 quality points) – excellent
- A- (3.67 quality points)
- B+(3.3 quality points)
- B (3 quality points) - completely satisfactory
- B- (2.67 quality points)
- C+(2.33 quality points)
- C (2 quality points) - minimally acceptable
- F (0 quality points) - failure
- S - satisfactory progress (thesis 599 or dissertation 699)
- U - unsatisfactory progress (thesis 599 or dissertation 699)
- I - work incomplete
- W - withdraw passing

Grade Appeals

If you protest a course grade, you must first attempt to resolve the matter with the instructor involved. Failing to reach a satisfactory resolution, you may appeal the grade following the procedures outlined below. Such appeals must be made by the last day of the next regular semester. You must present your appeal in writing to the dean of the College of Arts and Sciences. By conferring with you and your instructor, the dean will seek resolution by mutual agreement. Failing such resolution, the dean will transmit the written appeal to the dean of the Graduate School. The dean of the Graduate School will convene the Grades Appeals Committee.

The Grade Appeals Committee will consist of the graduate dean as chair and five members of the graduate faculty appointed by the dean of the Graduate School. If the committee affirms the instructor's decision, the graduate dean will notify you, the faculty member, and the dean of the College of Arts and Sciences in writing. If the committee supports your appeal, it shall prescribe the method by which you will be reevaluated. If the reevaluation results in a grade change, the established course grade change procedure will be followed. The grade resulting from the reevaluation is final and may not be appealed further.

Academic Grievance Procedure

Graduate students who have academic or procedural concerns, other than grades, should attempt to resolve those concerns at the lowest academic level as soon as possible, generally no more than 90 days after the event giving rise to the complaint. The first level for redress is with the appropriate faculty member. Within 30 days of failing to reach a satisfactory resolution with the faculty member, the student may appeal to the department chair. Failing resolution at the department level, the student may, within 10 business days, appeal jointly to the dean of the College of Arts and Sciences and to the dean of the Graduate School. The deans (or their designees) will conduct interviews with all parties to arrive at a resolution of the issue. The mutually agreed upon decision of the deans will be final and not subject to further appeal. Complaints that fall within the categories of sexual harassment, improper personal relationships, personal discrimination, unlawful workplace harassment, or workplace violence should be filed in accordance with Appendix J of the *UNCW Code of Student Life*.

Retention

To remain in good academic standing, you must maintain satisfactory grades and be making substantial progress toward the completion of your thesis or dissertation research. Three grades of C or one grade of F will result in your dismissal from the graduate program. Further, if you fall below a 3.0 GPA at any time, you will be placed on academic probation and have three subsequent courses to bring your GPA up to at least 3.0. In addition, you must have at least a 3.0 GPA to begin any program-specific comprehensive examination and thesis/dissertation research. You must have no less than a 3.0 GPA on all graduate-level courses to graduate. Grades of A, B, C, F, S, U, and W are permanent grades and can be changed only by the dean of the Graduate School in cases of arithmetical or clerical error or because of a grade appeal.

Graduate Courses

Graduate courses are fundamentally different from undergraduate courses, and it is important for new graduate students to recognize this difference. Graduate courses are usually designed such that student participation is a major part of the class format. Therefore, graduate students are *expected* to take an active role in the course, and in so doing they help to shape the class structure. Participation by students includes *preparing* for class in advance, asking questions and otherwise *contributing to discussions*, and possibly *presenting* materials as part of the course. Therefore, the passive learning that may have been sufficient in some undergraduate courses is inappropriate at the graduate level, where students are expected to take partial ownership of the class.

Many graduate courses will include reading primary literature (i.e., journal articles), rather than using a textbook. This is more challenging and often requires the students to do some additional textbook-level research in order to fully understand the primary literature. Acquiring skills in evaluating primary literature is often a core goal of graduate courses, as the primary literature is the information currency of science.

There are two levels of graduate courses in our department. 500-level courses are open to all graduate students and are taught at a level appropriate for the M.S. degree programs. 600-level courses are Ph.D.-level and are also open to all graduate students, but enrolling in these courses requires permission from the instructor. The permission requirement is simply to ensure that Ph.D. students who need the course are not excluded, and also to allow the instructor to confirm that the students in the class have a background suitable for the course content. 600-level courses often have fewer credit hours and may cover a more specific topic area than 500-level courses. As such, they tend to vary more from year to year in topic than do 500-level courses. These courses may also demand more participation from graduate students than 500-level courses. The expectation for student performance will also be higher in 600-level courses, and it is generally expected that students are more independent and are able to critically evaluate literature and data and identify relevant unanswered questions that should be addressed. While 600-level courses may appear to be more free-form, it is the instructor's responsibility to ensure rigor, as well as provide sufficient structure, learning objectives, and feedback to students regarding their performance.

Preregistration and Registration

You should seek registration advice from your graduate advisor, and if necessary, from the departmental graduate coordinator before registering, and all registration is online through SeaNet. To assure a seat in the classes you wish to take, you should take advantage of the preregistration process available to you following your first semester in residence.

Re-enrollment

Should you have a gap in enrollment of either a fall or spring semester (not summer), you must file a re-enrollment form with the dean of the Graduate School. The re-enrollment form is available in the Graduate Office.

Departmental Teaching Requirement

It is a requirement of the department that you gain experience in teaching while pursuing your graduate degree. MS students holding teaching assistantships automatically fulfill this requirement. All other MS students, whether financially supported by the university or not, will be required to gain formal experience in teaching. See your graduate advisor and the department chair to decide the manner in which you may fulfill this requirement. If you do not hold a teaching assistantship during at least one semester, you must submit written verification that you have fulfilled this requirement before admission to candidacy. All PhD students must complete BIO 694 (Practicum in College Biology Teaching), during which they will gain experience in formal classroom instruction. Details are arranged through your graduate advisor and the departmental graduate coordinator.

Departmental Seminars

Each semester the Department of Biology and Marine Biology offers seminars by scientists and students. These seminars are designed to provide intellectual stimulation for both students and faculty, and you are expected to attend. PhD students are required to attend whenever in residence.

Health Insurance

Student Group Health Insurance is available to all graduate students. A copy of the application is included in your orientation packet and contains application information, benefits and cost schedules. However, you are urged to go to the Student Health Center (962-3280) in Westside Hall to obtain an up-to-date brochure and application. They can also answer questions about coverage, etc.

Liability Insurance

Graduate teaching assistants may take advantage of the Teachers' Liability Insurance offered by the University of North Carolina system.

General Departmental Procedures

The Department of Biology and Marine Biology office staff will provide information and help you in successfully completing your course of study. Below are general procedures that specifically affect you. For information on general office procedures that affect both faculty and graduate students, you should seek information from your graduate advisor.

Mail Service

A mailbox is provided for each full-time graduate student in the Biology and Marine Biology mailroom located in Dobo Hall. You should use your departmental address for all professional correspondence. The Department will provide regular postage for mail that is required by your course of study and is clearly university business. Special postage (overnight shipping, etc.) must be covered by yourself or your graduate advisor.

Telephone Service

The Department cannot provide telephones specifically for graduate students. You are allowed to use faculty and office phones whenever possible and appropriate. You should obtain permission for the use of the telephone from the individual responsible for the telephone. Many faculty provide a phone in their research labs for graduate student use. You should check with your graduate advisor about their specific policies regarding phone use. Telephone messages received by the office staff will be placed in your mailbox. You should check these mailboxes at least once a day for messages and other information.

Office Space

If you are a full-time graduate student or teaching assistant you will be provided office space where materials may be stored and where you may study and work. Office space is generally provided by your graduate advisor within their laboratory space. If such space is not

available, the department chair, in consultation with the departmental graduate coordinator, will make alternative office assignments and will notify you of your assigned location.

Departmental Keys

All graduate students will be granted ID card-access to Dobo Hall and other needed keys from the departmental office. You should consult with your graduate advisor to determine the specific keys you will need. A secretary in the Biology and Marine Biology office will issue you the necessary keys. Upon completion of your degree program or if you withdraw from the university, all keys must be returned to the Biology and Marine Biology office before you leave campus.

Use of Departmental Equipment

Most of the equipment in the research and teaching laboratories is university-owned. It is, however, usually assigned to a particular faculty member for use in specific courses and research programs. Often this equipment requires considerable skill and care during use to avoid damage that may be costly to repair and may render the item unusable while parts are ordered or repairs made, or while an item is being repaired elsewhere. Therefore, you should never use a piece of equipment without first requesting its use from the faculty member in charge. If it is not clear which faculty member is in charge, see the department chair. Generally, such use will be granted if the item is not in use and the responsible faculty member is convinced that you know how to use the equipment properly and will give the equipment proper care during its use. There may be times when equipment is in heavy use and will not be available, and there may be certain items that faculty members will not allow others to use. If a project is being planned that may require such items of equipment, discuss their lack of availability with your graduate advisor.

Building Security

You are expected to assist the faculty in maintaining building security. It is the responsibility of any graduate student who is working in a laboratory during off hours to leave the room secure with lights off and doors locked. On weekends, the outside building doors will be kept locked.

You should also be prepared to deal with emergencies as effectively as possible. You should locate fire extinguishers, fire blankets, exits and emergency lights in the building you are working in. Also, in any lab where you will be teaching or working, you should locate the nearest first aid kit, eyewash station, and shower. If you are working in the building during off hours and an emergency occurs, call the campus police (911), then call the department chair, and take safety measures that are feasible until help arrives.

Boat Certification

UNCW maintains a fleet of small boats that can be used in your research. Anyone operating a university vessel must have a university boat certification. Certifications are obtained upon successful completion of university-sponsored short course in boat handling and water safety. Other boating courses may be acceptable if approved by the boating safety officer. Consult the boating safety officer (962-2310) for certification information. **The University requires that all students that use small boats (whether as operator or passenger) for their research must have health insurance.**

Photography and Illustration Preparation

A darkroom is available, with permission, in Dobo 112 for developing film and printing photographs, as is a separate room for photography and preparation of illustrations.

Poster Printing

If you need to print a poster for a presentation at a scientific conference, a large format printer is available in the microscopy lab in Dobo Hall. You will need to make arrangements with Mark Gay (gaydm@uncw.edu) for printing. There may be a nominal charge to help defray costs of paper, ink cartridges and maintenance.

Interlibrary Loan Services (ILL) and the Randall Library

The William Madison Randall Library provides interlibrary loan services by which faculty members and graduate students may borrow materials that are not available in the Randall Library collections. Although undergraduate students must have their instructor's approval and the material must be available in North Carolina, no such restrictions have been placed on graduate students. Interlibrary

loans can be requested on-line via the Randall Library link from the UNCW homepage (www.uncw.edu), they can also be requested in person by filling out forms at the Library Reference desk. Indicate the maximum cost you are willing to pay to obtain this material. Ordinarily, no charges are incurred in obtaining loans, but there may be a charge for certain materials. Most books will be loaned to you, through the library, for a specified period of time. Requested journals articles are usually scanned and sent to you electronically as pdf files. These items generally incur no cost. If you are unsure about the potential cost of an item, check with Peter Fritzler (Ph: 962-7807; email fritzlerp@uncw.edu), who serves as a liaison between the library and our department. **Our library at UNCW is very good and will have many of the resources that you require for your research. The library subscribes electronically to many scientific journals and you can access these from any campus computer through the library website. In addition, the library staff (e.g., Peter Fritzler) are tremendously helpful and you should take advantage of the resource that they provide.**

Financial Aid

Teaching Assistantships

The Department of Biology and Marine Biology offers teaching assistantships to students enrolled in the biology and marine biology graduate programs. Students must apply for these assistantships, and selection will be based on an evaluation of academic records, recommendations, experience, and relevant criteria. In this regard, you should keep your Graduate Student Information sheet as current as possible.

Each teaching assistant will be assigned duties by the department chair and graduate coordinator. Duties will generally involve preparing for and helping in the teaching of laboratories and/or performing preparation work for the laboratory. Other duties may be assigned as appropriate. While serving as a teaching assistant, it is expected that students will also continue to make progress toward the completion of their MS or PhD degree. Teaching assistants are expected to be on campus and available for work assignments by the start of classes, and to remain on campus through the period of final examinations. Arrival delays or early departures must be approved by the department chair. If you have met the 30-hour degree requirement, you can maintain your teaching assistantship by enrolling in GRC 600.

Teaching assistantships are awarded each semester. You may normally expect to be retained as a TA in subsequent semesters if your performance is satisfactory. Continuation of the teaching assistantship past the 4th semester is permissible (but not guaranteed) **providing** your performance as a teaching assistant is acceptable **and** that satisfactory progress in your research program has been made. Research assistantships will be counted as support when determining fifth or sixth semester teaching assistant support awards. Students failing to perform their duties satisfactorily may have their assistantship revoked any time.

If you were not awarded a teaching assistantship upon admission, you may be considered for a teaching assistantship as positions become available. You should notify the department graduate coordinator of your interest in being considered for a teaching assistantship.

The graduate secretary in the Department of Biology and Marine Biology will complete form HR 1.35 to initiate payment to you for your teaching assistantship. *Valid I-9 and W-4 forms must be completed and forwarded to the dean of the Graduate School before you will receive your paycheck.*

Instructor of Record and TA Responsibilities

The lab instructor of record, and not TAs, are responsible for course development. The instructor of record should provide all materials, background, and training necessary for the TAs to set up and execute the labs, and should clearly articulate the expectations and responsibilities of the TAs. The instructor of record should meet regularly with TAs to ensure that past labs were conducted as expected, to help them prepare for future labs, and should provide ample opportunity for feedback from the TAs. The instructor of record is the final authority for dealing with student issues in the course, and is responsible for ensuring that grades are accurate and submitted to the registrar on time.

TAs are expected to work with the instructor of record to ensure that they have a full understanding of the rights and responsibilities of their position, as well as the expectations regarding content and execution of each lab. It is the TA's responsibility to be fully familiar with every lab and, when necessary, to prepare solutions, specimens, etc. for upcoming labs. TAs must be prompt, respectful and responsive to their students, and return graded material to students in a timely fashion. TAs must submit final grades to the instructor of record well before the university deadline (by a date specified by instructor of record) to allow sufficient time for grades to be submitted to the registrar. Failure to fulfill TA duties may disqualify a student from receiving future TA support.

Research Assistantships

Research assistantships will be offered by the department through individual faculty who have funds available from research grants or contracts. Selection criteria will be similar to that required for teaching assistantships, but will emphasize the suitability of an applicant for a particular research program. Stipends are generally the same as for teaching assistantships. Duties will be assigned by the faculty member administering the particular research project. Research assistantships are typically awarded for a given semester or for the summer based on funds available to the faculty member.

Similar to a teaching assistantship, the graduate secretary in the Department of Biology and Marine Biology will complete form HR 1.35 to initiate payment to you for your research assistantship. *Valid I-9 and W-4 forms must be completed and forwarded to the dean of the Graduate School before you will receive your paycheck.*

Out-Of-State Tuition Remission

Partial out-of-state tuition remissions are available competitively. These remissions are typically offered to out-of-state students for one year. During the first year of residence, the recipients are encouraged to complete the steps to attain the status of North Carolina Resident (see section on Establishing North Carolina Residency below).

Scholarships Available to Graduate Students

Students should refer to the Graduate Catalogue <http://catalogue.uncw.edu/index.php?catoid=14> for a complete listing of available scholarships.

Graduate School Summer Research Awards

The dean of the Graduate School annually awards several stipends for summer research during a period when your teaching or research assistantships lapse. The awards are competitive and require a research proposal. Please discuss the conditions and application procedures for this award with the departmental graduate coordinator. The current value of this award is \$1,000.

Graduate School Travel Awards

The dean of the Graduate School awards several travel grants to graduate students delivering a paper or poster presentation at a national or regional conference. Your request for support, prepared by you and signed by the chair of the Department of Biology and Marine Biology, must include evidence of acceptance of your presentation, evidence of matching support and an explicit presentation of the use of the funds requested. The Biology Graduate Student Association (BIO GSA) also provides support for travel, and students should participate in the BIO GSA to be eligible.

Student Loans and Applying for Research Grants

Besides teaching and research assistantships, state and federal loan and work study programs are available to qualified graduate students. Specific information concerning details, applications, changes, and additions may be obtained from the Financial Aid Office: <http://uncw.edu/finaid/>.

You are also encouraged to obtain funding for research by independently seeking grant or scholarship funding. The Office of Research Services and Sponsored Programs can provide assistance with information on sources of funding and with the preparation of application packages. The Office of Research Services and Sponsored Programs is located in King Hall (910) 962-3810.

Establishing North Carolina Residency

Under North Carolina law, legal residence means more than simply living in the state. More specifically, it means maintaining a domicile (permanent home of indefinite duration) as opposed to a temporary residence incident to enrollment in a college, university or technical institute of the state. As a starting point, if you have living parents, your domicile is presumed to be that of your parents but may be changed to qualify for in-state tuition if your required legal residence can be demonstrated. Marriage does not prevent you from becoming a legal resident for tuition purposes, nor does marriage ensure that you will become a resident.

To determine whether you can become a legal resident of North Carolina for tuition purposes, you must demonstrate an **intent** to make North Carolina your permanent dwelling place of indefinite duration by performing residentary acts. These acts should be **undertaken immediately** upon your arrival to campus and North Carolina (preferably within the first month). The following are some more

important residency acts:

1. Convert your automobile registration to North Carolina
2. Obtain a North Carolina drivers license (or NC Identification Card from the Driver's License office)
3. Register to vote in North Carolina and vote when possible
4. List your personal property at the New Hanover County Tax Office for taxation
5. File a North Carolina tax return as a resident at the next appropriate time
6. Convert your banking, club/organization membership, etc., to North Carolina

Completion of these actions will **begin** a one-year (12 month) waiting period to attain residency.

To become a North Carolina resident you must demonstrate that you are financially independent of your parents or guardian if your parents or guardian are non-residents of North Carolina and demonstrate a visible means of support substantiating the claim of financial independence. If you have not been entirely self-supporting during the last **12 months**, a completed affidavit will be required from your parent(s) to indicate the amount of support provided.

Further and equally important, once you have clearly established the residency intent and financial independence, you must **maintain** North Carolina residence for **12 months** immediately before the semester the in-state status can be made effective. The **only exceptions** to the required 12 months residency period apply in some, but not all, cases to individuals marrying a North Carolina resident who has maintained residency 12 months or longer, and to individuals whose parents have been North Carolina residents 12 months or longer and who are legal dependents of their parents.

If you desire a residence change, you must complete a Residence and Tuition Status Application and submit it to the dean of the Graduate School (Applications can be obtained from the Graduate School). **No status change can be made without submission of this application.** The 12-month residency waiting period must be completed before the first day of the semester in which in-state residency is being requested. Please note that you must submit your application up to 60 days **before** the start of the semester in which your in-state status can be become effective although the entire 12 month residency period may not have been satisfied at the time your application is filed.

In other words, to avoid being billed as an out-of-state resident, you should file for a status change before the tuition bills are due so that the Graduate School will have time to process the application and notify Student Accounts as to your status change. For example, when applying for in-state residency for the fall semester of 2006, students may submit their applications starting June 2006, or 60 days before the semester begins.

A decision on your residency status will be mailed approximately 10 days after being reviewed by the Graduate School. If you are denied North Carolina residency for tuition purposes, an appeal of the decision is possible. At that time, you can, and should, attend to clarify points and to present additional arguments in your favor.

Program Assessment

In addition to progress that you make in your course work and your individual research project, your performance as a graduate student will be assessed at various milestones as part of the Department's Assessment of our graduate programs as a whole. It is important for us to assess our graduate programs to ensure that they are robust and functioning as they should. It is important for you to realize that the data gathered during the program assessment process are separated from you as an individual and have no bearing on your course grades or progress to earning your degree – because the methods used to assess programs are anonymous. With the exception of Learning Outcomes 1b for MSc students, all evaluations are conducted using an online survey, which is doubly-blind (i.e. neither the name of the student nor the faculty member are connected to the survey data).

Each year, faculty evaluations of overall student performance in our graduate programs are tabulated and evaluated in the context of data from previous years, so that we can identify any places in our programs where students might not be performing at expectation, and can make adjustments to courses and programs accordingly.

You should know what the expectations are in terms of your performance, and who will evaluate students at each point. We have adopted a series of Student Learning Outcomes (what we expect you to be able to accomplish as a graduate student) and metrics to evaluate them.

Assessment for M.Sc. Students:

Learning Outcome #1a: A graduate student should be able to develop a research plan.

Assessment #1a: Prospectus is successfully completed and defended to student's committee. Committee members will

evaluate the prospectus document.

- (1) The student's prospectus was written:
- (2) The student synthesized the literature:
- (3) The student's proposed research project was defined:
- (4) The methods that the student will employ suit the project:

1 2 3 4 5
Poorly Adequately Very well

Learning Outcome #1b: A graduate student should be able to present and defend a research plan.

Assessment #1b: Prospectus is successfully presented to the department. Faculty present at the Graduate Symposium evaluate performance using the last question on the evaluation sheet (which is intended to provide feedback to the student).

- 5. What would be your overall rank of the student's proposed research project?

Unsatisfactory Satisfactory Commendable

Learning Outcome #2: A graduate student should be able to independently answer questions regarding their research field.

Assessment #2: Oral preliminary exam is successfully completed. Your committee will evaluate your performance.

- (1) The student was able to articulate his or her answers:
- (2) The student was able to answer a breadth of questions:
- (3) The student demonstrated an appropriate depth of knowledge:
- (4) The student was able to demonstrate professional poise during the exam:

1 2 3 4 5
Poorly Adequately Very well

Learning Objective #3: A graduate student should be able to communicate his or her research to a broadly-trained public audience.

Assessment #3: Departmental Seminar presentation of thesis research is successfully completed. Faculty present at the seminar will evaluate your performance.

- (1) The student's presentation was professional and well-organized:
- (2) The student's demonstrated mastery of his or her research was:
- (3) The student was able to answer questions from the audience:
- (4) The student was able to demonstrate professional poise during the presentation:

1 2 3 4 5
Poorly Adequately Well done

Learning Objective #4: A graduate student should be able to write up his or her research in the form of a manuscript for publication in a scientific journal.

Assessment #4: Thesis is successfully completed. Your committee will evaluate your performance.

- (1) The student's thesis was written:
1 2 3 4 5
Poorly Adequately Very well

(2) The student's thesis demonstrated mastery of the research:

1 2 3 4 5
Poor Adequate Well done

(3) Based upon its quality, the likelihood of the thesis being published is:

1 2 3 4 5
Poor Likely Very likely

Assessment for Ph.D. Students:

Learning Outcome #1: A graduate (Ph.D.) student should be able to develop a research plan.

Assessment #1: Dissertation proposal is successfully completed and defended to student's committee. Your committee will evaluate your performance.

(1) The student's dissertation proposal was written:

(2) The student synthesized the literature:

(3) The student's proposed research projects were defined:

(4) The methods that the student will employ suit the projects:

1 2 3 4 5
Poor Adequate Well done

Learning Outcome #2: A graduate (Ph.D.) student should be able to independently answer questions regarding their research field.

Assessment #2: Oral comprehensive exams are successfully completed (written if requested by your committee). Your committee will evaluate your performance.

(1) The student was able to articulate his or her answers in a written format:

(2) The student was able to articulate his or her answers orally:

(3) The student was able to answer a breadth of questions:

(4) The student demonstrated an appropriate depth of knowledge:

(5) The student was able to demonstrate professional poise during the exam:

1 2 3 4 5
Poor Adequate Well done

Learning Objective #3: A graduate (Ph.D.) student should be able to communicate his or her research to a broadly-trained public audience.

Assessment #3: Departmental Seminar presentation of dissertation research is successfully completed. All faculty present at the seminar will evaluate your performance.

(1) The student's presentation was professional and well-organized:

(2) The student's demonstrated mastery of his or her research was:

(3) The student was able to answer questions from the audience:

(4) The student was able to demonstrate professional poise during the presentation:

1 2 3 4 5

Poor Adequate Well done

Learning Objective #4: A graduate (Ph.D.) student should be able to write up his or her research in the form of multiple manuscripts for publication in scientific journals.

Assessment #4: Multi-chaptered dissertation is successfully completed. Your committee will evaluate your performance.

(1) The student's dissertation was written:

1 2 3 4 5
Poorly Adequately Very well

(2) The student's dissertation demonstrated mastery of the research:

1 2 3 4 5
Poor Adequate Very well

(3) Based upon its quality, the likelihood of the dissertation being published is:

1 2 3 4 5
Poor Likely Very likely

(4) Has the student already submitted for publication one or more chapters?

Yes No

(5) Has the student already published one or more chapters?

Yes No

Learning Outcome #5: A graduate student should be able to create new teaching materials

Assessment #5: Successful completion of Teaching practicum course and a formal lecture or laboratory presentation in an undergraduate course. Form used for this assessment is our Evaluation of Teaching form. Our assessment tool will be the last question on the form. Your advisor and the course instructor will evaluate your performance.

Overall effectiveness of teaching:

Unsatisfactory – cannot keep attention of class; shows little enthusiasm for subject matter; un-organized presentation of material; does not link lessons with class theme; unresponsive to students.

Satisfactory – generally keeps attention of class; shows enthusiasm for subject matter; presents material in organized fashion; links lessons with class theme; adequate attention to students.

Outstanding – always keeps attention of class; shows great enthusiasm for subject matter; presents material in highly organized fashion; clearly links lessons with class theme; is very attentive to students; significantly enhances student learning.