

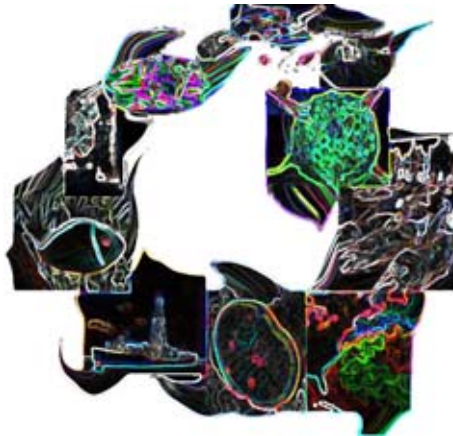


MASTER OF SCIENCE IN MARINE SCIENCE
**GRADUATE STUDENT
HANDBOOK**



**Master of Science in Marine Science
Graduate Student Handbook**

2005



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Education

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Center for Marine Science

University of North Carolina Wilmington

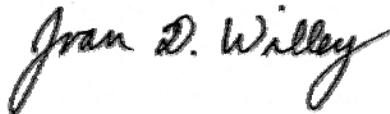
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WELCOME TO UNCW

Welcome to the Master of Science in Marine Science program at UNCW! We are glad that you have chosen this program to begin your graduate career. This handbook is packed with essential information regarding the organization of the program and its requirements, plus a wealth of useful tips to help make the whole graduate school experience much smoother for you. Keep this booklet and use it as a reference as the semesters progress. See what opportunities are available to you, and what is expected of you. Additional information can be found on the program website: www.uncw.edu/mms and in the UNCW Graduate Catalogue: www.uncw.edu/catalogue/regulat.htm.

Please feel free to contact me if you have questions or suggestions at any stage of your progress.



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Getting Started

For complete access to all the appropriate UNCW and CMS facilities, each student will need two identification cards. The UNSea card is your official UNCW student identification card. This card, which is issued by Auxiliary Services in the Warwick Center, grants access to university buildings, the bookstore, the copy center, health center, pharmacy, laundry, UNCW postal services, student copiers, and vending machines. Access to the UNCW graduate computer lab, located on the second floor of the library, is also provided by your UNSea card. Reference the UNSea Card website

<http://www.uncw.edu/ba/UNSea/>

to add flex dollars to your account that may be used at various eateries and vending machines on campus.

For door and gate access to the Center for Marine Science, you will need a special CMS ID Badge. The CMS Program Assistant, who acts as graduate secretary, can help you apply for a badge and then activate your access privileges.

Parking and transportation services are also located in the Warwick Center.

http://www.uncw.edu/ba/parking_trans/index.htm

Student accounts and registration access can be obtained through the Seaweb page.

<https://tswwww.uncw.edu/ahomepg.htm>

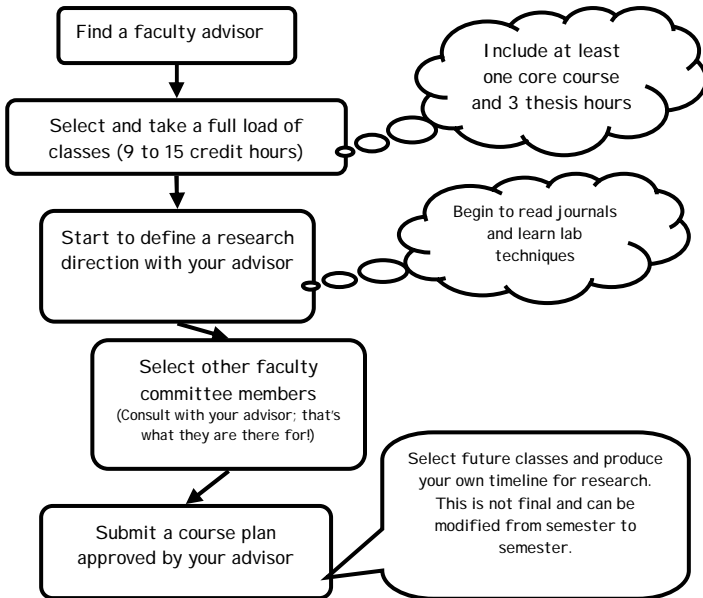
The registrar and cashier are located on the first floor of Hinton James Hall; the Graduate School offices are on the second floor. Several other helpful links to campus services can be found at the Campus and Auxiliary Services webpage.

http://www.uncw.edu/ba/index_yellow.htm

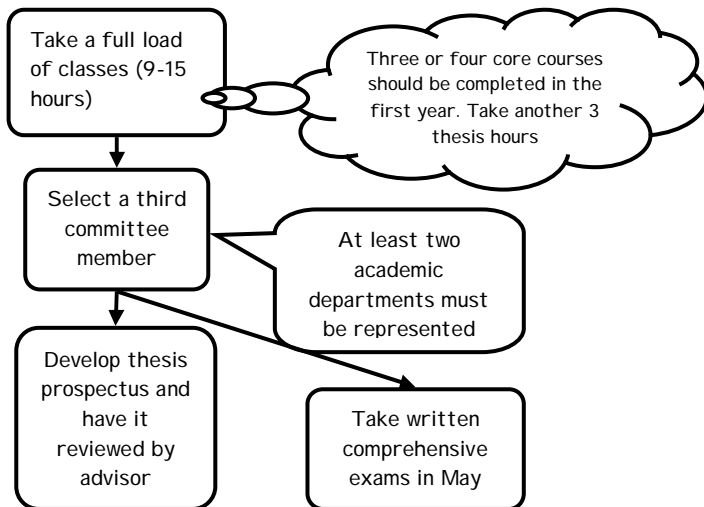
The Time Line

Stay one step ahead. It is important for you to know what you are expected to do, and it makes life a lot easier if you know when that all-important deadline is coming up.

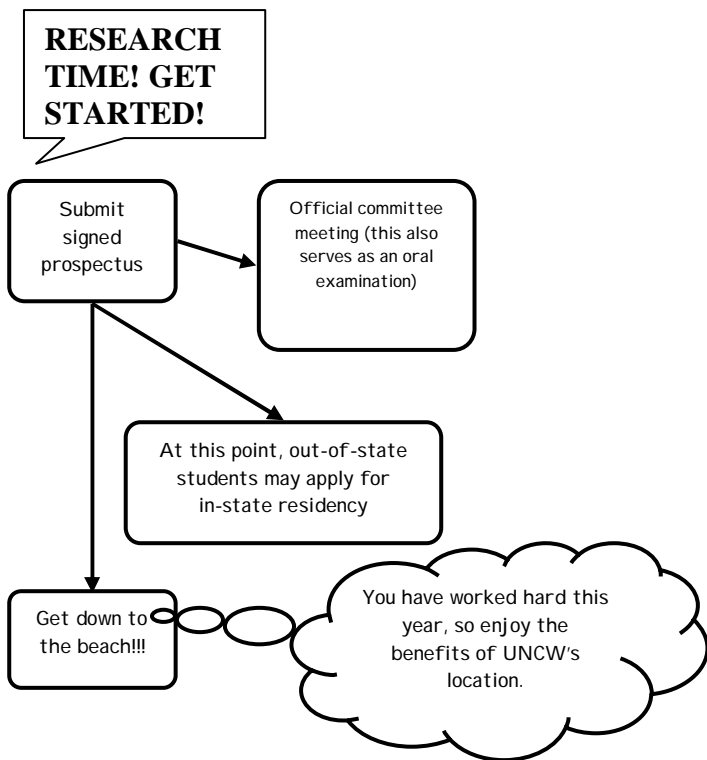
First Semester



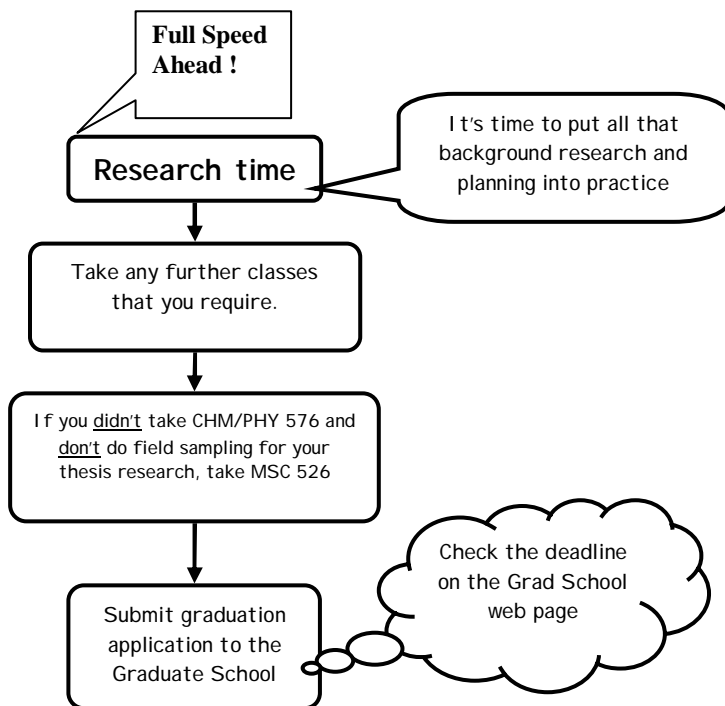
Second Semester



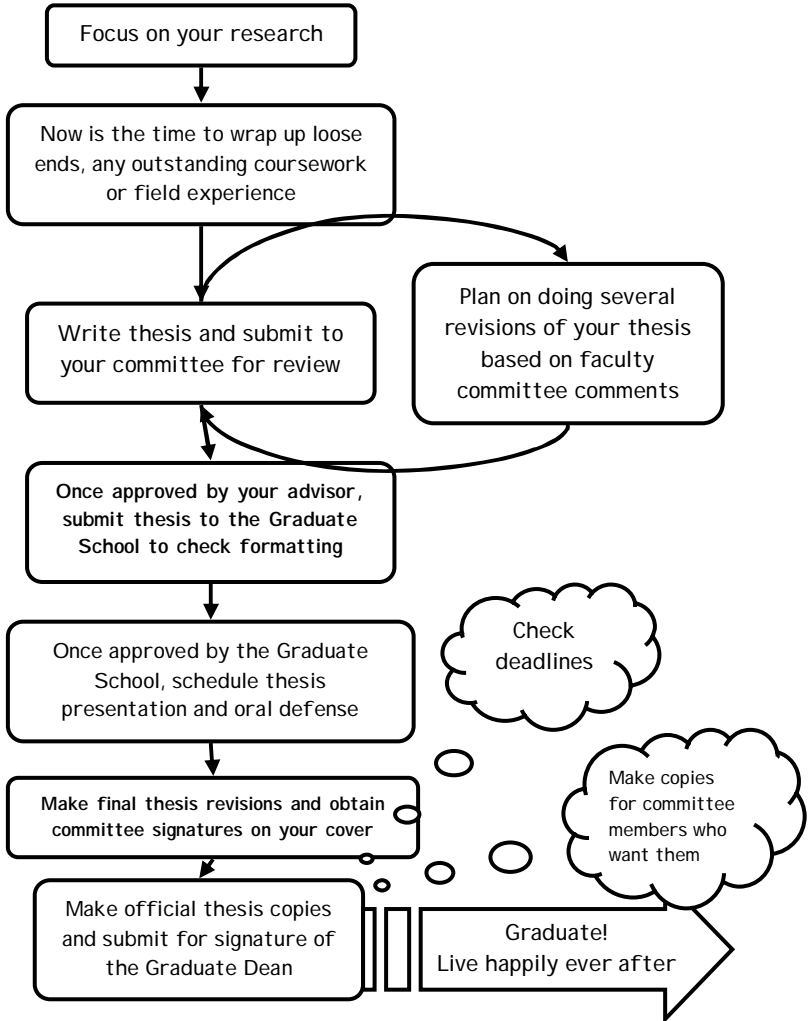
First Summer



Third Semester



Fourth Semester



Essential Forms and Responsibilities

Refer to your on-line degree audit at Seaweb to check your progress.

Reporting Responsibilities			
Task	Student	Advisor	Program Director
Written Comprehensive Exam	None	None	Submit form to Grad School
Oral Comprehensive Exam and Prospectus Defense	<ul style="list-style-type: none"> • Prepare prospectus • Submit signed prospectus to Prog Dir w/ 2 copies of cover page 	E mail Prog Dir w/ result and date of oral exam	Submit form to Grad School
Field Experience	Submit info to Prog Dir about how this was accomplished	None	Keep record in student file.
Candidacy for Graduation	Submit to Grad School before deadline " One semester before graduation "	Sign	Sign. Check degree audit upon notice of intent to graduate
Thesis Defense	Obtain signed cover pages for thesis as proof of passing grade	Sign thesis cover to denote passage of thesis defense	None

Students must submit the following Graduate School forms:

1. Format approval sheet for the thesis – must be approved before the thesis defense can be scheduled
2. Notification of oral defense – submit at least 10 days before the thesis defense will be held
3. Electronic Thesis and Dissertation (ETD) Submission Form – submit with the final thesis copies

Master of Science General Requirements

- A minimum of 30 semester hours of graduate study are required. These may come from the student's major area of study as well as graduate courses offered by other departments as approved by the student's advisory committee.
- Generally, no more than 12 credit hours from courses cross-listed as 400/500 may be applied to the degree.
- Grades earned must be equivalent to a "B" or better, and courses must be acceptable to the student's advisory committee.
- A maximum of six semester hours of credit may be transferred from another accredited institution. Grades must be equivalent to a "B" or better, and courses must be acceptable to the student's advisory committee. A minimum of 24 semester hours of graduate study must be completed in residence.
- The student's advisory committee should include a minimum of three faculty members from at least two departments. Students are encouraged to include faculty from other universities on their committees as appropriate; these may be *ex officio*.

- The student must successfully complete a written comprehensive examination based on the core courses. This exam will normally be taken in May at the end of the student's first academic year.
- The student must complete a prospectus and an oral exam on the subject area of the thesis research. The oral exam can take the form of a committee meeting. This should be completed by the end of the first summer.
- The student must acquire expertise in conducting sampling in the field.
- The student must complete a thesis, based on original research that is acceptable to the student's advisory committee and to the Graduate School.
- A public seminar will be presented by the student on the research project. The seminar will be followed by an oral defense conducted by the student's advisory committee.
- Each student must complete an approved course of study within five years of the date of initial registration for graduate study. The average time frame for completion of a degree by a full-time student is two and a half years.

Choosing Classes

The following are required of all students seeking a Master of Science in Marine Science.

BIO, CHM or GLY 501	Introduction to Research (2)
MSC 595	Graduate Seminar (1)
BIO, CHM, GLY or PHY 599	Thesis (3-6)

Core Courses

At least three of the following core courses are required for graduation. Students planning on continuing for a Ph.D. in marine science should take all four courses.

BIO 564	Biological Oceanography (3)
CHM 575	Chemical Oceanography (3)
GLY 550	Marine Geology (3)
PHY 575	Physical Oceanography (3)

After consultation with your faculty advisor, select additional courses according to your background and research interests. Go to the Master of Science in Marine Science website to find a comprehensive database of classes available. **www.uncw.edu/mms**
A statistics course will be useful if the planned research generates a lot of numbers.

Field Experience

Students are expected to accumulate significant field sampling experience. In some cases, this will be an essential part of the thesis research. If the thesis research does not include fieldwork, experience may be acquired by taking MSC 526 “Field and Cruise Sampling,” or CHM/PHY 576 “Chemical and Physical Analysis of Seawater.”

Directed Individual Study (MSC 591)

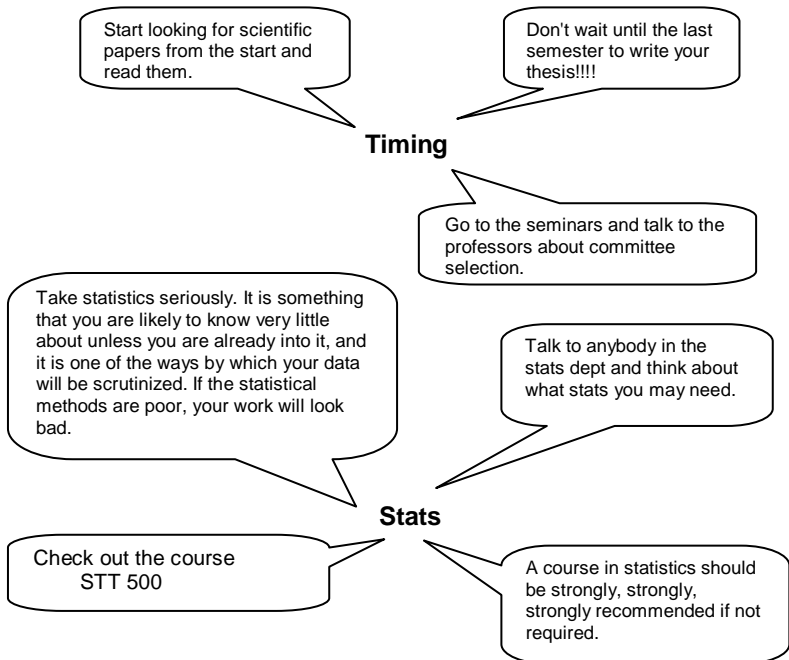
Directed Independent Study courses (MSC 591) provide the opportunity for students to pursue topics that are not covered in regular courses. These courses must have approval of the instructor, program director and dean. Forms are available on-line.

Course Waiver or Substitution

A student may request a waiver of a required course with good reason. He/she may also request the substitution of a course for another degree requirement. All requests must be approved by the program director, the student’s faculty advisor and the dean of the Graduate School.

Why didn't anybody tell me!!!

Why do you always find out that all-important detail that would have made your life so much easier, when it's too late? This section of the marine science handbook was compiled to give you a "heads up." Current UNCW grad students have provided the life-saving suggestions they wish they had received on their first day of class:



Get to know your fellow graduate students; the camaraderie and opportunity for commiseration will be more therapeutic than any other single element in graduate school.

Ask second year grad students for their class notes (and anything else they're willing to give you from their classes...)

Be aware that Marine Science and Marine Biology are not the same and know the different procedures for oral and comprehensive exams.

General

I wish someone had told me that I would have a desk (and given me one straight away) and what was expected of me/what my first year to year and half would/should be like. I wasn't really sure when I was expected to start my research or what sort of hours to work at the beginning of my first summer here.

Meet with current or previous students working for your proposed advisor and get the real deal. If that means offering to meet them for lunch/dinner so that things can be discussed away from the lab, so be it.

Try to keep your committee members in the loop about your research as much as possible. That way, come thesis review time, they should not have major issues.

Thesis and Advisor

Talk to past or current students of the advisor you are planning to work with. The two students that I talked with shared both good and bad, so when I was faced with the bad I wasn't surprised and I knew how to deal with it.

My biggest suggestion... research your advisor before starting. How many students has he/she had in the past? How many currently? How many have completed within a good timeline? Also, speak with them about funding before you start!

When doing thesis versions with your advisor electronically, make sure to learn how to use the "review tool" and/or "compare documents" options in Word. That way it is easy to see (and accept or decline) whatever changes your advisor has made.

\$2.50 pints on Tuesdays at the Mellow Mushroom with free music

\$1 tacos at K-38 on Tuesdays

Free pool at Firebelly's on Tuesday and cheaper beer

What's up with Tuesday?

All Work and No Play....

Play volleyball at Captain Bill's

Firebelly has really good soft tacos and Miller Lite for a buck each on Mondays.

Eat at Moe's; there are always 1/2 off coupons, the food is made in front of you so there is less chance of them screwing it up.

Good slice of pizza at Michaelangelo's

Be active on campus; it's the best way to get your money's worth. ACE has free movies, and you can bring your own food.

Finding an Advisor

Role of the Faculty Advisor

A primary role of the faculty advisor is to assist in the selection and refinement of a thesis topic and to advise in the design of the research program. The advisor will also give advice on and edit the thesis. The advisor, therefore, must have expertise in the appropriate area of research.

The graduate advisor will help in the selection of at least two additional faculty members to serve on the graduate committee. One of these faculty members must be from a different academic department than that of the primary advisor. At least one faculty member besides the primary advisor should be selected during your first semester in residence. The graduate committee should be chosen to provide you with additional expertise in the design and execution of thesis research. Any graduate faculty member at UNCW is eligible to serve as a committee member if he/she has expertise in an appropriate field of research. Faculty from other universities may also be invited to serve as committee members; to facilitate the scheduling of committee meetings, these may serve as *ex officio* members.

The Graduate Committee

The advisory committee will assist in putting together the degree program and must approve program courses. They will also assist with the development of the research proposal and must approve the research project. The committee will be prepared to offer advice and counseling on any aspect of the degree program including the oral comprehensive examination. The committee will evaluate performance, and determine whether the student passes or fails. Each committee member will read, edit, and evaluate the thesis and must approve the final draft.

It is very important to carefully select the graduate committee members. Close contact with each member should be maintained throughout the degree program. It is especially important to keep them informed of progress on research and the thesis preparation. If they do not know what is being done, the committee might assume that nothing is happening. In order to assure the committee is kept informed, it should be convened at least once each semester.

The relationship between the student, advisor and graduate committee should be a close relationship. If a strong working relationship is maintained, the advisor and committee will be of great help. If the relationship becomes too distant, you will lose the opportunity to make the most of your master's program.

Thesis Prospectus

A prospectus prepared early in the academic program is essential to promote a firm and mutual understanding of expectations for educational and research activities.

The prospectus should be completed before the end of the first academic year and will be retained as a part of your permanent record. It will consist of cover sheet, Program of Course Work, Literature Review and Research Proposal. Students are required to present their prospectuses in prospectus symposiums, preferably during the first academic year. Once approved by your committee the cover page will be signed by your committee. A sample cover page follows.

The prospectus is a research proposal or plan, and as such may be modified as the research progresses. Scientific research rarely proceeds completely as expected; do not be surprised if your research goes in a different direction from your prospectus plan. Once approved by the faculty committee, the prospectus does not have to be revised even if the research changes direction.

**The effect of wave height at Wrightsville Beach on the
graduation rate of marine science students**

Marina A. Student

A Prospectus submitted to the University of North Carolina
Wilmington in Partial Fulfilment of the Requirements for the
Degree of Master of Science in Marine Science.

Center for Marine Science
University of North Carolina Wilmington
2005

Approved by

Advisory Committee:

Dr. H. A. Bloom, Chair
Department of Biology and
Marine Biology

Dr. Rose Fish
Department of Chemistry and
Biochemistry

Dr. I. M. Salty
Department of Earth Sciences

The Comprehensive Examination

The comprehensive examination consists of two parts, one written and one oral. The written comprehensive exam is designed to provide the student with the opportunity to demonstrate competence in marine science. This exam covers material from the core courses selected. The exam should be taken during the first May of residence after the completion of three core courses. It is prepared and graded (pass or fail) by the instructors of the core courses. If a student does not pass a section of the exam, he/she will be given an assignment and must retake that section of the exam. If a student does not pass a second time, the exam shall be reviewed by the program director. If the instructor and program director agree that the work is not acceptable, the student shall be ineligible to continue in the program.

The oral comprehensive exam covers the research topic only. It is conducted by members of the thesis advisory committee in the format of a committee meeting. This exam should occur before the end of the first summer of residence. The student and the committee members should know in advance that this committee meeting is the oral defense, and the committee members should receive a prospectus copy one week before the exam. The student shall give a brief presentation of the research plan, then committee members may ask questions and offer suggestions about the proposed research. The student should take copies of important journal articles to the defense. The committee assigns a grade of pass, or requires a second exam. Failure of the

exam for a second time will result in dismissal from the program. This exam should provide an opportunity for committee members to have input into the project while it is still in the early stages, with the goal of making the project the best possible research. During this meeting, the student and the committee members should come to an agreement that the proposed research will in all probability produce a good thesis.

The Thesis

Thesis Credit

Students must complete at least three (3) credit hours of thesis research (BIO, CHM, GLY, or PHY 599) and can take a maximum of six (6) thesis credit hours.

Registration is completed online at the Graduate School web page. The student must be registered during any semester in which the work on the thesis occurs, and he/she must be enrolled during the semester in which graduation occurs. After completing 30 credit hours, a student may enroll for Continuous Graduate Enrollment, GRC 600, which has lower tuition costs.

Philosophy

Although course work is important, research and the resultant thesis are the unique experiences of graduate study. The design of a realistic and well-defined research project should be considered the highest priority. A detailed prospectus outline helps the student 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 may be used by both student and graduate committee for evaluating and overseeing research progress.

Research provides an opportunity to make a contribution to science. Thesis writing is an important step to that contribution. The thesis should present research findings evaluated within the context of previously published works. It is usually a common

goal of student and advisor to publish results of the thesis research. There are several possible arrangements between the student and advisor concerning authorship of a manuscript to be submitted for publication. This should be discussed as the research progresses.

Thesis Format

Copies of “*Guidelines for Thesis Preparation*” are available from the Graduate School. All instructions for the format of the thesis should adhere to those guidelines. Detailed presentations of methods and data should be in appendices and should be sufficient to allow future students to duplicate the work or to make comparisons between your data and newly gathered information. In general, your thesis should be in the format of an article ready for submission to an appropriate science journal.

The student should contact the Graduate School early in the thesis writing process to find out if there are any changes in thesis guidelines, and any relevant deadlines. The 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.

Defense of Thesis

Approximately one month before the desired date for the thesis seminar and defense, the student should submit a thesis draft (including figures and tables) to his/her advisor. The advisor shall read and edit the draft and return it for revisions. After these revisions are made to the draft, it is submitted to the Graduate School and to other members of the committee. Each committee member should study and edit the thesis before the defense. The Graduate School reviews the thesis for formatting, and upon approval, the student may schedule the presentation and defense. The defense of thesis shall be conducted at a date and time mutually agreed upon by the student and examining committee. Normally, the defense of thesis immediately follows the public presentation. However, under appropriate circumstances and with prior approval of the committee, the defense date may be delayed. The public seminar must coincide with or precede the examination before the committee.

At the conclusion of the defense, copies of the thesis containing each member's suggestions for changes are returned to the student. After committee deliberation on the quality of responses to questions, oral performance, and condition of thesis, the student shall be notified of whether he/she passed or failed.

If the defense is passed, the student must prepare a final copy of the thesis based on the written and oral comments provided by the committee. Should he/she fail the defense, the committee will schedule a second

defense allowing for further study or revision. Typically a period of three months is provided for the revision.

Graduation

The candidate may graduate in August, December or May. UNCW Commencement exercises are held in December and May. December and May graduates are encouraged to participate in Commencement exercises; summer graduates are encouraged to participate in the December graduation. All graduates participating in the UNCW Commencement exercise must order academic regalia. The Center for Marine Science holds a Graduation Celebration to honor graduates before the official UNCW graduation, and all affiliated graduates are strongly encouraged to attend this special ceremony. Academic regalia is not required for the CMS Graduate Celebration.

**Center for Marine Science
Checklist for a Two Year Timeline
Master of Science in Marine Science**

Date or check mark

First Semester

- _____ Find a faculty advisor if you don't already have one
- _____ Enroll in 12 – 15 credit hours (include a minimum of one core course, a 501 course, and thesis hours)
- _____ Take steps to achieve in-state residency if you plan to take courses in your second year
- _____ Attend marine science and departmental seminars as appropriate
- _____ Define research direction with the help of your advisor
- _____ Begin reading journal articles
- _____ Begin learning laboratory methods and techniques
- _____ With advisor's input, select a second member for your faculty committee
- _____ Submit course plan for your entire time at UNCW to your committee. This plan must be approved by your two committee members, but may be modified as needed.
- _____ Note: Students who take CHM 501 will be required to have a prospectus completed and signed by three committee members this semester.

Second Semester

- _____ Enroll in 12 – 15 credit hours (include a minimum of one core course so you will have completed at least three core courses by the end of the second semester, MSC 595 and thesis hours)
- _____ Attend marine science and departmental seminars as appropriate
- _____ Become active in the laboratory
- _____ Select a third committee member (two academic departments must be represented)
- _____ Write prospectus; have it reviewed by your advisor as you write
- _____ Present prospectus at the prospectus symposium (usually in April)
- _____ Take written comprehensive examination in May

Summer

- _____ Become active in research
- _____ Take oral examination (read marine science handbook for description)
- _____ Have advisor notify program director of results
- _____ Revise prospectus; get approval from all committee members. The prospectus is a research plan, which may be modified as you obtain results.
- _____ Submit signed prospectus to program director
- _____ If applicable, apply for in-state residency

Third Semester

- _____ Focus on Research
- _____ Enroll in any remaining mandatory course work
- _____ Attend marine science and departmental seminars as appropriate
- _____ Submit the graduation application form to Graduate School before deadline posted on the Graduate School web page
- _____ Document that you have had field experience either through your research, CHM/PHY 576 or MSC 526

Fourth Semester

- _____ Focus on Research
- _____ Enroll in any remaining mandatory coursework
- _____ Attend marine science and departmental seminars as appropriate
- _____ Write thesis; several revisions may be necessary
- _____ Submit advisor-approved thesis draft to Graduate School by their deadline, along with the Graduate School “Format Approval Sheet”
- _____ Provide copies of thesis to all committee members
- _____ Schedule thesis presentation and oral defense after the thesis is approved by the Graduate School
- _____ Submit the Graduate School form “Notification of Oral Defense” to the Graduate School at least 10 days before the thesis defense
- _____ Notify program assistant of your title and presentation time for public notification
- _____ Present and defend thesis
- _____ Revise thesis after obtaining committee input
- _____ Edit revisions to thesis; get approval from faculty committee members.

- _____ Make official thesis copies for signature by
committee members and the Graduate Dean
(Additional copies may be provided for any
committee members desiring to retain a copy)
- _____ Submit the Graduate School “Electronic Thesis and
Dissertation (ETD) Submission Form” with
thesis copies
- _____ Graduate !

The average time for completion of this degree for a full time student at UNCW is 30 months (five semesters, including two summers). This is consistent with the national average for a field and laboratory research based Master of Science degree.

Useful Names, Numbers and Websites

**Remember that a good source for information is the Master of Science in Marine Science website:
www.uncw.edu/mms**

Here you will find a comprehensive database of classes available to you, faculty lists and links to other department websites, a useful resource when looking for committee members. It has a wide range of external links from academic points of interest, such as the Lower Cape Fear River Program, marine career advice and guidance, and much more.

Dr. Joan Willey, Associate Director for Education, Center for Marine Science, (willeyj@uncw.edu) is a good point of reference for detailed or personal questions. If she can't help you, she will probably know someone who can. The CMS Program Assistant is also a valuable resource.

Questions about your course plan, prospectus and thesis should be directed to your committee. General program questions and suggestions should be directed to Dr. Willey.

The Graduate School is a useful resource for much more than simply arranging classes and graduation. They can help you with many of the problems you may encounter during your graduate program. Travel funds are available to all students from the Graduate School. Summer research funding is

offered on a competitive basis. Visit their website to see what they can do for you.

http://www.uncw.edu/grad_info/index.htm

The main university website (www.uncw.edu) provides a wealth of information and links, most importantly on-line access to the graduate catalogue, the “official line” on all graduate program issues that you may encounter. It is your responsibility as a graduate student to be well informed. Remember that not everything goes as planned; your best defense against possible problems is to be informed and to address problems quickly.

The academic calendar is accessible from the university website and contains important dates, such as start and end of semesters, registration dates and holidays.

Some important telephone numbers are:

UNCW	910 / 962-3000
CMS	910 / 962-2301
Hurricane Hotline (toll free)	910 / 962-3991 or 888 / 657-5751
Severe Storms	www.uncw.edu



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