GRADUATE

STUDENT

HANDBOOK

DEPARTMENT OF OCEAN ENGINEERING AND MARINE SCIENCES

September 2019

PREFACE

The Graduate Student Handbook was written to provide graduate students with information about policies, procedures, and academic activities in the Department of Ocean Engineering and Marine Sciences. Students should use the Handbook as a companion to the University Catalog and the policies and procedures published by the University. This Handbook should not substitute for either. Graduate policies and procedures are available here. The Graduate Student Handbook is available through the OEMS Forms and Documents web page.

All graduate students are required to read this Handbook and familiarize themselves with its contents. It contains important information pertaining to your educational experience at Florida Tech. Students are required to acknowledge reading this handbook by signing and returning the **Graduate Student Handbook Acknowledgment Form** by 5:00 p.m. Monday, October 1, 2019.

Students should read the Handbook and the policies and procedures thoroughly and familiarize themselves with their contents. It is the student's responsibility to be aware of the relevant policies, deadlines, dates, programs, etc. When questions arise, the student should first ask his/her advisor before talking to anyone else.

The Handbook includes Instructions for Preparing a Proposal, Thesis and Dissertation. These instructions have been approved by the Graduate Programs Office and must be followed explicitly. The formatting requirements in this guide take precedence over all other manuals and style sheets. Do not use other theses and dissertations as guides for format. From time to time, the Graduate Programs Office will publish format or style instructions that will differ from ours. Those instructions are for students in departments that do not have their own guidelines and instructions. You will continue to follow the instructions in this manual unless told otherwise by your Department Head.

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ACADEMIC POLICIES AND DEGREE REQUIREMENTS

QUICK REFERENCE FOR DEPARTMENT POLICIES AND PROCEDURES

ACADEMIC DISHONESTY. Academic dishonesty, in any form, is a serious offense and will not be tolerated. Dishonesty includes cheating, plagiarism, deception of effort, and unauthorized assistance. Academic dishonesty may result in a failing grade in a course and/or suspension or dismissal from the Graduate Program and Florida Tech. Falsification of data is an extremely serious offense and can be a ground for immediate dismissal. Plagiarism is discussed separately.

ADMISSION TO CANDIDACY. A student must fulfill specific requirements for the master's degree (p. 19) or doctorate (p. 28) to be admitted to candidacy.

ADVISOR. Your advisor is the faculty member with whom you will work most closely during the period of graduate study and research. Your advisor will sign forms, help with the program plan, supervise the writing of the proposal, and direct your research, etc. It is imperative that you openly discuss all aspects of your graduate progress with your advisor. If your research interests change and your new interests no longer lie in the area of your advisor's expertise, then you must change advisors (see Change of Advisor). Your new advisor must have the expertise to supervise your graduate research; otherwise you will not be permitted to conduct it.

ADVISORY COMMITTEE. The term 'advisory committee' is used to designate the graduate-student's committee prior to his/her admission to candidacy. This committee is called the student's thesis or dissertation committee after his/her admission to candidacy. Henceforth, the terms 'committee,' 'graduate committee,' and 'student's committee' are used synonymously in this document. For the master's degree, there are at least three members (p. 20) and for the doctoral degree four members (p. 26) in this committee. The Graduate Program Committee (GPC; p. 4) must approve the composition of the committee for balance and uniformity. All graduate students must meet once per semester with their advisory committees. Since the committee must be formed in the first year of graduate training, the first meeting will be held in the first year. These meetings must include the student, the faculty advisor and all committee members. Following the meeting, the student will be responsible for completing the **Report of The Advisory Committee Meeting** form and submitting it to his/her advisor. The reports are distributed to the committee and are maintained in the student's file. A student may not register for any semester if a report has not been filed in the prior six months. These reports will be considered a record of student progress and will be available for future meetings of the student's committee. Failure to complete semestral meetings indicates a lack of progress and may result in a student being dismissed from the program.

ANIMAL CARE. Animals used in research must receive humane treatment at all times. Animals must be maintained under proper sanitary conditions and be sacrificed according to acceptable procedures. The federal government makes unannounced inspections to enforce compliance with these standards. The Institutional Animal Care and Use Committee (IACUC) must provide written approval prior to the acquisition and use of any live vertebrate animals in either teaching or research laboratories. Discuss this matter with your major professor before you begin research involving any animal.

APPEAL OF GRADES. Only the instructor can request a change of grade. Normally, grade changes are permitted only when the instructor finds that an error was made in the computation or reporting of the final grade. The instructor cannot change the grade based on additional work performed or tests taken by the student after the last day of regular classes. Changes of grade do not take effect unless approved by the Department Head and the Dean of the College of Engineering and Science. If the student believes that the grading in a course was unfair or capricious, then the student should discuss this complaint with the instructor. If the complaint is not resolved after discussing it with the instructor, then the student should meet with the Program Chair in-charge of Graduate Programs and the Department Head.

AUTHORSHIP ORDER FOR PUBLISHED THESES/DISSERTATIONS. In science, the student and advisor have traditionally co-authored the publications resulting from thesis/dissertation research. Authorship order depends upon balancing several factors. For example, the advisor has: 1) generally developed the original research idea; 2) taught techniques, methodologies, and scientific approaches; 3) helped with the completion of the project; and 4) overseen the writing of the thesis/dissertation. In addition, the advisor often contracts and bears scientific and financial responsibility to the funding agencies for administering and successfully completing the projects. On the other hand, the student has: 1) done most of the work; and 2) contributed to the success of the project.

There are other considerations that may complicate matters. A large collaborative project involves many graduate students contributing to different parts of the project over a period of months or years. Under these circumstances, the authorship order becomes more difficult to assign. For these reasons, the advisor and student can avoid future misunderstandings by candidly discussing the authorship order.

GRADUATE RESEARCH. MAR 5995 and Special Topics 5901-5903. These courses consist of the development, execution, documentation and evaluation of an original research project on which the student and the faculty member agree. The components to be completed during the semester are as follows:

1. Selection of a research topic designed to advance knowledge in the field, and to simultaneously instruct the student in current investigation in the discipline.

2. Preparation of a list of references on the research topic, to be read and discussed during the semester.

3. Design of the research project to be completed during the semester.

4. Organization of regularly scheduled meetings between student and faculty to discuss research progress and analyze relevant papers from the reference list.

5. Preparation of a paper describing the accomplishments of the research project (see p. 11). The paper should consist of: Title Page, Introduction, Materials and Methods, Results and Discussion, and References. The paper should clearly illustrate the research accomplishments as well as an understanding of the literature in the field. The paper

must be submitted to the faculty member no later than the beginning of the last week of classes of the semester.

6. Evaluation and critique of the paper by the faculty member and discussion of corrections and improvements.

7. Submission of a final copy of the paper to the professor no later than the last day of classes.

8. The grade for the course will be based on an evaluation of the student comprehension of the research topic and performance of the research, as evidenced by the quality of the student's final paper.

CHANGE OF ADVISOR. There are two primary reasons for changing advisors: 1) change in research interests and 2) personal or professional differences with the advisor. Regardless of the reason, the student should inform and discuss the change with the advisor. The student must also inform the GPC and the Department Head of the intended change. If the student needs help in finding a new advisor, the student should discuss the matter with the Department Head and Program Chair(s). During the interval, the Department Head will take care of routine administrative matters. The student should be aware that changing advisors might involve additional coursework and will likely involve abandoning the original research and starting on a new project. Moreover, the change will usually delay graduation. In any event, the student must find a new advisor within one semester. However, no faculty member is required to accept a student and serve as the advisor. Failure to find an advisor will result in dismissal from the department's graduate program. If a student's advisor leaves the university, the student does not have to leave the university. The student will be assigned a new advisor. Every effort will be made for the student to continue the original research if significant progress has already been made.

CLASSROOM MANAGEMENT. Teaching Assistants (TAs) are expected to organize and run their laboratories in a professional manner. They should deal fairly and openly with the students. The TA should use time efficiently and establish a pleasant laboratory environment to accomplish the course objectives. Because laboratories are generally less formal than lectures, talking among students is acceptable within bounds. However, radios and other distractions, such as iPods or Nerf basketball hoops, have no place in the laboratory.

COLLECTING PERMITS. Rapid development in Florida has placed heavy demands on its natural resources. Research requiring collection of organisms and environmental sampling should be designed to minimize collection impact as reasonably as is possible, and samples should be processed carefully and adequately to prevent waste. All collections must be made in accordance with legal requirements, including applicable permits and licenses.

COMMITTEES. Many departmental responsibilities are delegated to several standing (permanent) faculty committees. One that most directly relates to graduate students is the Graduate Program Committee.

GRADUATE PROGRAM COMMITTEE (GPC). The functions and responsibilities of the GPC are the following:

1. **Graduate Admissions**

The GPC reviews applicants and makes recommendations for or against acceptance.

2. **Award of Teaching Assistantships** (TA):

The GPC allocates Teaching Assistantships. TAs are awarded based on several factors that include:

a) Appropriate academic background of student for the course.
Every effort will be made to assign TAs with the most relevant academic background for the course in question.

b) Academic qualifications of Teaching Assistants.
TAs must have a 3.0 GPA to qualify for a TA.

c) Language skills.
International students for whom English is not their first language must have adequate verbal skills to be effective in the classroom. Students must score 100 in the iBT, which is the internet-based TOEFL, or Test of English as a Foreign Language; 7.0 on the IELTS exam, or International English Language Testing System; or 600 on the paper-based TOEFL. They also must pass an exam in spoken English: the ITASA, or International Teaching Assistant Speaking Assessment.

c) Evaluation of teaching effectiveness.
Students receiving unsatisfactory evaluations will not have their Teaching Assistantships renewed.

3. **Academic Standards**

The following areas are the oversight of the GPC:

a) Recommendations (and periodic evaluation) of Degree Requirements for various programs. Approval requires approval by vote of entire faculty.
b) Approval of the Student's Committee.
c) Monitoring student progress through the Student's Committee meeting every semester. Students will not be permitted to register or remain in the graduate program if the student's committee fails to meet each semester.
d) Evaluation of recommendations for students on academic probation. The committee should monitor students' plans for correcting deficiencies and solicit input from the Faculty Advisor.

GPC Organization

The GPC will be composed of the Program Chairs (currently Drs. Steven Lazarus [chair of GPC], Stephen Wood and Ralph Turingan) and three (3) additional members of the faculty. As much as possible, members will represent all areas of interest in the department, including Ocean Engineering, Environmental Science, Oceanography, Meteorology, Aquaculture, Ecology, and Marine Biology.

The three additional members of the GPC will each serve a 3-year term, with one member rotating on and off every year.

COMPLAINTS/GRIEVANCES. The department is concerned about those matters that directly affect the student's academic performance, such as dishonesty, misrepresentation of data, cruelty to animals, or any violation of professional conduct by students or faculty. The student is obliged to inform the GPC Chairperson and Department Head of these infractions. Confidentiality will be honored. In addition, conduct that hampers the progress of other students will not be tolerated. If the student cannot settle the matter privately, then the problem should be discussed with the advisor, GPC Chairperson, and Department Head.

COMPREHENSIVE EXAMINATION. The comprehensive examination consists of a written exam administered to doctoral students by the end of their second year. The student is required to answer two questions, which are prepared and graded by an examination committee. The examination committee is comprised of the student's dissertation committee and must contain a member of the GPC. The GPC administers the examination. See p. 27 for details.

DISMISSAL. A master's student must attain a 3.0 cumulative grade point average (CGPA), and a doctoral student a 3.2 in coursework required for graduation. Failure to attain the minimum CGPA specified below will result in academic dismissal. The advisor has the right to dismiss the student from his/her laboratory for lack of progress or cooperation, or for hampering the academic efforts of other students. See the graduate policies for special requirements pertaining to provisional students.

Master's

Semester Hours Completed	Minimum CGPA
9-17	2.50
18-23	2.70
24 or more	2.90

Doctoral

Status	CGPA
Dismissal	below 3.0
Probation	*3.0<3.2 (after 15 h)
Minimum satisfactory	3.2

*Any student on probation for longer than one semester is subject to dismissal.

Two or more grades of "D", "F", or "U" in any course taken as a graduate student will result in dismissal. A student may also be dismissed for conduct that violates the legal or ethical standards of the university. Examples include cheating, plagiarism, cruelty to animals, falsifying data, and forging or altering transcripts, laboratory notebooks, approval forms, etc.

APPEAL OF DISMISSAL. In all cases of academic dismissal, the GPC Chairperson notifies the student. The academic dismissal may be waived for educationally sound reasons by special action of the Graduate Council. A letter of appeal requesting a waiver of dismissal should be submitted to the Graduate Council through the Department Head. The letter is forwarded to

the Appeals Committee of the Graduate Council for careful consideration. Upon filing a letter of appeal, the student is permitted to enroll in classes until such time that the appeal is resolved. In case of denial of the appeal, the enrollment will be cancelled, and all tuition refunded.

DISSERTATION RESEARCH. Only doctoral students who have been admitted to candidacy are allowed to register for dissertation research. The conditions for admission to candidacy are explained on p. 29. The student must submit a research report every semester (see p. 11) except the last. The last semester the student will satisfy this requirement with the dissertation. Once a student registers for dissertation research, continuous registration is required each semester until completion of the degree. Any exception requires a "Request to Waive Dissertation or Thesis Registration" form and approval of the GPC Chairperson and the Department Head. An example of this would be if the student were going to be away from campus during the summer and not using any Florida Tech facilities or faculty time.

Once a student registers for dissertation, continuous registration in at least 3 credit hours of dissertation is required each semester until completion of the degree. Any exception to this rule (other than the semester of graduation) requires a Request to Waive Dissertation or Thesis Registration form and approval of the Department Head and GPC Chairperson.

Dissertation registration in the semester of graduation may be for less than 3 hours if the minimum required total number of credits specified for the degree has been met and a full-three-hour registration was completed for the preceding semester. Students who receive a waiver of the requirement to register for the preceding semester, or who did not pass the oral defense of the dissertation during the preceding semester, must register for at least one hour in the semester of graduation, even if they finish prior to the end of the fourth week of the semester. If a student anticipates finishing the dissertation early in the semester, he/she should register for 0, 1, 2 or 3 credits of dissertation until the actual turn-in date according to the following schedule.

Turn-In Date	Credit Hours Required
By noon on the fourth Friday of the semester (not applicable for students obtaining a waiver of the registration requirement for the preceding semester or who did not pass the thesis or dissertation defense during the preceding semester)	0
By noon on the eighth Friday of the semester	1
By noon on the twelfth Friday of the semester	2
Monday after the twelfth Friday of the semester, or later	3

Students who must add credits will not be assessed a late fee. The Graduate Programs Office will take care of adding the appropriate number of dissertation credits on the turn-in date. Students may register for 0 or 3 credits of dissertation. Only the Graduate Programs Office can authorize fewer than 3 credits if it is the semester of graduation and the minimum required number of dissertation credits specified for the degree to be awarded has been met. The turn-in date is defined as the date when the dissertation is accepted by the Graduate Programs Office.

GRADES. The university uses a grading system of "A", "B", "C", "D", and "F" for its records, with corresponding quality points of 4, 3, 2, 1, and 0, respectively. There is one exception to this. Prior to the defense, grades of "S" or "U" (depending upon progress) will be assigned to MAR/ENS/OCE/OCN 5999 and MAR/ENS/OCE/OCN 6999. At the time of the actual defense, up to 6 hours of 5999 will be converted to "P" or "F". A grade of "P" carries with it credit hours earned but does not affect the Grade Point Average.

A grade of "Incomplete" is given when extenuating circumstances prevent the student from completing the course requirements within the semester. Such extenuating circumstances include hospitalization, personal tragedy in the family, or some other catastrophe. An "Incomplete" will not usually be given for reasons other than these. An "Incomplete" automatically becomes an "F" if course requirements are not fulfilled before the end of the 6th week of classes of the following semester, although the department may establish an earlier deadline if it chooses.

GRADUATE STUDENT ASSOCIATION. The Association includes all students working towards the M.S. or Ph.D. degree in the DOEMS (p. 17).

GRADUATE STUDENT PROGRESS FORMS. All graduate students must complete the five graduate student progress forms to document their progress in the program. These are intended to assist the student in a smooth and timely manner through required coursework and research responsibilities. Progress forms are available in the DOEMS office and online via the OEMS Forms and Documents web page. Below is a summary of the progress forms and their intended use.

Form I. Preliminary Conference. The academic record and career goals of all incoming graduate students are reviewed at a preliminary conference with the advisor. Any course deficiencies or graduate transfer credits are established, and the student is helped to select courses for the first semester. This should be completed within the first few weeks of a student's graduate program.

Form II. Formation of Thesis or Dissertation Committee. This form records your research committee members. Discuss with your advisor the appropriate individuals from the graduate faculty who can provide constructive input to your research project. This form should be completed by the middle of a student's second semester, normally spring of the first year.

Form III. Thesis/Dissertation Title and Proposal Approval. This form records the title of your thesis/dissertation research proposal. It is completed and signed by all committee members immediately following your proposal defense meeting. Attach this form to your proposal as the proposal approval page before submission to the GPC.

Form IV. Admission to Candidacy. This form admits the graduate student to candidacy so that the research portion of the thesis or dissertation can formally begin. It should be completed by the end of the first year of graduate study for master's or by the end of the fifth semester for the Ph.D.

Form V. Approval of Thesis/Dissertation Presentation and Final Exam. This form documents the preparation of the thesis/dissertation, promotes interaction with the advisor and committee members, and insures adequate lead-time for the formal presentation of your research and final exam. This form must be completed in its entirety a minimum of two weeks before the defense date.

TEACHING ASSISTANTSHIPS. Teaching Assistantships are awarded on a competitive basis to highly qualified graduate students who have demonstrated proficiency in English and successfully completed the university training program. TA funding will be assigned based on availability of funds, departmental need for TAs in undergraduate laboratories and academic merit of the applicant. Decisions regarding TA eligibility will be reviewed by GPC. Yearly renewal of assigned TAs will be contingent upon satisfactory progress towards degree goals. Lack of progress and/or failure to maintain satisfactory grades in coursework will result in withdrawal of TA support. A grade below "B" in any course may result in loss of TA support.

For M.S. students, eligibility for TA assignment lasts for the first two years, and M.S. students may not hold a TA beyond those first two years. A M.S. student who receives a TA in the second year of studies may only hold that position for one year. Doctoral students will be eligible to hold TA positions for a maximum of any five years of their graduate careers, but they will be encouraged to obtain research assistantships (with the help of their advisors) to reduce the length of time they are supported by teaching assistantships.

M.S. students who hold a TA and then upgrade to a Ph.D. (which they must do in their first year) do not reset their eligibility clocks. Thus, if a year of TA support has been used in the M.S. phase, upon acceptance into the Ph.D. program the student becomes eligible for four more years of support, for a total of five years of support. If a student fails the comprehensive exam, s/he may complete her/his M.S. degree, but his or her TA will not be continued beyond the semester in which s/he failed the exam.

All TAs are required to attend a departmental safety seminar held in August before the beginning of classes for the year. The seminar covers aspects of safety and chemical-waste disposal related to teaching and research laboratories. Newly appointed TAs are required to attend the University-wide GTA training seminar, also held before the beginning of Fall semester courses. TAs that handle hazardous waste must complete the University's training program on proper disposal.

LETTERS OF RECOMMENDATION. Students often ask their advisors and other faculty members to write letters of recommendation for prospective jobs, for further graduate studies, or for admission to professional schools. Although most faculty members will write letters of recommendation, a faculty member is not required to write a letter and may refuse. Before asking for a recommendation, the student may be asked to sign the waiver on the application of her/his right to access the letter. If the application lacks a waiver statement, special forms are available in the departmental office. A separate waiver is required for each letter. Because the waiver ensures confidentiality, a letter accompanied by a waiver is more highly regarded and trusted than a letter without a waiver. Most faculty members will not write letters without waivers.

LICENSES. For reasons of health, safety, and professional standards, many local, state, and federal agencies and professional societies require licensing for alcohol (Bureau of Alcohol, Tobacco and Firearms), drugs (Drug Enforcement Agency), radioactive isotopes (Nuclear Regulatory Commission and Health and Rehabilitative Services), animal care (U.S. Department of Agriculture and National Institutes of Health), and endangered species (Florida Fish and Wildlife Conservation Commission and U.S. Wildlife Service). Check with your advisor to determine whether you need to be licensed to conduct your research. Failure to comply can result in loss of license for the department or entire university. In addition, the violator (student or faculty member) may be fined, imprisoned, and/or dismissed from the university (see Professional Conduct).

OFFICE HOURS. Faculty keep office hours when they will be available for consultation. Please respect their busy schedules.

OWNERSHIP OF RESEARCH DATA. All data collected for the graduate degree are the property of the Florida Institute of Technology and are administered by the student's advisor on behalf of the University. The student will not graduate until all data have been turned over to the advisor. The student may not present the data at any conference or meeting, nor publish them in any form before or after graduation without the express consent of the advisor.

PERSONAL PROBLEMS. Sometimes the pressures of graduate school, and personal or financial problems weigh heavily on the student. Moreover, certain matters cannot be comfortably discussed with other students, friends, or the advisor. Whatever the reason, the student is urged to avail himself or herself of the free services of the Campus Ministry (674-8045) and Counseling and Psychological Services (CAPS; 674-8050). The student should contact these services directly. They are open 10:00–5:00 weekdays and have 24-hour hotlines. All conversations are confidential and remain a private matter between the student and the chaplain or counselor. If the need arises, the student can request that these services contact the department or advisor in the student's behalf.

PLAGIARISM. Plagiarism, especially intentional plagiarism, is an extremely serious offense. Plagiarism provides substantial grounds for dismissal from the university.

Plagiarism includes, but is not limited to, copying text verbatim from other publications (including, but not limited to, scientific papers, websites, newsletters, newspapers, and magazines) without quotation marks (or block-indentation) and attribution; copying text from other publications and changing a few words without attribution, paraphrasing without attribution, copying images without attribution, copying anything from fellow students in written exams or papers, repeating another person's concepts or ideas in a paper without proper attribution, and submitting papers purchased from websites or other sources.

For further discussion of plagiarism, including additional examples, and additional information on Florida Tech's policy on plagiarism, students are advised to visit the following web site: http://www.Florida Tech.edu/current/documents/plagiarism.pdf.

PROFESSIONAL CONDUCT. Students and faculty are expected to conform to codes of ethics and conduct established by professionals in their fields. Serious breaches of codes such as fabrication of data and unprofessional conduct will result in dismissal.

Once the student has accepted admission into the program, he/she is subject to the ethics, professional standards and laws relating to her/his area of study. For this reason, the student may not engage in any professional activity (for pay or otherwise) without the appropriate certification and/or approval of the advisor or Department Head. To disregard the need for approval or to engage in activities that seem either unethical or inappropriate will be cause for dismissal from the program. It is further understood that after graduation the student will not engage in any professional activity without appropriate State, Federal, or professional certification, licensure, etc.

PROFESSIONAL SOCIETIES. Most faculty members have joined professional societies in their fields of specialty. Societies are important for professional development, scientific contacts, and employment opportunities. These societies hold meetings at which regular and student members present papers and posters. Some societies are responsible for certification and licensing. Check with your advisor about the one(s) that you should join.

PROGRAM PLAN. The program plan represents the official credit-hour requirements for graduation. Changes in it because of new or canceled courses, change of advisor, etc., require approval by the GPC (see below).

PROGRESS TOWARDS THE DEGREE. Graduate students must demonstrate that they are making progress towards the degree (M.S. or Ph.D.). Students who are not making sufficient progress run the risk of losing graduate assistantships and of being dismissed.

THESIS/DISSERTATION PROPOSAL. The thesis/dissertation proposal serves the purpose of explaining the intended research in sufficient detail for the thesis advisor and thesis committee to ensure that the proposed research meets acceptable scientific standards.

PROPOSAL DEFENSE. The proposal defense is an oral exam administered by the thesis/dissertation committee and emphasizes the proposed research and related research literature.

PUBLICATION OF THESES AND DISSERTATIONS. Publications are professionally important for obtaining employment, promotions, grants and contracts. Although an advanced degree strengthens a person's credentials, a person who has published has additional professional achievement. A thesis/dissertation is considered to be "unpublished" until it appears as a journal article or as a chapter in a book. Graduate students are strongly encouraged to publish as often as the data justify. For practical reasons, graduate students find it easier to write manuscripts from the thesis/dissertation research while in graduate school than after graduation. After graduation, new graduates will typically spend their time searching for jobs or devoting their fullest efforts to doing well at their new jobs.

RESEARCH NOTEBOOK. Each student must maintain a research notebook. The notebook serves as a research diary for writing down the raw data as they are collected. The

notebook should always be accessible to the advisor. The student should discuss the form and requirements for a Research Notebook with her/his advisor.

RESEARCH REPORTS. The department offers the following research courses: MAR 5995 Biological Research; MAR/ENS/OCE/OCN 5999 (Marine Biology, Environmental Science, Ocean Engineering, Oceanography) Thesis; ENS/OCE/OCN 6993 (Research in Environmental Science, Ocean Engineering, Oceanography); MAR/ENS/OCE/OCN 6999 (Biological Sciences, Environmental Science, Ocean Engineering, Oceanography) Dissertation. Students must submit research reports to the advisor for each research, thesis, or dissertation course enrolled in no later than the Friday of the last week of classes of the semester. The purpose of this report is to document, for the committee, research progress made during the semester. The advisor should evaluate the report for progress since the last report and for adherence to the research proposal. After the advisor approves and grades the report, it is kept in the department's files. It is not returned to the student.

The report format follows this general outline:

a. Title page (project title, course number, student's name)
b. Summary/Abstract
c. Introduction
d. Materials and Methods
e. Results
f. Discussion
g. Literature Cited

Pages in the report must be numbered, except for the Title page. It is recommended that students begin learning and applying the instructions for thesis and dissertations (Appendix C) in the preparation of all research reports.

Students enrolled in MAR/ENS/OCE/OCN 5999 or MAR/ENS/OCE/OCN 6999 should append a short description to the research report that documents the progress made over the semester to help the advisor track progress towards the degree.

Any committee member may request a meeting with the student if a problem with the research surfaces. The student is advised to "use" her/his committee and should schedule meetings with individuals or the entire committee whenever a problem arises or when the student deems it necessary.

RESEARCH SEMINAR AND DEFENSE. All students must present a research seminar for either their thesis or dissertation research to fulfill their graduation requirement. Students should register for Research Seminar (MAR/OCE/OCN 5990, ENS 5000) in the semester they intend to graduate.

SEMINARS. Students are required to attend all departmental seminars. Regularly scheduled departmental seminars are held every Wednesday; times are posted. In addition, unscheduled seminars are held periodically.

STUDENT ACTIVITIES.

Graduate Student Association. All students working toward the M.S. or Ph.D. degrees in the Department of Ocean Engineering and Marine Sciences are members of the Graduate Student Association (GSA). Regular meeting attendance and participation in GSA-sponsored events is encouraged and expected of all graduate students. The primary functions of the GSA are to organize and sponsor a seminar or workshop series on various topics selected by graduate students; to facilitate communication among graduate students, faculty, and administration; to provide information and tours to prospective or incoming students in the Department of Ocean Engineering and Marine Sciences; and to provide a forum where proposals, seminars, and research ideas may be presented and discussed.

Professional and honor societies relevant to our various majors include, but are not limited to Sigma Xi, Phi Kappa Phi (PKP), the American Meteorological Society (AMS), the American Geophysical Union (AGU), the Society for Naval Architects and Marine Engineers (SNAME), the Marine Technology Society (MTS), Society for Integrative and Comparative Biology (SICB) and Tri-Beta. Sigma Xi is the national scientific research society, whereas Phi Kappa is a national multi-disciplinary honor society. Tri-Beta is the national biology honor society, and the AMS and AGU are professional organizations for meteorologists and geoscientists respectively. All of these societies and organizations offer scholarships and more. Information is available online at the links provided. Local-chapter information is available via Panther Prowl.

TELEPHONE. Students may not use faculty or office telephones for making long-distance calls unless they receive prior permission from either their Department Head or advisor. Students or their friends should not ask the departmental administrators to take messages except in emergencies or for official business. Private calls should be made from private phones.

THESIS/DISSERTATION COMMITTEE. The thesis/dissertation committee is responsible for monitoring the student's progress, supervising the student's research, and ultimately certifying to the Graduate Programs Office that an acceptable thesis or dissertation has been submitted and all degree requirements are completed. For the master's degree, there are at least three members and for the doctoral degree, four members. The GPC must approve the composition of the committee for balance and uniformity.

THESIS RESEARCH (MAR/ENS/OCE/OCN 5999). The student must have at least a 3.0 CGPA in formal coursework and an approved thesis proposal on file before registering for thesis research. The student must submit a research report to the advisor every semester except the last, for which the thesis satisfies the report requirement. Once a student registers for thesis research, continuous registration is required each semester until completion of the degree. Any exception requires a "Request to Waive Dissertation or Thesis Registration" form and approval of the GPC Chairperson and the Department Head. An example of this would be if the student were going to be away from campus during the summer and not using any Florida Tech facilities or faculty time.

THESIS/DISSERTATION DEFENSE. Defense of the thesis/dissertation consists of a public seminar at which the student presents his/her research, followed by an oral exam conducted by the student's committee.

DEGREE PROGRAMS

The Department of Ocean Engineering and Marine Sciences offers opportunities for advanced study and research leading to the Master of Science and the Doctor of Philosophy degrees in biological, meteorological[1], environmental, and ocean sciences, and ocean engineering. The master's or Ph.D. degree is awarded to candidates who have 1) displayed an in-depth understanding of the subject matter and 2) demonstrated the ability to make original contributions to knowledge in their fields of specialty.

ORGANIZATION AND ADMINISTRATION OF THE GRADUATE PROGRAM

The graduate program in the Department of Ocean Engineering and Marine Sciences is administered through the Graduate Program Committee (GPC). The GPC recommends admission of students into the program, sets degree requirements, and recommends students for admission to candidacy for the M.S. and Ph.D. degrees. Once the student is advanced to candidacy, the thesis or dissertation committee, chaired by the student's thesis or dissertation advisor, has the responsibility of monitoring the student's progress through the program in a timely manner.

The Staff Assistant is the person who actually does a lot of the work and knows the specifics of where the students stand in their program. The Staff Assistant keeps the records on students and sees that paper is processed in a correct and timely manner. Most questions concerning routine procedures should be addressed to the Staff Assistant.

The following individuals currently administer the Department of Ocean Engineering and Marine Sciences graduate program:

GRADUATE PROGRAM COMMITTEE.
Dr. Steven M. Lazarus, Chairperson
Dr. Ralph G. Turingan
Dr. Charles R. Bostater
Dr. Robert J. Weaver
Dr. Andrew G. Palmer

Staff Assistants to Whom you Should Really Listen
Ms. Dee Dee Van Horn (dvanhorn@fit.edu)
Ms. Sandra Derleth (sderleth@fit.edu)

FULL-TIME ACADEMIC FACULTY, DEPARTMENT OF OCEAN ENGINEERING AND MARINE SCIENCES.

Richard B. Aronson, Ph.D.
Department Head and Professor
Marine Ecology
Paleobiology

[1] A Doctorate is possible through Environmental Science.

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Paleoecology
Creation and Restoration of Coastal Wetlands
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Evolution of high-investment reproductive strategies
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Mercury Concentrations in Predatory Biota
Nutrient Loading and Algal Blooms
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Trophic transfer of toxins in marine food webs
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Efficacy of Hull Coatings in Preventing Biofouling
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Lightning and Gigantic Jets
Mesoscale Data Assimilation and Analysis
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Cell signaling following plant-pathogen interactions
Chemical Biology/Plant Biology/Biochemistry
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Habitat Analysis of Rare, Threatened, and Endangered Species of Florida
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Hydraulics of Tidal Inlets
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DEGREE REQUIREMENTS AND PROCEDURES

DEGREES OFFERED. There are several graduate degrees offered through the Department of Ocean Engineering and Marine Sciences: the Ph.D. and M.S. in Biological Sciences, the M.S. in Conservation Technology, the M.S. in Earth Remote Sensing, the M.S. in Environmental Resource Management, the M.S. and Ph.D. in Environmental Science, the M.S. in Meteorology, the M.S. and Ph.D. in Ocean Engineering, and the M.S. and Ph.D. in Oceanography. Both the Ph.D. and M.S. in Biological Sciences require the preparation and defense of a thesis or dissertation. Conservation Technology is a non-thesis master's degree. A non-thesis M.S. option is also available in Ocean Engineering, Oceanography, Environmental Science, and Meteorology. This option requires two additional courses for a total of 30 credits,

and a final program examination that consists of a written report and an oral presentation/examination. In addition, the M.S. in Environmental Resource Management, and Oceanography-Coastal Zone Management have a 30-credit internship option in lieu of a thesis. For more information on these non-thesis options see the OEMS Forms and Documents web page.

Enrollment in OEMS Seminar (MAR/OCE/OCN 5990, ENS 5000) is required each semester. Exceptions may be made for students unable to attend seminar on a regular basis due either to course work, obligations of a teaching assistantship, or the necessity of residence in a remote location to conduct research. The designated instructor for the seminar course or the Department Head must approve requests not to register for seminar. The student must present a public research seminar during the final semester of their program.

MASTER OF SCIENCE. The Master of Science degree requires the successful completion of at least 30 semester-hours of graduate credit, which must be approved by the GPC. This total may include up to 6 hours of approved 4000-level undergraduate coursework. The student must complete up to 6 hours of Thesis (MAR/ENS/OCE/OCN 5999). Once started, continuous enrollment in 3 semester-hours of thesis is required until all requirements for the degree are satisfied, but only 6 semester-hours may be applied to the degree.

The following MS degrees are available within OEMS. Brief descriptions are provided at the following links.

MASTER OF SCIENCE IN CONSERVATION TECHNOLOGY.

MASTER OF SCIENCE IN METEOROLOGY.

MASTER OF SCIENCE IN EARTH REMOTE SENSING.

MASTER OF SCIENCE IN ENVIRONMENTAL RESOURCE MANAGEMENT.

MASTER OF SCIENCE IN ENVIRONMENTAL SCIENCE.

MASTER OF SCIENCE IN OCEAN ENGINEERING.

MASTER OF SCIENCE IN OCEANOGRAPHY.

MASTER OF SCIENCE IN ECOLOGY.

MASTER OF SCIENCE IN MARINE BIOLOGY

PROCEDURES

For a summary see OEMS Graduate-Student Program Checklist.

Transfer of Credits. Students matriculating with a B.S. or B.A. degree may receive up to 12 semester-hours of transfer credit, provided the courses are eligible for graduate credit at the institution where they were taken and they were not used to complete requirements for the

undergraduate degree. Classes taken at Florida Tech or other universities are not eligible for transfer credit if a grade of "C" or lower was earned.

All transfer credit to be applied to the M.S. programs must have been earned within 7 years immediately preceding the date of matriculation into the program. Exceptions may be approved upon the recommendation of the thesis advisor and with the approval of the GPC and the Graduate Council.

Selection of Thesis or Dissertation Advisor. The thesis or dissertation advisor must be a member of the Graduate Faculty; students may do their research with Associate Graduate Faculty in the Department under the supervision of a member of the Graduate Faculty. New graduate students must have selected or been assigned an advisor and been accepted into a laboratory before coming to Florida Tech. Only students with advisors are permitted to register for courses. The thesis/dissertation advisor serves as the chair of the thesis/dissertation committee.

Program Plan. The student and his/her thesis/dissertation advisor construct and submit a Program Plan to the GPC for review and approval. The Program Plan includes the name of the advisor and a list of all courses to be counted toward the M.S./Ph.D. (the form is here; also see Appendices B and C for specific courses for Marine Biology, Ecology and Conservation Biology). Each graduate student is required to have an approved program plan on file no later than one month prior to completion of nine credit-hours of graduate coursework. Failure to submit the program plan on time will result in a "hold" being place on the student's registration. See section 1.3.1 of the Graduate Program's Policies and Procedures.

Students should pursue the Program Plan in their degree areas. Each Program Plan consists of four parts: (1) Core Curriculum (required of all students in that program); (2) Seminars; (3) Electives; and (4) Research and Thesis/Dissertation. Students must have the undergraduate training for any core courses they select; otherwise they must take those courses as deficiencies, as prescribed in their admission letters, by their advisors, or by their committees. Core courses are essential to the discipline being studied by the student and should not be considered deficiencies.

Full-Time Status. Eligibility for scholarships and student loans often requires the recipient to be a full-time student at Florida Tech. To be considered full-time, a graduate student must be enrolled for 9 credits of formal course work. When students register for a research course, the university's expectation is that they will work full time toward completion of their degree. Therefore, a 3-credit-hour registration in a research course constitutes full-time status. For a list of applicable courses, see Full Load Courses.

Admission to Candidacy. A graduate student becomes a Degree Candidate by satisfying the following requirements:

1. Removal of all specified course deficiencies
2. Completion of at least nine hours of graduate courses in good standing (as described by the academic dismissal regulations of the Graduate School)
3. Approval of a Program Plan by the GPC

4. Completed forms providing evidence of two committee meetings per year.
5. Successful defense and subsequent acceptance of a thesis or dissertation proposal.

The student then completes Progress Form "IV. Admission to Candidacy" (see Appendix A).

Thesis Committee. The thesis committee has the responsibility for general supervision of the student's research and ultimately of certifying to the Graduate Programs Office that an acceptable thesis has been submitted and that all degree requirements are completed. Although the thesis advisor provides day-to-day guidance to the student, all members of the committee are available for consultation, and the student should feel free to ask for advice. The thesis committee also has the general responsibility for monitoring the student's progress.

The thesis committee consists of a minimum of three members: two from the graduate faculty of the Ocean Engineering and Marine Sciences Department (of which at least one must be a full-time faculty member) and one a full-time graduate faculty member from another degree-granting department. Associate Graduate Faculty from the Florida Fish and Wildlife Conservation Commission, Harbor Branch Oceanographic Institution, and the Smithsonian Marine Station at Fort Pierce can serve as members but not chairs of committees. As members of the Department of Ocean Engineering and Marine Sciences, Associate Graduate Faculty cannot serve as outside members. Students should complete and submit Progress Form "II. Formation of Thesis or Dissertation Committee" (see Appendix A).

Changes to the committee, after the thesis proposal has been approved and accepted, are not permitted except under extraordinary personal or professional circumstances, which are deemed as such by the GPC and the Department Head. If personal or professional considerations suggest that such action would be in the best interest of the student, the committee members, or the university, any committee member (including the advisor/committee chair) may voluntarily withdraw from the committee by notifying in writing the committee chair, the Department Head, and the Dean of the College. The student will not be permitted to register for more than one additional semester following withdrawal of a committee-member unless a full committee is re-established. To re-establish the committee, the chair nominates a new committee member in writing to the GPC and the Department Head for approval. A memorandum and the appropriate forms are sent by the Department Head to the Dean, who forwards his recommendation to the Office of Graduate Programs.

Replacement of a member of the committee for any reason other than voluntary withdrawal is permitted after review and approval by the GPC and the Department Head of a written request from the student or the advisor for such action. Such requests are forwarded by the Department Head and follow the same approval route as voluntary withdrawals. Forced replacement of a committee member is allowable only in cases of personal, non-academic incompatibility.

Thesis Research Proposal. The thesis proposal serves the purpose of explaining the intended research in detail for the thesis advisor and thesis committee to ensure that the proposed research meets acceptable scientific standards. The thesis committee will evaluate the scope, experimental design, statistical methods, originality, feasibility, and significance of the research. If the research direction or emphasis changes significantly, the student must file an amendment to the

proposal or rewrite the proposal. In either case, the entire thesis committee must review and approve the amended or new proposal.

The proposal follows the general format described below:

a. Title page (project title, course number, student's name)
b. Introduction, including a review of the literature
c. Description of the goals of the proposed research
d. Hypotheses to be tested
e. Materials and methods
f. Projected collection and analysis of results
g. Time line
h. Budget
i. References in full bibliographic form

Once the proposal is acceptable to the advisor, the student should distribute copies of the proposal to the thesis committee and schedule a Proposal Defense at least two weeks later.

Proposal Defense. The proposal defense is a research-oriented oral exam that emphasizes the proposed research and related research literature. The thesis committee's responsibility is to evaluate the intellectual preparedness of the student and the scientific merit of the proposed research, and to ensure that appropriate facilities, expertise and resources are available to successfully conduct the research. A timetable of milestones is also discussed. When the oral exam is successfully completed, and the thesis proposal has been approved by the thesis committee, a signed copy of Progress Form "III. Thesis/Dissertation Title and Proposal Approval" (see Appendix A) is attached to the proposal as the approval page. After approval of the proposal, a student may then register for thesis research (MAR/ENS/OCE/OCN 5999), providing the GPA for formal coursework is 3.0 or greater.

Progress Toward the Degree. All students are expected to make reasonable progress toward the degree. Once the thesis proposal is filed and research begins in earnest, a committee meeting and a research report are required each semester until graduation, describing methodologies used, data collected, problems encountered, and plans for the following semester. The report is distributed to the thesis advisor for review. Any member of the committee may request a meeting with the student for purpose of further discussing the report. A copy of the graded report (S or U) is forwarded to the GPC and becomes part of the student's permanent file. This evaluation process must be completed, and the report forwarded to the GPC by the Friday of finals week.

If satisfactory progress has not been made (a grade of U) or the thesis is not completed within two years of submitting the thesis proposal, the results of a review by the thesis committee will be presented with recommendations to the GPC. The GPC will decide what actions, if any, are required and may transmit its recommendations through the Department Head to the Graduate Programs Office.

Thesis Research. Students should pursue research vigorously and in constant consultation with the advisor. The research should be original and significant. During the period of thesis research, the student should meet at least once per semester with the thesis committee together,

or with the members separately, to discuss progress. The student, advisor and committee will decide on the frequency and format of such meetings.

Students who are engaged in thesis work must continuously register for 3 semester-hours of MAR/ENS/OCE/OCN 5999 each semester until graduation. For each thesis course, the student will receive a grade of either S (satisfactory progress) or a U (unsatisfactory progress). U grades will not be changed and will remain on the transcript, but they will not be used in computing the student's cumulative grade point average. When the thesis is accepted, 6 credits of "S" grades will be assigned P (Pass) as determined by the unanimous approval of the thesis committee.

Preparation of Thesis. Great care should be taken in the preparation of the thesis. The writing should be clear and grammatically correct. Methods, results, and conclusions should be described thoroughly. Data should be analyzed carefully as to significance. The thesis should be written on a computer/word processor and printed with a laser printer or other high-quality printer.

Preliminary copies of the thesis should be submitted to the committee at least four weeks in advance of the proposed date of the final oral examination. The candidate may not defend the thesis until it is generally acceptable to each committee member, prior to the scheduling of the seminar and final oral examination. Thus, the student and advisor must discuss the corrections and revisions to the thesis with each committee member to determine whether the thesis is ready for the defense. Under no circumstances will the exigencies of forthcoming employment or other personal circumstances shorten the thorough and critical appraisal of the thesis by the thesis committee.

Master's Thesis Examination. When the thesis is nearly in its final form, it is approved by the thesis advisor for circulation to the thesis committee. The thesis committee must receive the complete thesis four weeks before the anticipated defense date. The student should consult with the thesis committee about the content and make changes and corrections in a timely fashion. When all members of the committee agree that the thesis is ready to be defended (i.e., the thesis meets the committee's requirements as to form and substance), the thesis defense may be scheduled. Two forms must be submitted to schedule the final thesis defense. First, a completed Progress Form "V Approval for Thesis/Dissertation Presentation and Final Exam" (see Appendix A) is submitted to the GPC early enough that the Graduate Program’s two-week deadline for final exam announcements can be met. Form V is also required to schedule the research seminar. Once Form V is approved, the "Notice of Thesis or Dissertation Defense and Oral Examination" form (see Appendix A) is prepared by a departmental administrator, signed by the Department Head, and submitted to the Graduate School. This form must be in the Graduate School Office a minimum of two weeks prior to the exam.

The master's examination is a defense of the thesis consisting of two parts: a seminar and a final oral exam. The first is a public seminar that is open to all faculty and students. The candidate and thesis advisor together are responsible for scheduling the seminar with the seminar coordinator for the semester during which the seminar is going to be given. At the seminar, the student presents his/her research and fields questions and comments from the audience. The second part of the defense, the final oral exam, is scheduled for a date or time following the

seminar. The student meets privately with the thesis committee and any graduate faculty who wish to attend. The student fields any questions or suggestions on the research that the faculty may have about the completeness of the thesis. The student may be asked to make additional corrections to the written thesis. Once the thesis committee unanimously approves the outcome of the examination, and the document itself, the advisor submits form to the Department Head.

After successfully defending the thesis, the student must prepare the thesis in final form and submit it to the thesis committee and the Department Head for final approval and signing. The Department Head should receive the thesis at least three days before the end of the semester. The Department Head then submits the Master's Examination Report to the Graduate Programs Office, notifying them of the successful completion of the exam and that all degree requirements have been met. The Department Head also then signs the signature page of the thesis. Instructions for submitting the completed thesis are available from the Graduate Programs Office.

If the student fails the thesis examination (i.e., if the committee is not unanimous in its opinion of the thesis or the student's performance), the exam must be retaken after a reasonable length of time has been spent in preparing for re-examination. The thesis committee decides what constitutes a reasonable length of time, given that the re-examination must be conducted within three months of the initial exam. The student's thesis committee will determine the form that the re-examination will take, which will depend on the extent of failure. Failure of the re-examination will result in dismissal from the program.

Student Progress Forms. There are five forms that track the student's progress towards the master's degree:

I. Preliminary Conference
II. Formation of Thesis or Dissertation Committee
III. Thesis/Dissertation Title and Proposal Approval
IV. Admission to Candidacy
V. Approval for Thesis/Dissertation Presentation and Final Exam

Each form must be completed and approved by the GPC in sequence.

Recommended Sequence for Completion of M.S. Requirements. The following list summarizes landmarks of progress that should be followed as closely as possible.

1. Select thesis advisor (or have one assigned) and be accepted into a research laboratory.
2. Arrive at Florida Tech.
3. Meet with thesis advisor for preliminary conference, selection of courses for the first semester of study, and completion of Progress Form I; submit to GPC.
4. Prepare and submit a Program Plan to GPC for approval.
5. Complete Progress Form II and submit to GPC.
6. Select thesis committee and submit Progress Form III to GPC for approval. Form III includes a title and brief description of proposed research.

7. Prepare thesis proposal and defend before the thesis committee. Submit Progress Form IV with approved proposal to GPC.
8. Complete classes.
9. Complete research.
10. Prepare and complete thesis.
11. Obtain approval of thesis advisor to distribute thesis to committee.
12. Schedule seminar and final examination with the Graduate School.
13. Obtain approval of the thesis committee and Department Head of thesis in final form.
14. Submit at least two (2) copies of the completed and approved thesis to the Graduate Program's Office. Please consult with your advisor for any needed extra copies.
15. Check out from advisor's laboratory, departmental office and the stockroom; thesis advisor will notify GPC that all data have been submitted and equipment returned.

FINAL PROGRAM EXAM FOR M.S. CONSERVATION TECHNOLOGY STUDENTS

A Final Program Examination (FPE) is required for all students in M.S. Conservation Technology. As of the fall 2017 semester, students who intend to take the FPE need to formally register for the appropriate course (MAR 0002). This will assure that students who have completed all of their course work prior to the exam are still registered and able to maintain their student status. It will also permit the monitoring of student payment for the exam (if appropriate) as well as provide the ability to generate statistics about success rates for students taking the FPE.

Students will register online. The Registrar's Office will run a list of students registered in each FPE course, which will be shared with the Department. Students who do not have at least a 3.0 overall grade point average will be informed that they are not eligible to take the exam. Once the exam is completed, grades for the exam will be entered. The grading mode will be pass/fail but will not result in academic sanctions, nor will grades be recorded on the academic transcript except as provided by Graduate Policy 1.6.5. Students who are not registered for any other course except the FPE course will be charged the final program examination fee in compliance with Graduate Policy 1.6.4.

ENVIRONMENTAL RESOURCE MANAGEMENT INTERNSHIP/COASTAL ZONE MANAGEMENT INTERNSHIP. See the OEMS Forms and Documents web page for details.

TRANSFER FROM MASTER'S TO PH.D. PROGRAM. Any current Master's student wishing to upgrade to the Ph.D. must fulfill several conditions. 1) the MS student must reapply to the department for a place in the Ph.D. program; 2) the student's advisor must send a supportive letter to the GPC stating that the transfer is unanimously supported by the thesis committee and that the student has been fully counseled on the repercussions of the switch to the Ph.D. program. 3) the student must have demonstrated sufficient progress that s/he would have completed the MS degree in a timely manner and with superior academic performance as

determined by the GPC; 4) the student's transfer must be approved by the GPC; 5) the upgraded student must then pass the doctoral qualifying exam within the appropriate time for a doctoral student beginning a program coincidently with the start date of the student's master's program (window opens third semester and closes at end of fifth semester). Master's students contemplating transferring to the Ph.D. program must do so by the end of the first academic year of their master's programs, otherwise, the comprehensive exam deadlines will be missed. It is recommended that a student complete the Master's program before making the transfer if there is a danger of missing examination deadlines.

One repercussion of transferring from a master's program to a doctoral program is that the two years of eligibility for a TA will be extended to a total five years. That five-year eligibility will include any 'time served' as a TA while in a M.S. program.

DOCTOR OF PHILOSOPHY The purpose of the Ph.D. program is to train students for careers in research and teaching at the highest levels. Demonstration that the candidate has achieved the appropriate level of knowledge is the submission of a dissertation, which should be a major contribution in the field. The dissertation must indicate not only that the individual has a mature understanding of the particular field but also that they can design and execute original studies.

The Department of Ocean Engineering and Marine Sciences offers opportunities for advanced study and research leading to the Doctor of Philosophy degrees in Biological Sciences, Environmental Science, Oceanography, and Ocean Engineering. The Ph.D. degree is awarded to candidates who have 1) displayed an in-depth understanding of the subject matter and 2) demonstrated the ability to make an original contribution to knowledge in their fields of specialty.

All prospective doctoral students must have a B.A. or a B.S. from an accredited university and a minimum GPA of 3.0 in all undergraduate coursework. An applicant with a graduate degree must have a minimum GPA of 3.2 for all graduate coursework. Entering students should have verbal and quantitative GRE scores of no less than 500 in the old scoring system, or 153 and 144 on the current scale. Exceptions can be made in cases with strong justification (e.g., high GPA and/or extensive research experience). Applicants whose native language is not English must score at least 550 on the paper-based TOEFL.

Course Requirements.

The doctoral degree requirements, which vary depending on the program, range from a total of 72 to 78 semester credit-hours beyond the baccalaureate degree, including up to 24 credit-hours of formal coursework and a minimum of 24 research (MAR 5995, ENS/OCE/OCN 6993) and dissertation credit-hours (MAR/ENS/OCE/OCN 6999)[2]. Seminar (MAR/OCE/OCN 5990 and ENS 5000, 0 credit-hours) is required each semester. For Biological Sciences, Research Seminar (MAR 5991, 1 credit-hour) is required during the graduation semester. Courses that are considered deficiencies in a student's prior education cannot be used in fulfilling the requirements for a graduate degree; they should be identified on the program plan as

[2] With approval, the formal coursework may include up to 6 credit-hours of 4000-level undergraduate courses.

deficiencies and taken above and beyond the requirements for the degree. For specific information on the doctoral degree requirements, visit the links provided below.

- Biological Sciences, Ph.D.
- Environmental Science, Ph.D.
- Ocean Engineering, Ph.D.
- Oceanography, Ph.D.

At least 12 credit-hours of coursework and all of the research/dissertation credits must be taken at Florida Tech. At least 15 credit-hours of dissertation must be taken beginning in the semester during which the student is admitted to candidacy. Students matriculating with a master's degree may transfer up to 30 credit-hours, provided the courses are comparable to core and elective courses. A grade lower than "B" in any transferred graduate course will not be counted toward the required number of hours. Thesis and research courses cannot be transferred toward the Ph.D. degree.

Program Plan. Students pursue program plans in their fields of interest. Each program plan consists of four parts: (1) Core Curriculum (required of all students in that program); (2) Colloquia and Seminars; (3) Electives; and (4) Research and Dissertation. A signed and approved program plan must be submitted to the Registrar's Office no later than 1 month prior to the time nine credit-hours of graduate course work have been completed. See Graduate Policies here. Students should consult with their advisor and reference the catalog for relevant coursework to populate their individual program plans.

Dissertation Committee. The committee consists of four graduate faculty. Three must be from within the student's doctoral program, with at least two of the three being full-time faculty on the Melbourne campus. The committee chair, who is one of the three 'inside' members, must be a full-time member of the Graduate Faculty. The fourth member of the committee is the 'outside' member.

The outside member is a full-time member of the Graduate Faculty who is not in the program in which the doctoral student is registered. For example, a student in the doctoral program in Biological Sciences can have as her/his outside member one of the faculty in Oceanography, but no faculty in Oceanography may serve as an inside member. The role of the outside member is 1) to serve as a representative of the university to ensure that the rules of the university are followed, 2) to serve as an advocate for the student regarding committee proceedings, and 3) if possible, to provide an additional level of research expertise and perspective from outside the student's program.

If desired, 'additional' committee members are permitted to serve on a graduate committee, based on their appropriate research expertise and willingness to assist the student. Additional members may be solicited from any academic or industrial institution as deemed appropriate by the student in consultation with his/her advisor. Additional members are not permitted to vote on any decision the committee makes regarding the student's program plan, dissertation, or other requirements for graduation. They are invited to attend all meetings concerning the student's advancement, although their attendance is not required.

Committee members are selected in consultation with the dissertation advisor and with approval of GPC. The dissertation advisor chairs the committee. The dissertation committee has responsibility for supervising the student's research and ultimately for certifying to the graduate dean that an acceptable dissertation has been submitted and that all degree requirements are completed. Although the dissertation advisor provides day-to-day guidance to the student, all members of the committee are available for consultation, and the student should feel free to ask for advice. The dissertation committee also has general responsibility for monitoring the student's progress.

Changes in Committee. After the student has advanced to candidacy (passed the comprehensive examination and submitted an approved dissertation proposal), changes in the composition of the doctoral committee will be permitted only under extraordinary circumstances. If personal or professional considerations suggest that such action would be in the best interest of the student, the committee members, or the university, any committee member (including the advisor/committee chair) may voluntarily withdraw from the committee by notifying in writing the committee chair, the Department Head, and the Dean of the College. The student will not be permitted to register for more than one additional semester following withdrawal of a committee-member unless a full committee is re-established. To re-establish the committee, the chair nominates a new committee member in writing to the GPC and the Department Head for approval. A memorandum and the appropriate forms are sent by the Department Head to the Dean, who forwards his recommendation to the Office of Graduate Programs.

Replacement of a member of the committee for any reason other than voluntary withdrawal is permitted after review and approval by the GPC and the Department Head of a written request from the student or the advisor for such action. Such requests are forwarded by the Department Head and follow the same approval route as voluntary withdrawals. Forced replacement of a committee member is allowable only in cases of personal, non-academic incompatibility.

Comprehensive Examination. The Department of Ocean Engineering and Marine Sciences requires that each doctoral student pass a comprehensive examination administered by an examination Committee. The purpose of the comprehensive examination is to determine the student knowledge base within the chosen area of expertise and to evaluate the ability of the student to pursue independent research by answering written questions within their area of expertise. A student should complete the comprehensive examination by the end of his/her second year. Without exception, it must be completed by 2.5 years after starting the program as a regular graduate student.

Request to Take Comprehensive Examination. The request to take the comprehensive examination is made in writing (see OEMS Forms and Documents) to the GPC during the first week of the semester in which the exam is to be administered. The student, doctoral advisor, and committee must sign this request. Student must be in good academic standing and have completed more than 80% of all formal coursework in the program plan at the time of the request. The major professor informs the OEMS Departmental Office to initiate the process of conducting the student’s comprehensive examination. Examination Forms are handled by the student coordinators, in coordination with the OEMS Office.

Examination Committee. The examination committee is comprised of the student's doctoral committee. A GPC member will be assigned to the examination committee if no other committee member, who is not the Chair, is a member of the GPC. The committee will abide by GRADUATE POLICY 2.4.1 Committee Participation (see below).

Administration of the Examination. The GPC, as represented by a departmental program chair, administers the examination. The responsibility of the administrator will be as follows.

1) Coordinate with the examination committee to administer the examination.
2) Collect the questions from the committee chair and furnish them to the student.
3) Collect the graded exams from the faculty and ensure that a written evaluation accompanies each graded examination.
4) File an examination report with the Department Head.
5) Notify the student and advisor, in a timely fashion and in writing, of the results of the examination.

Examination Structure. Students will be given two questions, which are developed by the student's doctoral committee. Input may also be solicited from other Ocean Engineering and Marine Sciences faculty. One of the questions should be designed to test core knowledge within the student's general area of study while the other should address a topic within the student's specific field of interest. The questions may have multiple parts. The student may have, at most, two weeks to write answers to the questions. Each question will be graded by the members of the doctoral committee. To pass, the student must have the unanimous approval of the committee, including the outside member (see Graduate Policy 2.4.3). If the student fails, s/he can retake the examination the following semester. Students will be advised following a failure to help them prepare for the retake. If the student fails the examination a second time, s/he will be expelled from the program.

Here is a timeline to be followed by all students taking the exam in a particular semester.

1) Week 1 of the semester: student applies to take the exam.
2) Weeks 2–3: the committee drafts questions.
3) Week 4: the student receives the questions.
4) Week 6: the student submits written answers to the questions.
5) Week 8: members of the committee return graded exams with written comments.
6) Week 9: student is informed in writing of the outcome, pass or fail.

For details on the Graduate Policies related to Comprehensive Examinations see Graduate Policy 2.4.

Dissertation Proposal. After the comprehensive examination is passed, the student composes a written dissertation proposal. The proposal should follow the format in Appendix C. When the proposal is complete (and consultation with the advisor on this matter is strongly recommended), the student submits it to the advisor and the doctoral committee and schedules a proposal defense with the committee at least two weeks later. For Ph.D. students, a "Doctoral Dissertation Proposal Conference Report and/or Application to Doctoral Candidacy" will be generated by the Student Coordinators and emailed to the major advisor. Once the form is signed, the major advisor gives the document to the Department Head's office for signature.

The proposal defense is a research-oriented, oral examination that emphasizes the proposed dissertation research and related issues. The committee's responsibility is to evaluate the intellectual preparedness of the student for admission to candidacy and the scientific merit of the proposed research, and to ensure that appropriate facilities, expertise and resources are available to conduct the research successfully. A timetable of milestones is also discussed. When the oral defense is successfully completed, and the dissertation committee has approved the dissertation, the advisor will attach a signed Progress Form III to the proposal as its approval page and forward the proposal to the GPC for inclusion in the student's file.

Foreign Language Requirement. The Department of Ocean Engineering and Marine Sciences does not require evidence of competence in a foreign language but strongly recommends that candidates acquire reading ability in at least one language other than English.

Admission to Candidacy for the Ph.D. Once the dissertation proposal is approved, the student applies for admission to candidacy for the doctoral degree. The advisor must complete Progress Form "IV. Admission to Candidacy" and send it to the GPC for approval. A cumulative GPA of 3.2 is required for admission to candidacy.

After admission to candidacy, students must register for MAR/ENS/OCN/OCE 6999 (Dissertation). Continuous enrollment in at least 3 credits of dissertation each semester, including summer, is required until graduation.

Dissertation Research. The doctoral research should represent a significant contribution to knowledge in the field and should be of such quality that it will be acceptable for publication in a national or international, peer-reviewed scientific journal. During the period of dissertation research, the student should meet frequently with the dissertation advisor to discuss dissertation progress. A meeting with the doctoral committee is required at least once per semester, after which the student and advisor submit a progress report (see next paragraph).

Progress Toward the Degree. All students are expected to make reasonable progress toward the degree. Once a student has been admitted to candidacy, he (she) has five years in which to complete the research, defend the dissertation, and graduate. If the degree is not completed within the five years, the comprehensive examination must be re-administered. The new examination will reflect developments of importance in the area of study occurring since the first examination, as well as general areas of related significance. As research begins in earnest, a progress report is required each semester, describing methodologies used, data collected, problems encountered, and plans for the following semester. A copy of the progress report, graded S or U by the advisor, is forwarded to the GPC and becomes part of the student's file. This evaluation process must be completed, and the report forwarded to the GPC by the Friday of finals week.

If satisfactory progress has not been made (a grade of U), results of the review by the dissertation committee will be presented, with the recommendations, to the GPC. The GPC will decide what actions, if any, are required.

Preparation of Dissertation. The dissertation must represent an excellent piece of scientific work. The writing must be clear and grammatically correct. Methods, results, and

conclusions must be described thoroughly. The format of the dissertation must follow the set of instructions for preparing thesis or dissertation included in this handbook. The dissertation advisor should distribute copies of the dissertation to the dissertation committee only after approval. The dissertation should be submitted to the committee a minimum of four weeks prior to the anticipated date of the final exam.

Final Examination. A completed Progress Form "V Approval for Thesis/Dissertation Presentation and Final Exam" (see Appendix A), containing the required signatures, needs to be forwarded to the GPC for approval before the final examination can be scheduled. The request must be submitted to the Graduate Programs Office at least two weeks prior to the examination, following procedures specified by the Graduate Programs Office. Student Coordinators will be asked to create an "Oral Announcement Form" and the OEMS departmental office will forward the form to Graduate Programs a minimum of 2 weeks prior to defense. The Student Coordinator's office will produce the final program exam and email it to the major advisor who will carry it to the defense. After committee signs the form, the major advisor gives the document to the Department Head's office for signature.

The final examination for the Doctor of Philosophy degree consists of two parts: a seminar and a final oral exam, or dissertation defense. The first is a public seminar that is open to all faculty and students. The departmental seminar coordinator posts notices of the seminar. At the seminar, the student presents the research and fields any questions and comments from the audience. The second part of the examination, which is the defense, takes place after the seminar. The student meets privately with the committee and any graduate faculty who wish to attend. The student takes questions, comments, and suggestions on the research that the faculty may have about the dissertation. Once the dissertation is unanimously approved by the committee, the advisor notifies the GPC and the Graduate Programs Office of the successful completion of the exam and that all degree requirements have been met (see Doctoral Dissertation Oral Examination Report Form, Appendix A).

Recommended Sequence of Events for Completion of Ph.D. Requirements. The following list summarizes the landmarks of progress that should be followed as closely as possible.

1) Select advisor and gain acceptance into a laboratory.

2) Arrive at Florida Tech.

3) Meet with advisor for preliminary conference, selection of courses for first semester of study, and completion of Progress Form I.

4) Submit a Program Plan to the GPC for review and approval.

5) Complete the majority of coursework.

6) Select dissertation committee in consultation with advisor.

7) Schedule, take, and pass written comprehensive examination, administered by the GPC.

8) Prepare and defend dissertation proposal.

9) Complete Progress Form II. Admission to Candidacy and submit to GPC for approval.

10) Complete coursework.

11) Complete dissertation research.

12) Write dissertation.

13) Submit dissertation to committee with advisor's approval.

14) Schedule final examination at least four weeks after submitting dissertation to committee.

15) Notify Graduate School of the exam-date two weeks in advance.

16) Submit two (2) bound copies of the completed and approved dissertation to the Office of Graduate Programs. (Note that the Office of Graduate Programs has a separate set of procedures for creating and formatting the dissertation document; see Thesis and Dissertation Process.)

APPENDIX A

INTRODUCTION

This appendix includes online links to University and Departmental forms required for your use as a graduate student in Department of Ocean Engineering and Marine Sciences. Most of these forms are also available in hard copy through the OEMS departmental office.

FORMS

REGISTRATION
CHANGE IN REGISTRATION/STATUS
GRADUATE STUDENT PROGRESS FORMS
I. Preliminary Conference
II. Formation of Thesis or Dissertation Committee
III. Thesis/Dissertation Title and Proposal Approval
IV. Admission to Candidacy
V. Approval for Thesis/Dissertation Presentation and Final Exam
MASTER'S DEGREE PROGRAM PLAN
REQUEST FOR CHANGE IN GRADUATE PROGRAM PLAN

REQUEST TO STUDY AT ANOTHER INSTITUTION AND TRANSFER OF GRADUATE CREDITS
DOCTORAL PROGRAM CHECK LIST
DOCTORAL PROGRAM PLAN
APPLICATION TO TAKE DOCTORAL COMPREHENSIVE EXAMINATION
DOCTORAL COMPREHENSIVE EXAMINATION REPORT
DOCTORAL DISSERTATION PROPOSAL CONFERENCE REPORT AND/OR APPLICATION TO DOCTORAL CANDIDACY
ESTABLISHMENT OF DOCTORAL COMMITTEE
APPLICATION TO TAKE DOCTORAL COMPREHENSIVE EXAMINATION
PETITION TO GRADUATE
NOTICE OF THESIS OR DISSERTATION DEFENSE AND ORAL EXAMINATION
MASTER'S EXAMINATION REPORT
DOCTORAL DISSERTATION ORAL EXAMINATION REPORT
GRADUATE STUDENT CHECKOUT FORM
REPORT OF THE GRADUATE ADVISORY COMMITTEE

APPENDIX B: GRADUATE COURSES BIOLOGICAL SCIENCES

APPENDIX C: THESIS AND DISSERTATION PREPARATION INFORMATION