GRADUATE STUDENT HANDBOOK DEPARTMENT OF OCEAN **ENGINEERING AND MARINE SCIENCES** Academic Calendar 2023-2024

PREFACE

The Graduate Student Handbook provides 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 does not substitute for either. Graduate policies and procedures are available <u>here</u>. 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. Friday, October 6, 2023.

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 a link to 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 <u>not</u> 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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Department Head Ocean Engineering and Marine Sciences Florida Institute of Technology September, 2022

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1. 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. University policies on various types of academic dishonesty are available here: https://www.fit.edu/policies/student-handbook/standards-and-policies/academic-honesty/

ACADEMIC DISMISSAL, REINSTATEMENT, AND GPA REQUIREMENT. The OEMS department adheres to all university policies regarding GPA requirements for courses, Academic Dismissal due to poor performance, and practices for reinstatement.

MS student policies are here: <u>https://www.fit.edu/policies/graduate-policies-and-supporting-information/masters-policies/gp111---academic-probation-and-dismissal/</u>

PhD student polices are here: <u>https://www.fit.edu/policies/graduate-policies-and-supporting-information/phd-policies/gp29---academic-probation-and-dismissal-/</u>

ADMISSION INTO CANDIDACY. A student must fulfill the specific requirements for the appropriate PhD program to be admitted to candidacy. This typically involves a formal research proposal conference in which the topic and scope of work for the student's research is agreed upon between the student and the members of the committee.

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, 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 graduatestudent'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 and for the doctoral degree four members to this committee. All thesis or dissertation seeking graduate students should 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 <u>must</u> include the student, the faculty advisor and <u>all</u> committee members. Failure to complete semestral meetings indicates a lack of progress and may result in a student being dismissed from the program. The Program Chair and Department Head must approve the composition of the committee for balance and uniformity. ANIMAL CARE/RESEARCH. 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 <u>any</u> animal. Detailed information, forms, and contact info are available here: https://www.fit.edu/research/faculty--researchers/compliance/animal-care-and-use/

APPEAL OF GRADES. All appeals for course grades must adhere to the procedures outlined in the Florida Tech Student Handbook: <u>https://www.fit.edu/policies/student-handbook/standards-and-policies/right-of-appeal-procedures-grade-appeal/</u>

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 their Program Chair and Department Head of the intended change. If the student needs help 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. Changing advisors might involve additional coursework and will likely involve abandoning their original research and starting a new project. The change will usually delay graduation. No faculty member is required to accept a student and serve as their 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 and will be assigned a new advisor.

CHANGE OF COMMITTEE. Changes to the thesis or dissertation committee, after the proposal has been approved/accepted, are only permitted under extraordinary personal or professional circumstances, as deemed by the Program Chair and Department Head. If personal or professional considerations suggest that such action is in the best interest of the student, the committee members, or the university, any committee member (including the advisor/committee chair) may 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 member in writing to the Program Chair 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 Program Chair and the Department Head of a written request from the student and/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.

CODE OF CONDUCT. All students are expected to conform to the Florida Tech code of conduct and are subject to the outlined disciplinary actions for violations. The student code of conduct, procedures for handling reported violations, and potential disciplinary outcomes are described here: https://www.fit.edu/policies/student-handbook/disciplinary-system/code-of-conductgrounds-for-disciplinary-action/

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.

COMPREHENSIVE EXAMINATION. The comprehensive examination consists of a written exam administered to <u>doctoral students</u> 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. The Program Chair administers the exam on behalf of the committee. In cases where the Program Chair is a member of the committee, an alternate, non-member of the committee will be designated. The Department Head is the final approver for all comprehensive exams in the department.

DISSERTAION OR THESIS RESEARCH. Only MS or PhD students whose research proposals have been accepted are allowed to register for thesis (MS) or dissertation (PhD) research. The requirements for admission to candidacy are program and degree specific and you are responsible for meeting these requirements. <u>Students who are approved for thesis or dissertation work must continuously register</u> for 3 semester-hours of <u>MAR/ENS/OCE/OCN 5999</u> (thesis) or 6999 (dissertation) as appropriate. <u>This includes summer</u>. Any exception requires a "<u>Request to Waive Dissertation or Thesis</u> <u>Registration</u>" form and approval of the Program Chair 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 or 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. For specific and current details on this policy see: https://www.fit.edu/office-of-graduate-programs/thesis-and-dissertation-process/

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 or 3 credits of a research course. For a list of applicable courses, see <u>Full Load Courses</u>.

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" 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.

An "Incomplete" is given when circumstances prevent the student from completing the course requirements within the semester. Examples 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.

GRADUATE RESEARCH AND SPECIAL TOPICS COURSES. Graduate courses: MAR 5995 as well as ENS, OCE, and OCN5901-5903 consist of the development, execution, documentation and evaluation of an original research project on which the student and the faculty member agree, with input from the graduate student's committee, as appropriate. 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 their committee meeting.

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.

GRADUATE STUDENT FORMS. Graduate students must complete all appropriate 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 at: https://www.fit.edu/office-of-graduate-programs/forms-and-documents/

Within the first two weeks of their first semester students should have downloaded the MS or PhD checklist forms as well as completed their Program Plan (MS) or Plan of Study (PhD) forms. By the end of the second semester of their first year, both MS and PhD students should submit the form for the formation of their committee and have their first committee meeting.

LICENSING. 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).

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. The pressures of graduate school, as well as personal or financial problems can significantly impact student health and success. Sometimes, certain matters cannot be comfortably discussed with other students, friends, or the advisor. Whatever the reason, the student is urged to avail themselves of the free services offered by the university. Contact info:

- Student Counseling Center (321-674-8050) <u>https://www.fit.edu/student-counseling-center/</u>
- Catholic Campus Ministry (321-674-8045) <u>https://www.fit.edu/ccm/</u>

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. Some societies are responsible for certification and licensing. Check with your advisor about the one(s) that you should join.

Professional and honor societies relevant to our various majors include, but are not limited to: <u>Sigma</u> 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 <u>Technology Society (MTS)</u>, Society for Integrative and Comparative Biology (SICB), American Chemical Society (ACS), American Society of Microbiology (ASM) the American Society of Plant Biology (ASPB), and Tri-Beta. Information is available online at the links provided.

PROGRAM PLAN OR PLAN OF STUDY. The program plan (MS) or plan of study (PhD) represents the official credit-hour requirements for graduation and should be filled out by the student and advisor together. Changes due to canceled courses, change of advisor, etc., require approval by the Program chair and Department Head.

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 SEMINAR & 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. 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 to coursework, obligations of a TA, or 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.

TEACHING ASSISTANTSHIPS (TA). Teaching Assistantships are awarded on a competitive basis to highly qualified graduate students who have demonstrated proficiency in English. TA funding will be assigned based on the availability of funds, departmental need for TAs in undergraduate laboratories and academic merit of the applicant. Decisions regarding TA eligibility will be reviewed by the Program Chairs and Department Head. 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. Specific requirements for eligibility, maximum number of semesters students can serve as a TA, and other details are available here: <u>https://www.fit.edu/policies/human-resources-policies/student-employment/graduate-student-assistant-employment/</u>

TA training is provided for all incoming students: https://www.fit.edu/gsa/teaching-assistantseminar/ and TAs are expected to continue to improve their teaching skills during their time. TAs will be required to participate in safety seminars as needed. 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 GSA 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. Additional details are available through the following links: https://www.fit.edu/policies/human-resources-policies/student-employment/graduate-studentassistant-employment/

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.

THESIS/DISSERTATION PROPOSAL. The thesis/dissertation proposal serves the purpose of explaining the intended research in sufficient detail for the committee to ensure that the proposed research meets acceptable standards. The proposal conference is an oral presentation administered by the thesis/dissertation committee and emphasizes the proposed research and related literature. The Department Head is the final approver of all thesis and dissertation proposals.

TRANSFER FROM MS TO PHD PROGRAM. Any current Master's student wishing to switch to the Ph.D. program need to contract the graduate office and request a change of degree program. Such requests are reviewed by the Program Chair and Department Head and should contain a letter of recommendation from the student's current advisor 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. The upgraded student must 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.

2. DEGREES OFFERED

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. For more information on these non-thesis options see the OEMS Forms and Documents web page.

3. MASTER OF SCIENCE DEGREES

MASTER OF SCIENCE DEGREES. The thesis MS degrees in OEMS require the successful completion of at least 30 semester-hours of graduate credit, which must be approved by the student's advisor and program chair, prior to the start of classes. This total may include up to 6 hours of approved 4000-level undergraduate coursework. <u>*The student must complete up to 6 hours of Thesis (MAR/ENS/OCE/OCN 5999).*</u> 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. For additional information refer to the graduate programs website: <u>https://www.fit.edu/office-of-graduate-programs/thesis-and-dissertation-process/</u>

<u>Selection of Thesis or Dissertation Advisor.</u> 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.

<u>Program Plan.</u> The student and his/her thesis/dissertation advisor construct and submit a Program Plan to the Program Chair 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 <u>here</u>). 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 <u>1.3.1</u> 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 are not considered deficiencies.

<u>Admission to Candidacy.</u> 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. Successful defense and subsequent acceptance of a thesis or dissertation proposal.

<u>Thesis Committee.</u> 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 degreegranting 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).

<u>Thesis Research Proposal.</u> 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. Timeline
- 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.

<u>Thesis Proposal Conference.</u> The proposal conference is a research-oriented oral presentation by the student 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 the Progress Form "Thesis/Dissertation Title and Proposal Approval" (see OEMS website), along with the proposal, is forwarded to the Program Chair and the Department Head. After approval by the Department Head 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.

<u>Thesis Research</u>. 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.

<u>Thesis Preparation</u>. 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. <u>The candidate may not defend the</u> <u>thesis until it is acceptable to each committee member, prior to the scheduling of the seminar</u> <u>and final oral examination</u>. 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.

<u>Thesis Examination</u>. 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 "Approval for Thesis/Dissertation Presentation and Final Exam" (see OEMS Forms) is submitted to the Program Chair and Department Head early enough that the Graduate Program's two-week deadline for final exam announcements can be met. This form is also required to schedule the research seminar. Once approved, the "Oral Exam/Defense Announcement Form" is prepared 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 public seminar and a final oral exam. The seminar 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 Program Chair and 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.

<u>Recommended Sequence for Completion of M.S. Requirements.</u> 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, meet with thesis advisor, and complete Program Plan.
- 3. Submit Program Plan to Program Chair for approval.
- 4. Select thesis committee and submit to Program Chair for approval. Form includes a title and brief description of proposed research.
- 5. Prepare thesis proposal and present to thesis committee. Submit Progress Form "Thesis Proposal Defense" with approved proposal to Proposal Chair.
- 6. Complete classes.
- 7. Complete research.
- 8. Prepare and complete thesis.
- 9. Obtain approval of thesis advisor to distribute thesis to committee.
- 10. Schedule seminar and final examination with the Graduate School.
- 11. Obtain approval of the thesis committee and Department Head of thesis in final form.
- 12. 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.
- 13. Check out from advisor's laboratory and departmental office.

4. NON-THESIS MS OPTIONS

NON-THESIS REQUIREMENTS. Students seeking to complete non-thesis MS degrees must still complete a minimum of 30 semester hours of coursework as outlined by the graduate school. Non-thesis students must complete a final exam or project as outlined here:

https://www.fit.edu/policies/graduate-policies-and-supporting-information/masters-policies/gp16--final-program-examination/

FINAL PROGRAM EXAM FOR MS CONSERVATION TECHNOLOGY. 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 coursework 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.

The M.S. in Environmental Resource Management have a 6-credit internship option in lieu of a thesis. See the OEMS Forms and Documents web page for details.

FINAL REPORT FOR OTHER NON-THESIS MS OPTIONS.

The remaining non-thesis MS degree programs in OEMS require a final program examination which includes both a written and oral component, as well as a public seminar. Students should present a draft of their report to their advisor <u>at least 6 weeks</u> before the end of the semester. Upon approval of the report by their advisor they should: (i) schedule a tentative oral defense date and (ii) submit a final draft to the entire committee at least 4 weeks in advance of the oral examination. If the committee unanimously approves, the student should submit an announcement to the Office of Graduate Programs (<u>https://www.fit.edu/media/site-</u>

specific/wwwfitedu/registrar/documents/registrar-forms/Oral_Def_Ann_11-14.pdf) to schedule their oral defense at least two weeks in advance. The oral exam is intended to build on the written report already provided by the student. Following submission of the written report the student will also present a 15-minute minimum public seminar as part of the graduate seminar series. Formats for the written report and public presentation are provided on the following page:

Format for the written report:

- Introduction
 - o Background/purpose/concepts/objectives.
- o Presents a literature review that demonstrates breadth of knowledge in the topic area • Methodology.
 - o Description of tools used. (e.g. specific data-visualization software)
 - o Relevant calculations, equations, etc. developed for the project
- Results.
- Discussion.
 - o Summarize findings and their potential significance
 - o Future directions
- Conclusion.
- References.

Format for the oral report:

- Relevance of Topic
- Brief overview of previous work in the area of research
- A succinct presentation of methods, tools applied, etc.
- Highlight research results and potential limits
- Discuss future directions
- Q&A

5. DOCTOR OF PHILOSOPHY

SUMMARY 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.

<u>Course Requirements</u>. 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. This includes: 24-30 credit hours of formal coursework, a minimum of 24 research credit-hours (MAR 5995, ENS/OCE/OCN 6993) and 18 dissertation credit-hours (MAR/ENS/OCE/OCN 6999). Seminar (MAR/OCE/OCN 5990 and ENS 5000, 0 credit-hours) is required each semester. For Biological Sciences, the Research Seminar (MAR 5991, 0 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 the PhD; they should be identified on the program plan as deficiencies and taken in addition to the requirements for the degree. For specific information on the doctoral degree requirements, visit the links provided below.

- o Biological Sciences, Ph.D.
- o <u>Environmental Science</u>, Ph.D.
- <u>Ocean Engineering</u>, Ph.D.
- o <u>Oceanography</u>, Ph.D.

At least 12 credit-hours of coursework and all of the research/dissertation credits must be taken at Florida Tech. Students enrolled in MAR/ENS/OCE/OCN 6999 (Dissertation) are required to meet with their committee every semester until their graduation. 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.

<u>Program of Study</u>. PhD students must complete and submit (in conjunction with their advior) a Program of Study form. 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 <u>here</u>. Students should consult with their advisor and reference the catalog for relevant coursework to populate their individual program plans.

<u>Dissertation of Committee Structure.</u> The committee consists of four graduate faculty. Three must be from within the student's department, 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. Likewise, the other two 'inside' committeemembers must be members of the Graduate Faculty. The fourth member of the committee is the 'outside' 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. The outside member is a full-time member of the Graduate Faculty who is not in the department in which the doctoral student is registered. For example, a student in the doctoral program in Biological Sciences cannot have a member of the Ocean Engineering program as an outside committee member. Rather, the Ocean Engineering faculty member could serve as a regular or additional committee member. A faculty member from Biomedical Engineering and Science would, for example, be an acceptable outside committee member.

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 the Program Chair and Department Head. 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 dayto-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.

<u>Comprehensive Examination.</u> 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.

The request to take the comprehensive examination is made in writing (see OEMS Forms and Documents) to the Program Chair 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. The examination committee is comprised of the student's doctoral committee. <u>Comprehensive Examination (Administration)</u>. The appropriate 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) Submit Student's exam and faculty comments to the Department head for approval.
- 5) Pending approval, file an examination report with the Department Head.
- 6) Notify the student and advisor, in writing, of the results of the examination (<2 weeks)

<u>Comprehensive Examination (Structure).</u> 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 for Comprehensive Examinations see Graduate Policy 2.4.

<u>Dissertation Proposal.</u> After the comprehensive examination is passed, the student composes a written dissertation proposal following the format in <u>Forms and Documents</u>. When the proposal is complete (consultation with the advisor is strongly recommended), the student submits it to the advisor and the doctoral committee and schedules a proposal conference 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 and a copy of the proposal to the Department Head's office for signature. The Department Head is the final approver of all Dissertation proposals.

The proposal defense is a research-oriented, <u>presentation</u> 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 scientific merit of the proposed research, and to ensure that appropriate facilities, expertise and resources are available to conduct the research successfully. A timetable is also discussed. When the conference is successfully completed, and the dissertation committee has approved the proposal, the advisor will

submit Progress Form III to the Program Chair.

<u>Admission to Candidacy for the PhD.</u> 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 Program Chair for approval. A cumulative GPA of 3.2 is required for admission to candidacy. <u>After admission to candidacy, students must register for MAR/ENS/OCN/OCE 6999</u> (Dissertation). Continuous enrollment in at least 3 credits of dissertation each semester, including summer, is required until graduation. Students are also required to hold meetings with their committee every semester while enrolled in Dissertation.

<u>Dissertation Research.</u> 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).

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 committee meeting is required each semester. A successful meeting, as deemed by the committee is required for an 'S' to be assigned to dissertation research (MAR/ENS/OCN/OCE6999). Faculty are encouraged to use the committee meeting report forms provided.

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 Program Chair and Department Head, who will decide what actions, if any, are required.

<u>Preparation of Dissertation</u>. 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 <u>preparing a thesis or dissertation</u>. 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.

<u>Final Examination</u>. A completed Progress Form "V Approval for Thesis/Dissertation Presentation and Final Exam", containing the required signatures, needs to be forwarded to the Program Chair 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 the 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 questions and comments from the audience. The second part of the examination, the defense, takes place <u>after</u> 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. Once the dissertation is unanimously approved by the committee, the advisor notifies the Program Chair and the Graduate Programs Office of the successful completion of the exam and that all degree requirements have been met. <u>Students are not permitted to handle the forms associated with the completion of the</u> <u>dissertation.</u>

<u>Recommended Sequence of Events for Completion of PhD Requirements.</u> 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 Program Plan.
- 4) Submit a Program Plan to the PROGRAM CHAIR for review and approval.
- 5) Select dissertation committee in consultation with advisor. By the end of the first yearf
- 6) Complete majority of coursework
- 7) Schedule, take, and pass a written comprehensive examination, administered by the PROGRAM CHAIR.
- 8) Prepare and defend dissertation proposal.
- 9) Complete Progress Form "Admission to Candidacy" and submit to PROGRAM CHAIR 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) Hold seminar and complete dissertation defense.
- 17) Make any edits suggested by the committee.
- 18) Submit an electronic copy of their dissertation to the Library and a copy of the document to the Office of Graduate Programs. (Note that for a complete set of instructions on thesis/dissertation format and deposition as well as other specifics see <u>Thesis and Dissertation Process</u>.)