ROSENSTIEL SCHOOL OF MARINE, ATMOSPHERIC, AND EARTH SCIENCE

OCEAN SCIENCES (OCE) GRADUATE STUDENT HANDBOOK

Academic Year 2022-2023

Revision Date: 8 August 2022

1. INTRODUCTION

This document outlines procedures and requirements for Ph.D. and M.S. students in the Ocean Sciences (OCE) program at the University of Miami's Rosenstiel School of Marine, Atnospheric, and Earth Science. It serves as a supplement to the relevant versions of the University of Miami and Rosenstiel School Graduate Student Handbooks (see grad.miami.edu/policies-and-forms/ and graduate.rsmas.miami.edu/students/forms-guidelines-and-handbooks/, respectively).

Students should be aware of all the requirements and procedures in these handbooks. Students are responsible for following the procedures and meeting the requirements outlined in these handbooks in order to complete their degrees in a timely fashion. Any uncertainties regarding the procedures and requirements should be clarified with the OCE Graduate Program Director and the Rosenstiel School Graduate Studies Office (GSO).

All progress should be recorded in the students' files at GSO. Information about the necessary forms is available in the Rosenstiel School Graduate Student Handbook.

2. PROGRAM REQUIREMENTS

The applicable requirements for a student are those in effect during the academic year in which the student first registers in the program, unless stated otherwise in this handbook or by the OCE Graduate Program Director.

All Rosenstiel School courses are listed on the Rosenstiel School website. Students should consult their advisors and the OCE Graduate Program Director regarding their choices of courses; courses taken by students should be approved by their advisors. Any deviations from the requirements listed below must be approved by the advisor and the OCE Graduate Program Director.

OCE Requirements for Doctor of Philosophy

a) General Credit and Course Requirements: A minimum of 27 course credits is required for the Ph.D. degree, of which at least 9 course credits must be from 700-level courses. All Ph.D. students in OCE are required to take, or to have taken as equivalent course(s) in another program, at least two of the following three courses: Physical Oceanography (OCE 603), Ocean Biogeochemistry (OCE 610), Mathematical Methods in Marine Physics (OCE 701). In addition to the course credits, at least 12 research credits (dissertation credits) and a total of 60 course and research credits are required for the Ph.D. degree.

b) Academic Tracks: OCE students follow one of four academic tracks: Ocean Dynamics, Air-Sea Interaction and Remote Sensing; Marine Biogeochemistry; Biophysical Interactions. Each of the four tracks has specific course requirements in addition to the ones listed above:

– For students in the **Ocean Dynamics** track, the following courses are required: Geophysical Fluid Dynamics I (OCE 611) and Geophysical Fluid Dynamics II (OCE 711).

– For students in the **Air-Sea Interaction and Remote Sensing** track, the following courses are required: Fluid Mechanics (OCE 675) and Wave Propagation in the Ocean Environment (OCE 676).
– For students in the **Marine Biogeochemistry** track, the following courses are required: Physical Oceanography (OCE 603), Biological Oceanography (MBE 704), Chemical Oceanography (OCE 705), Ocean Biogeochemistry (OCE 610), Marine Organic Geochemistry (OCE 612), and Marine Microbial Dynamics (OCE 622).
– For students in the **Biophysical Interactions** track, the following courses are required: Modeling of Physical-Biological Interactions (OCE 736) and Mathematical Methods in Marine Physics (OCE 701).

Required courses are normally taken during the student's first full year of study (beginning in the fall semester). The Comprehensive Examination will focus on the required courses.

Ph.D. students may take any graduate courses offered at the Rosenstiel School or, with permission of their advisor, at other departments of the University of Miami.

c) Comprehensive Examination: A grade of "Ph.D. Pass" is required to bypass the M.S. degree and begin working towards the Ph.D. Students earning a grade of "M.S. Pass" may pursue a Ph.D. after completing the M.S. degree, subject to approval by their M.S. Committee.

d) Seminar: Regular attendance of the COMPASS seminar series (Combined OCE MPO ATM Seminar Series) is expected; each student is required to attend at least 10 seminar sessions per semester. In the same seminar series, each Ph.D. student is expected to give at least one 15-minute presentation each year after passing the Comprehensive Examination and at least one 45-minute presentation before defending the Ph.D.

e) Additional Requirements: In addition to completing the course credits identified in a) and b), all Ph.D. students are required to complete: i) either the Manuscript Writing Skills course (RSM 780) or the Dallas Murphy Writing Workshop; ii) three educational training courses (RSM 771, RSM 772, RSM 773).

A student in the Ph.D. program may exit the Ph.D. program and enter into the M.S. program, as long as the student does not already have an M.S. degree from OCE.

Timeline and Expectations

Year 1	End of spring: Comprehensive Examination
Year 2	Fall or spring: Formation of Ph.D. Committee
Years 2-3	Teaching assistantship (2 semesters)
Year 3	Fall or spring: Ph.D. Qualifying Examination and candidacy Expectations: Research results of quality equivalent to that of one peer-reviewed journal article, clearly written Dissertation Proposal and timeline.
Years 4-5	Ph.D. dissertation submission and defense Expectations: Normally the equivalent of two peer-reviewed articles with the student as first author that have been or are expected to be published (to be discussed with student's Ph.D. Committee). The student should submit a complete version of the dissertation to all Ph.D. Committee members at least one month before the planned defense. Furthermore, the student should submit the final version of the dissertation and all paperwork within three months after the successful defense.

OCE requirements for Master of Science

a) General Credit and Course Requirements: A minimum of 24 course credits, 6 research credits, and 30 total course and research credits is required for the M.S. degree. Required courses are the same as for Ph.D. students.

b) Academic Tracks: OCE students follow one of four academic tracks with specific course requirements, as described above for Ph.D. students. The tracks and required courses are the same for M.S. and Ph.D. students in OCE.

Required courses are normally taken during the student's first full year of study (beginning in the fall semester). The Comprehensive Examination will focus on the required courses.

M.S. students may take any graduate courses offered at the Rosenstiel School or, with permission of their advisor, at other departments of the University of Miami.

c) Comprehensive Examination: A grade of "Ph.D. Pass" or "M.S. Pass" is required for M.S. students. A student receiving a grade of "Ph.D. Pass" has the option of bypassing the M.S. degree, but may choose to complete the M.S. degree.

d) Seminar: Regular attendance of the COMPASS seminar series (Combined OCE MPO ATM Seminar Series) is expected; each student is required to attend at least 10 seminar sessions per semester. In the same seminar series, each M.S. student is expected to give at least one 15-minute presentation each year after the student passes the Comprehensive Examination.

e) Additional Requirements: M.S. students may, but are not required to, attend the Manuscript Writing Skills course (RSM 780), the Dallas Murphy Writing Workshop, or the three educational training courses (RSM 771, RSM 772, RSM 773).

Timeline and Expectations

Year 1	End of spring: Comprehensive Examination
Year 2	Fall: Formation of M.S. Committee; M.S. Thesis Proposal and candidacy
	Expectations: preliminary results and a clear research plan and timeline.
	Spring or summer: M.S. thesis submission and defense
	Expectations: Research results of quality equivalent to that of one peer-reviewed journal article. M.S. candidates should submit their Thesis Proposal for approval by their M.S. Committee during the first fall semester following their Comprehensive Examination. A meeting between the student and the Committee to discuss the Thesis Proposal is expected.

3. EXAMINATIONS

Comprehensive Examination (end of first year)

All M.S. and Ph.D. students are required to take the Comprehensive Examination. For full-time students, the Comprehensive Examination should be taken before the end of their first full year of graduate studies at the Rosenstiel School. This examination will be arranged by a Comprehensive Examination Committee comprised of the OCE Graduate Program Director and the instructors (or their assignees) of the required courses taken by the students.

The purpose of this examination is to evaluate the students' understanding of materials in the required courses and their ability to integrate and apply these materials. The outcome of the Comprehensive Examination determines whether students are permitted to proceed to the M.S. or Ph.D. program.

The Comprehensive Examination consists of written and oral components. The written component, which lasts no longer than 8 hours, consists of a combination of open- and closed-book questions on the material covered in up to four of the required courses taken by each student (to be selected by the student and the OCE Graduate Program Director if the student's academic track has more than four required courses). The oral component, which lasts no longer than 2 hours for each student, may include questions related to all courses taken by the student. Students and advisors will receive feedback from the Comprehensive Examination Committee on the strengths and weaknesses of the student and possible recommendations on how to address those.

The outcome of the Comprehensive Examination, which is determined by the Comprehensive Examination Committee, is based on the student's performance on this examination, together with consideration of the student's first year academic record. Possible examination outcomes are:

- Ph.D. Pass: Students with this result may bypass the M.S. degree and start working toward earning a Ph.D. If the student chooses to, the student may complete a M.S. degree before pursuing a Ph.D.
- M.S. Pass: Students with this result are required to defend an M.S. thesis and get approval from their M.S. Committee before pursuing a Ph.D.
- Fail: Students with this result will have an opportunity to re-take the Comprehensive Examination once.

Ph.D. Qualifying Examination (by end of third year)

Ph.D. students are expected to take the Qualifying Examination and Dissertation Proposal Defense by the end of their third full year in the program. If a student needs to take the Qualifying Examination after that time, the student will need to provide a written explanation to, and get approval from, the OCE Graduate Program Director.

The Qualifying Examination consists of a written and an oral component. While the exact format is left to the discretion of the Ph.D. Committee, a typical written Qualifying Examination consists of take-home questions from all Committee members, which need to be completed within three days. The questions are usually related to the research described in the Dissertation Proposal. A typical oral Qualifying Examination consists of an hour of questions based on the written questions and other related questions, and a second hour in which the student presents their Dissertation Proposal. It is recommended that the presentation emphasizes future work rather than a review of previous results, which are in the written Dissertation Proposal.

Example of a Typical Timeline of the Qualifying Examination

February 1	Student gives Dissertation Proposal to Ph.D. Committee
February 15	Written Qualifying Examination
February 22	Oral Qualifying Examination and Dissertation Proposal Defense with Ph.D. Committee

Expectations of the Qualifying Examination

Written Examination: The student's written answers should be judged by Ph.D. Committee members to demonstrate that the student has adequately addressed each question.

Oral Examination: The student should demonstrate the ability to express themselves clearly while providing satisfactory responses to questions raised by the Ph.D. Committee that relate to the Written Examination questions, and any other questions asked by Committee members.

Dissertation Proposal: The Dissertation Proposal should be written by the student in clear English. The Proposal should demonstrate the student's capability to produce and present research of a quality that, when completed, is suitable for submission to a peer-reviewed journal. Emphasis should be placed on the proposed research: the questions and hypotheses to be tested, the data and methodology used to test the hypotheses, and some anticipated results (which may or may not be realized). A student is encouraged to discuss the Proposal with their advisor before submitting it to all Ph.D. Committee members.

Expectations leading up to the Qualifying Examination:

– Communication with the student's advisor at least once per month to give research updates.
– Formal establishment of the Dissertation Committee (Ph.D. Committee), and an initial Committee meeting at least 1 month prior to the Qualifying Examination.

Outcomes of the Qualifying Examination

Possible Qualifying Examination outcomes are:

– Pass: Meets all expectations.
– Fail: Unsatisfactory written Dissertation Proposal or unsatisfactory oral Proposal Defense.

In some cases, the Ph.D. Committee may require revisions to a Proposal or question / answer, or a retake of the oral part of the Qualifying Examination. Normally there is no need to retake the entire Qualifying Examination or have an additional full Ph.D. Committee meeting in such cases.

4. TRANSFER OF STUDENTS INTO OCE AND TRANSFER OF CREDITS

Students from other graduate programs at the Rosenstiel School may transfer into OCE. A Graduate Program Transfer Form must be completed and placed on file in the Rosenstiel School Graduate Studies Office (GSO). The transfer requires signatures from the student, the student's advisor, directors of the original and new programs, and the Rosenstiel School Associate Dean of Graduate Studies. The transfer form can be obtained from GSO.

Course credits from graduate programs at other universities may be counted toward the course credit requirements described in Section 2 of this document. Requests for transfer of course credits and / or waiver of required courses should be made during the first year of graduate study at the Rosenstiel School; such requests must be approved by the student's graduate advisor and the OCE Graduate Program Director. Normally, a limit of 12 transferred course credits is imposed.