

Program Policy Statement

Oceanography (PhD)

*School of Marine Science & Policy
College of Earth, Ocean, and Environment
University of Delaware*

February 2023

I. Program History and Purpose

A. *Statement of Purpose*

The School of Marine Science & Policy offers an interdisciplinary PhD degree in Oceanography. The Oceanography Program fosters an environment where a diverse faculty and student body work together to understand marine and environmental processes in the interest of solving environmental and societal problems. The degree is oriented around research. It is designed to train students in physical, geological, biological, and chemical problems in estuarine, coastal, and marine environments, with an emphasis on quantitative approaches. Students graduating with the PhD are prepared to design and conduct research in oceanography or related fields. They have a command of oceanographic concepts as they relate to managing the environment, including the design of research questions, use of advanced quantitative analytical skills, data handling, model estimation and interpretation, and communication of analysis results to decision-makers. Examples of job placement include academia, post-docs, government (all levels), and the private sector (consulting, think tanks, and industry).

B. *Date of Permanent Status*

Active

C. *Degrees Offered*

PhD in Oceanography

D. *Term when first students may enroll*

Program is currently active, students typically enroll in fall semester but are able to enroll at any time.

E. Student demand for the program

This is an existing program.

F. College and School in which program will reside

School of Marine Science & Policy in the College of Earth Ocean and the Environment.

II. Admission

A. Admission Requirements

Admission to this program is competitive. It is based on grades, letters of recommendation and an application essay. International students are required to take the Test of English as a Foreign Language (TOEFL), to be considered for admission unless they qualify for the waiver of proof of English Proficiency as outlined by the Graduate College. A minimum score of 90 should be achieved by applicants taking the TOEFL IBT exam. The International English Language Testing System (IELTS) may be taken in lieu of the TOEFL exam. The University of Delaware requires an overall band score of a 6.5 or higher on the IELTS with no individual Speaking score being less than 6. TOEFL or IELTS scores must be within the last two years. The Graduate Program does not require GRE scores. Any scores submitted voluntarily by students will be evaluated holistically but will not be used to determine graduate fellowships. The SMSP Graduate Committee evaluates each applicant for admission. The Committee reserves the right to interview applicants, but it is not required for admission.

B. Prior Degree Requirements

A four-year U.S. Bachelor's degree (or its equivalent) in any academic field from an accredited college or university is required.

C. Application Deadlines

December 1 for priority fall admission; July 1 for fall admission in special circumstances; December 15 for spring admission in special circumstances.

D. Special Competencies

No special courses are required. Successful graduates have come from the backgrounds of biology, chemistry, physics, geology, environmental science, and math.

E. Admission Categories

No categories other than regular admission

F. Other Documents

Applicants must submit the following:

- All official undergraduate and (if applicable) graduate transcripts
- A resume or curriculum vitae that documents prior work experience, publications, honors, and awards received and a summary of educational credentials.
- A personal statement laying out professional goals and reasons for applying
- Three letters of recommendation
- International student applications must include TOEFL (or IELTS) scores and certified English translation of all materials (if applicable)

G. University Statement

Admission to the graduate programs is competitive. Those who meet stated requirements are not guaranteed admission, nor are those who fail to meet all of those requirements (except the foreign language minimum) necessarily precluded from admission if they offer other appropriate strengths.

III. Academic

A. Degree Requirements

1. Course Requirements

All students in this program are required to complete a minimum of 30 graduate credits. A course outside of the Oceanography program and the student's area of concentration is also required. In addition to the required coursework, written and oral qualifying examinations are required before students are admitted to candidacy for the PhD degree. All students must write and defend a dissertation.

Required courses include:

Core Courses*:

- MAST 602 - Physical Oceanography (3cr.) or equivalent
- MAST 646 - Chemical Oceanography (3cr.) or equivalent
- MAST 637 - Geological Oceanography (3cr.) or equivalent
- MAST 627 - Biological Oceanography (3cr.) or equivalent

*Course equivalencies, courses previously taken, or alternative courses are to be determined by the current instructor and approved by the Graduate Curriculum Committee. A higher level course may be substituted for these courses on approval of the advisor and committee.

Oceanography Seminar:

MAST 853 - Oceanography Seminar (1 to 12cr.) or equivalent (must be taken at least one semester during each year of residence until all other requirements are met. An alternative seminar may be substituted for MAST 853 in request of the student and with permission of advisor and the Graduate Curriculum Committee.

At Least Six Credits of 800-level Courses:

At least six credits of 800-level courses other than courses used to meet seminar and core required courses must be taken.

One three-credit Course:

One three-credit course in Marine Policy or one three-credit course outside of the student's declared subdiscipline of interest (not including courses taken to meet the program core course requirement) as approved by the advisor and the Graduate Committee must be completed.

Additional Courses:

Students will work with their advisors to determine what additional coursework must be completed and how many research credits must be taken to complete the degree.

Doctoral Dissertation:

Once a student has met all of the stipulations for candidacy and becomes classified in candidacy, the student is required to register in nine credits of Doctoral Dissertation (MAST 969). If the student registered in Pre-Candidacy Study is admitted to candidacy before the end of the free drop/add period of the next semester, the registration in Pre-Candidacy Study (MAST 964) for the preceding semester may be changed to the course, Doctoral Dissertation (MAST 969).

2. Other Requirements

Residency

Students are expected to be in residency during the majority of their degree, any accommodations for non-resident study should be agreed upon with the adviser.

Qualifying Exams

Students take one qualifying exam under the direction of their advisor. The exam includes written and oral components. The exam is tailored to the student's area of interest and is used to assess competency for PhD candidacy. It is designed by the advisor with approval by the committee and is graded pass/fail by the committee.

English Proficiency

English proficiency is required. All written and oral communication is in English.

Other

There is no portfolio, language, teaching, or internship requirement.

3. Procedure for petitions for variance in degree requirements

All petitions for variances in the degree requirements are handled by the SMSP Graduate Committee. Requests must be made in writing to the Chair of the SMSP Graduate Committee. The request should explain why the variance is sought and include written support from at least one SMSP faculty member. The committee reviews the request and issues a written determination for the student's record.

4. Grade minimums in courses that are different from university policy

Minimums follow university policy.

5. Courses which may not be used towards the degree

All required course credits will be used toward the degree. Electives must be approved by an advisor.

6. Expectations of facility of expression in English

English proficiency is required. All written and oral communication is in English.

B. Committees for exams, thesis, or dissertations

1. Procedure for advisor assignment

A faculty advisor is assigned to each incoming PhD student. The assignment is based on research interests and is done with the agreement of the student and the faculty member. The advisor may be changed at any time during a student's tenure. This is done in consultation with the current advisor and proposed new advisor. The change must be approved by the School Director.

2. Student committee and procedures for selecting committee members

The PhD student and their advisor create an advisory committee before the qualifying exam and dissertation proposal. This is the only student committee required. The committee consists of at least four members, but not more than six. At least one member of the committee must be a core faculty member of the SMSP and at least half of the committee members (but no less than three) must be either core or joint faculty in the SMSP. Only core or joint appointees may serve as committee chairs, except in the case of a professor who has, prior to retirement, been the advisor of a student when that student's committee was formed. At least one member of the committee must be external to the SMSP. Students are encouraged to seek an external member from outside the University to broaden the perspective of the committee.

3. Deadlines for establishing and preparation for qualifying examinations

A dissertation proposal is ordinarily required before a student takes the qualifying examination. Satisfactory completion of the dissertation proposal is at the discretion of the advisor in consultation with the student's advisory committee. The dissertation proposal may be included as part of the written qualifying exam (below) at the discretion of the advisor in consultation with the student's advisory committee.

A qualifying examination is required to obtain admission to candidacy for the PhD. The student must be in good academic standing and have the approval of the advisory committee before taking the exam. The exam is tailored to the student's research interests and aligns with their dissertation. It includes written and oral parts and tests students' preparedness for PhD candidacy. The exam is prepared and administered by the advisor and is approved by members of the advisory committee.

4. Policies for dates of examinations, grading of committee examinations and retake options

The qualifying exam is taken before the end of the sixth semester. The advisor informs the student of the areas to be examined and the format of the written and oral parts 60 days prior to the exam. If the student is not notified with at least 60 days notice, the student has the option to petition the School Director for a postponement of the qualifying examination.

The written part of the exam is taken first. The student must be informed of success or failure of the written portion of the qualifying examination within two weeks of completion and if the written component is not successfully satisfied the oral may not be administered. Once the written component is satisfied, the oral component may be administered. The student must be informed of success or failure of the oral portion of the qualifying exam within two weeks of completion.

A student who fails either part of the qualifying examination is entitled to only one re-examination, which must be taken within six months of the first examination.

A student who fails either part of the second qualifying examination may be considered for reclassification as a Master's student only after advisory committee consultation with the School Director. If a student is reclassified in this situation, the Master's thesis must follow the same rigor

outlined in the related master program policy. In some cases, if recommended by the committee and the School Director, the student may be terminated from the program.

5. Guidelines for approving research proposals involving human subjects

Any research proposals involving human subjects must abide by all regulations and requirements set by the university and approval documentation should be submitted alongside the proposal for the dissertation.

6. Procedures for dissertation approval

The Dissertation Proposal and its Defense

As mentioned in section III.B.3. A dissertation proposal is required before a student takes the qualifying examination. Satisfactory completion of dissertation proposal is at the discretion of the advisor in consultation with the student's advisory committee. The dissertation proposal may be included as part of the written qualifying exam (below) at the discretion of the advisor in consultation with the student's advisory committee.

The Dissertation and its Defense

PhD students must write and defend a dissertation. The student's advisory committee serves as the examining board. The written dissertation should be provided to the members of the committee in advance. The committee members approve or disapprove the dissertation for defense. Once approved, an oral defense is scheduled. The defense is oral and open to the academic community of the University and to interested members of the public; the defense must be announced at least two weeks in advance. The defense begins with a presentation of the work by the candidate, followed by an open period of questions from the audience. After a short break, the members of the examining board address questions to the candidate. At the close of questioning, the examining board retires for deliberation and decision. Upon reaching a decision, the board communicates that decision to the candidate and to the Director of the School. Dissertations must be submitted to the Graduate College according to the deadline schedule published by that office.

7. Departmental and student obligations for finding committee members

The student works with his/her advisor to form a committee following guidelines for committee composition (see item #2 above). The committee is approved by the School Director.

8. Departmental and student obligations and procedures for change in committee members

It is the responsibility of the advisor to replace members who withdraw from the committee during the dissertation process. This is done in agreement with the student.

A student may change his/her advisor in consultation with the assigned advisor and the proposed

new advisor. The Graduate Program Director and School Director must approve of the change.

C. Timetable and definition of satisfactory progress toward degree

1. Academic load expectations, normal progress, and evaluation of performance

Graduate work must be completed within the time limits imposed by the University and the School. The School provides guidance for students with regard to the timeframe in achieving individual academic milestones as listed below:

<u>Milestones for Ph.D. with M.S.</u>	<u>Time Limit</u>
Approved Advisory Committee	Three semesters
Approved Dissertation Proposal	Before fifth semester
Pass Qualifying Exam (both written and oral)	Before fifth semester
Complete Required Courses and Credits	Before graduation
Nine Credits Ph.D. Dissertation	Before graduation
Defend Dissertation	Eight semesters
Graduate	Eight semesters
<u>Milestones for Ph.D. without M.S.</u>	<u>Time Limit</u>
Approved Advisory Committee	Three semesters
Approved Dissertation Proposal	Before fifth semester
Pass Qualifying Exam (both written and oral)	Before fifth semester
Complete Required Courses and Credits	Before graduation
Nine Credits Ph.D. Dissertation	Before graduation
Defend Dissertation	Ten semesters
Graduate	Ten semesters
<u>Milestones for Ph.D. with M.S. Bypass</u>	<u>Time Limit</u>
Approved M.S. Advisory Committee	Two semesters
Approved M.S. Thesis Proposal	Two semesters
Approved Bypass Petition	Three semesters
Approved Ph.D. Advisory Committee	Three semesters
Approval of Ph.D. Dissertation Proposal	Before fifth semester
Pass Qualifying Exam(both written and oral)	Before fifth semester
Complete Required Courses and Credits	Before graduation
Nine Credits Ph.D. Dissertation	Before graduation
Defend Dissertation	Ten semesters
Graduate	Ten semesters

2. Grade requirements

Students must maintain a 3.0 GPA to remain in good standing. There are no specific departmental

or course grade requirements.

3. & 4. Thesis/dissertation progress timetable and defense guidelines

Section III.C.1 provides the recommended timetable for students' dissertation progress. Section III.B.6 (above) covers the guidelines for the dissertation defense.

5. Forms required

See the [Graduate College](#) for the steps a student must follow to complete graduation. Here are the specific forms required by SMSP:

- Annual Progress report submitted to the Graduate Committee ([Link](#))
- Dissertation Committee Confirmation Form ([Link](#))
- Recommendation for Candidacy Form ([Link](#))
- Application for Advanced Degree ([Link](#))
- Certification of Doctoral Dissertation Defense to the Graduate College ([Link](#))
- Dissertation following Graduate College Guidelines (see steps to graduation) ([Link](#))

6. Consequence for failure to make satisfactory progress

A student who is not making satisfactory progress will be issued a written warning after one semester. The warning will identify steps to make satisfactory progress and indicate the consequences of unsatisfactory progress. After a second semester of unsatisfactory progress, the student is issued a second warning. After three semesters of unsatisfactory progress, the student will be recommended for dismissal. All graduate students are subject to the University of Delaware Graduate Probation and Dismissal Policy, as stated in the University Catalog on the protocol for grievance procedure if a student has been recommended for termination for failure to make satisfactory progress.

7. Protocol for grievance procedure

A student that has been recommended for dismissal for failure to make satisfactory progress may file a grievance based on Graduate College policies.

IV. Program Educational Goals

The objective of the degree is to train research-oriented scholars focused on oceanography. Students that complete this program will be able to:

- Demonstrate knowledge of the fundamental concepts in physical, chemical, biological, and geological oceanography
- Analyze, interpret, and evaluate scientific data in oceanography
- Demonstrate an understanding of environmental and societal issues in the context of oceanography
- Identify, design, and execute research studies or experiments
- Perform extensive and novel oceanographic research
- Develop group management, and task management skills
- Develop professional oral and written communication skills
- Effectively communicate oceanographic research results in written scientific manuscripts
- Understand the process required to lead peer-reviewed publications
- Effectively present in professional and public forums

These learning objectives are manifest in the requirements for the PhD. They are measured directly in the courses through assignments and oral presentations, project reports and final examinations. They are also assessed in the qualifying exam, proposal presentation and dissertation defense using the evaluation tools available to the dissertation committee. In addition to these direct measures of the program, every year graduating students complete an exit survey that asks them to rate their attainment of the desired goals as well as various aspects of the program. The results of this survey, class evaluations, performance in qualifying exams, and committee evaluations of dissertations are used to modify the program.

V. Financial Aid

A. Financial Awards

1. Awards

Fellowships, research assistantships and teaching assistantships are offered to highly qualified applicants on a competitive basis. Typically, these financial arrangements cover full-time tuition and include a separate stipend. The research assistantships are usually funded through external funding. The intention is to provide full support for as long as the student is in-residence and in good standing, but the support is contingent on available funds. The goal is that PhD students will receive full funding throughout their time at UD.

2. Responsibilities of students on contract

Students receiving full funding are expected to work up to 20 hours per week on faculty projects, and students are expected to maintain full-time status.

3. Evaluation of students on contract

The School Director and faculty member providing funding (typically the student's advisor) will review each student after each semester in terms of progress toward degree and performance on the project. Students will be given feedback if progress and/or performance is not satisfactory. After two semesters of unsatisfactory progress or performance, the contract may be terminated.

VI. Departmental Operations

A. General student responsibilities

It is the student's responsibility to satisfy all University requirements described in the Academic Regulations for Graduate Students section in the Graduate Catalog, as well as any additional requirements established by the faculty in the academic program in which the student is enrolled. All students enrolled at the University of Delaware are subject to student life policies set by the University and documented in the University publication, [Student Guide to University Policies](#).

B. Student government and organizations

Students will have the opportunity to participate in graduate student governments for the School and the University. Students will be introduced to major professional associations or groups relevant to their research field.

C. Travel for professional meetings and presentations

Students' attendance at professional meetings are strongly encouraged. Travel for professional meetings will typically be sponsored by the student's advisor. The SMSP also provides travel funds for students, as well as the UD Graduate College.