Program Policy Statement

Marine Studies - Marine BioSciences Concentration (MS)

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 and Policy offers an MS program in Marine Studies with a concentration in Marine Biosciences. The degree focuses on marine organisms, from cell to whole organism. Core competencies include marine adaptations of organisms, organismal physiology, ecosystem study and understanding of the marine environment. Students can choose additional classes which focus on microorganisms, invertebrates, fish, coral, ecosystem dynamics, and marine pollution. Interdisciplinary study is a focus of the program, with students graduating proficient in both biology and another core discipline of marine policy or chemistry, geology, or physical oceanography.

B. Date of Permanent Status

Active

C. Degrees Offered

MS in Marine Studies with a Concentration in Marine Biosciences

D. Term when first students may enroll

Program is currently active, students typically enroll in the 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 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

The program is appropriate for students with biology, ecology, environmental science, marine science, or chemistry experience. The majority of STEM majors can be successful in this program.

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 the master's program are required to complete a minimum of 30 graduate credits. A course outside of the Marine Biosciences Program and the student's area of concentration is also required. All students must write a thesis. Students may bypass the master's degree and work directly toward the PhD upon petition.

Required courses include:

- MAST 623 - Physiology of Marine Organisms Credit(s): 3
- MAST 634 - Marine Molecular Sciences Credit(s): 3
- MAST 821 - Marine Biology/Biochemistry Seminar Credit(s): 1 or equivalent must be taken at least one semester during each year of residence until all other requirements are met. [1 cr each]

One course (minimum 3 credits) outside of the program is required. This may be one of the specially designed introductory courses or a more advanced course. Introductory courses include

- MAST 602 - Physical Oceanography Credit(s): 3
- MAST 637 - Geological Oceanography Credit(s): 3
- MAST 646 - Chemical Oceanography Credit(s): 3

- MAST 660 - International and National Ocean Policies Credit(s): 3

Additional graduate-level coursework of 12 credits. Students will work with advisers to determine what additional coursework should be completed and how many research credits must be taken to account for the credit hours required at graduation

Master's thesis course MAST869 should be taken for 6 credits in the student's final semester of study.

2. Other Requirements

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. Students will prepare a thesis proposal and defend it in front of their committee. A final thesis will be written and delivered in oral format to the department prior to the committee defense.

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 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.

Students who have formed an advisory committee and who have completed a thesis proposal may petition for admission to a PhD program within three semesters of matriculation in the School. This is known as the *bypass option.* Petitioning students must submit evidence of high performance to the advisory committee. Ordinarily, this evidence includes excellent grades in graduate courses, promising research results, and sound plans for dissertation research. The following steps are necessary for approval of a bypass petition:

- Chair of the advisory committee sends a letter of support on behalf of the committee to the relevant representative of the Graduate Committee.
- The representative of the standing Graduate Committee forwards the approved letter to the Assistant Dean for Graduate Services and the Director of the School.
- Director of the School approves the bypass.
- The student submits a completed "Change of Classification" form to the Assistant Dean for Graduate Services, which must be signed and forwarded to the Office of Graduate and Professional Education
- Student continues as a PhD student

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 MS 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 the proposed new advisor. The change must be approved by the School Director.

2. Student committee and procedures for selecting committee members

Before the 3rd semester, the advisory committee should be formed. Signatures are required from committee members on the student milestone form. The major advisor should be a core Oceanography faculty member. The MS committee must consist of at least three members, but no more than four. At least one member of the committee must be a core faculty member of the School and at least half of the committee members must be core or joint faculty in the School. Committee selection should be made between the student and advisor.

3. Deadlines for establishing and preparation for comprehensive examinations

There is no comprehensive examination.

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

The thesis proposal should be done before the 3rd semester. The major advisor may or may not require an oral defense. The committee will recommend retake options if possible.

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 thesis is due by the end of the 6th semester. The thesis must be approved by the committee, the advisor signs on behalf of the committee. The thesis must be defended orally.

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. The relevant representative of the Graduate Committee and the Academic Coordinator of the School must be informed 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:

Milestones	**Time Limit**
Approved Advisory Committee	Two semesters
Approved Thesis Proposal	Two semesters
Complete Required Courses & Credits	Before graduation
Six Credits MS Thesis	Before graduation
Defend Thesis	Six semesters

Graduate	Six 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

Thesis is defended by the 6th semester. MS students must write and defend a thesis. The student's advisory committee serves as the examining board. The written thesis is provided to the members of the committee in advance. The committee members approve or disapprove the thesis for defense. Once approved, an oral defense is scheduled. The candidate then defends the thesis before the committee. The defense seminar is open to the public. Invitations are sent to all CEOE faculty and students at least two weeks prior to the defense date. This is done using a college-wide e-mail. In the defense seminar, the student presents the research and responds to questions from the committee and the audience. The student and committee then typically enter a closed-door session. The defense is 60 to 120 minutes long and is organized and led by the student's advisor. Immediately following the defense, the student's advisory committee meets to decide whether the thesis is accepted, rejected, or accepted with conditions.

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)
- Advisory Committee Formation Sheet (Link)
- Application for Advanced Degree (Link)
- Thesis 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 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 scholars with research experience and an ability to analyze and provide marine bioscience relevant information in all practical settings. Students that complete this program will be able to:

- Demonstrate knowledge of the fundamental concepts in marine bioscience
- Analyze, interpret, and evaluate scientific data in marine bioscience
- Demonstrate an understanding of environmental and societal issues in the context of marine bioscience
- Formulate informed, testable hypotheses in marine bioscience
- Develop group management and task management skills
- Develop professional oral and written communication skills
- Perform novel marine bioscience research
- Effectively communicate marine bioscience research results in oral and written scientific presentations and manuscripts
- Effectively present in professional and public forums

These learning objectives are manifest in the requirements for the MS. They are measured directly in the courses through assignments and oral presentations, project reports and final examinations. They are also assessed in proposal presentation, and thesis defense using the evaluation tools available to the advisory 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 and various aspects of the program. The results of this survey, class evaluations, performance in proposal presentation, and committee evaluations of thesis defense 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. Support is contingent on available funds and students may elect to self-fund their study.

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 is 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.