

**SCHOOL OF MARINE SCIENCES**

**Handbook for Graduate Programs**

**in**

**Marine Biology**

**Oceanography**

**Marine Policy**

**Dual Degree**  
**(Marine Policy and**  
**Marine Biology *or* Oceanography)**



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<b>Table 1: Summary of Requirements for the M. S. Degree Programs (see text for more details)</b>				
	<b>Marine Biology</b>	<b>Oceanography</b>	<b>Marine Policy</b>	<b>Dual Degree</b>
Advisory committee formed by	2 <sup>nd</sup> semester	2 <sup>nd</sup> semester	2 <sup>nd</sup> semester	3 <sup>rd</sup> semester
Advisory committee composition	At least three members including advisor (and co-advisor)	At least three members including advisor (and co-advisor)	At least three members including advisor (and co-advisor)	Four members; including two advisors, one for policy and one for science, and at least one member each from natural and social sciences
Program of Study form to Grad School by	End of 2 <sup>nd</sup> semester	End of 2 <sup>nd</sup> semester	End of 2 <sup>nd</sup> semester	End of 3 <sup>rd</sup> semester
<b>Minimum</b> class credits	30 total: 12 @ $\geq 500$ level, excluding thesis	30 total: 12 @ $\geq 500$ level, excluding thesis	30 total: 24, excluding thesis or internship	36; 6 class credits from each program double-counted
<b>Minimum</b> thesis credits	6 (max 15)	6 (max 15)	6 thesis or internship credits	12 (6 for MB or OCE and 6 for MP)
Required courses	SMS 691    SMS 500 Statistics ( $\geq 400$ level) descriptive Oceanography	SMS 691    SMS 501 SMS 520    SMS 541	SMS 691    SMS 552 SMS 553	All of the courses required by the two programs
Transfer credits	6 to 12 credits depending on source institution. Restrictions and permissions apply; consult Advisor, Program Coordinator and Graduate School.			
Thesis or non-thesis degree	Thesis	Thesis	Thesis or Internship	Integrated thesis, two separate theses, or one thesis for MB or OCE plus internship for MP
May Graduate symposium	Annually	Annually	Annually	Annually
Milestones form	Annually	Annually	Not required	Annually for MB/OCE
Committee meeting	Annually	Annually	Annually	Annually
Thesis proposal defense (oral) by	End of 2 <sup>nd</sup> semester	Not required	Not required	End of 3 <sup>rd</sup> semester for MB
Submit written thesis proposal by	Beginning 3 <sup>rd</sup> semester	Before 2 <sup>nd</sup> ann. review	Not required	Beginning 4 <sup>th</sup> semester
Cruise requirement?	no	yes	no	no
Oral thesis defense?	yes	yes	Yes, if Thesis Option	yes
Time limit	6 years	6 years	6 years	6 years

Table 2: Summary of Requirements for the Ph.D. Degree Programs (see text for more details)			
	Marine Biology	Oceanography	Marine Policy
Advisory committee formed by	End of 2 <sup>nd</sup> semester	End of 2 <sup>nd</sup> semester	There is no PhD program for Marine Policy.  Students interested in a pursuing a Policy-related PhD often apply through the Interdisciplinary PhD program administered by the Graduate School or through the Ecology and Environmental Sciences (EES) program.
Program of Study form to Grad School by	End of 2 <sup>nd</sup> semester	End of 2 <sup>nd</sup> semester	
<b>Minimum</b> class credits	18 credits (required plus electives ≥ 500-level)	16 credits (core courses plus 6 cr. ≥ 500-level)	
<b>Minimum</b> research credits	6 credits SMS 699 (thesis credits)	6 credits SMS 699 (thesis credits)	
Required courses	SMS 691 SMS 500 Statistics Course (≥ 400-level) descriptive Oceanography (see specific degree requirements)	SMS 691 SMS 501 SMS 520 SMS 541	
Transfer credits	6 to 30 credits depending on source institution, but not more than 50% of total credits for degree. Restrictions and permissions apply; consult advisor, Program Coordinator and Graduate School.		
Thesis or non-thesis degree	Thesis	Thesis	
May Graduate symposium	annually	annually	
Milestones form	annually	annually	
Committee meeting	annually	annually	
Written comps*	by end of 4 <sup>th</sup> semester	Before end of 4 <sup>th</sup> semester	
Written proposal*	by beginning of 5 <sup>th</sup> semester	2 weeks before Oral exam & presented as part of the Oral exam	
Oral comps* by	End of 4 <sup>th</sup> semester	By end of 4 <sup>th</sup> semester, within 1 yr of passing written comps	
Cruise requirement?	no	yes	
Dissertation defense?	yes	yes	
Time limit	8 years	8 years	
* Completing Comprehensive exams and Written proposal constitutes admission to candidacy; Students have 4 years from first date of registration to be admitted to candidacy and an additional 4 years after achieving candidacy in which to complete all work for the doctoral degree. After admission to candidacy, PhD students may register for a minimum of 1 thesis credit per semester to be considered full-time.			

## **OVERVIEW AND DESCRIPTION OF PROGRAMS**

### **Marine Biology (M.S. and Ph.D.)**

The graduate degree programs in Marine Biology provide students with broad knowledge regarding marine organisms and processes, including but not restricted to emphases in taxonomy/systematics, comparative morphology, evolution, genetics, physiology, cell and molecular biology, developmental biology, and ecology. We train our master's (M.S.) candidates to enter the work force in various marine industries, teaching, government, and research support capacities, and to enter doctoral (Ph.D.) programs at the University of Maine or other institutions. We train our Ph.D. students for teaching, research and administrative/management careers in academia, business, and government. As part of this enterprise, we emphasize integrative approaches to marine science, and help students to develop skills in formulating hypotheses and solving problems that will be applicable in many professional situations. This includes developing and refining skills in scientific communication, both oral and written. It also involves developing an awareness and appreciation of ethical conduct in science and the societal implications of scientific research.

### **Oceanography (M.S. and Ph.D.)**

The University of Maine's Oceanography Program creates and communicates integrated understanding of oceanographic processes by weaving fundamentals from basic sciences and mathematics into a fully interdisciplinary, marine context. As leaders in ocean observation and prediction, we focus expertise on the Gulf of Maine and maintain active research programs throughout the world's oceans. Mentorship of students in the Program emphasizes fundamentals, novel composites of disciplines tailored to the students' research, and an adaptive, problem-solving skill set that prepares students for rapid change within both their profession and the oceans themselves.

### **Marine Policy (M.S.)**

The Master of Science degree in Marine Policy in the School of Marine Sciences is designed to take advantage of the strong interdisciplinary nature of the School. All students in the program will receive training in the social science aspects of marine resource management, in marine sciences, in marine policy or law, and in empirical methods. In addition, students will be expected to gain expertise in either living natural resources or coastal zone management.

### **Dual Degree in Marine Policy and Marine Science (M.S.)**

The Dual Degree Program in marine policy and science is intended for students interested in the application of science and policy in government agencies, non-governmental organizations, or industry. The program is intended to provide terminal degrees but does not rule out continuation to a Ph.D. The course of study is normally three years. It leads to two master's degrees: one in marine science (specializing in Marine Biology *or* Oceanography) and one in Marine Policy.

## Admission to the Programs

A student may be admitted to the Marine Biology or Oceanography degree program as a prospective candidate for either the M.S. or Ph.D. degree. The degree program in Marine Policy, and the Dual Degree Program in Marine Policy and Science (Marine Biology *or* Oceanography), offer only the M.S. degree.

A student who does not hold a M.S. degree when entering the Marine Biology or Oceanography Program normally will be admitted to the M.S. degree program, which provides the student with direct supervision in the beginning of his/her career. The decision to admit a student directly to the Ph.D. program without a M.S. degree will be made by the Admissions Committee, in consensus with the prospective advisor (major professor) and the Graduate Program Coordinator in Marine Biology or Oceanography. A student who holds a M.S. degree in a relevant discipline will generally be admitted as a prospective Ph.D. candidate. Sometimes the student may be required by the Admissions Committee, in consultation with the prospective advisor and the graduate program coordinator in Marine Biology or Oceanography, to enter the M.S. program before entering the Ph.D. program; subsequently, a recommendation to admit the student to the Ph.D. program may be made by the student's major professor and Advisory Committee, and a form is available to facilitate this process.

## Requirements for Graduate Degrees

The requirements for the M.S. and Ph.D. degrees in Marine Biology, Oceanography, Marine Policy, and the M.S. Dual Degree in Marine Policy and Science at the University of Maine, include those established by the University of Maine Graduate School as described in the current Graduate Catalog and website (<http://www.umaine.edu/graduate/>); follow the links from "Online Catalog" to "General Policies and Regulations." Requirements also include the specific requirements of the Marine Biology, Oceanography, Marine Policy, and Dual Degree Degree Programs of the School of Marine Sciences, as instituted by the faculties of those programs and described in this handbook. Common requirements and expectations for the various degree programs are enumerated below, with requirements specific to the M.S. or Ph.D. programs following in separate sections. Tables 1 and 2 provide convenient summaries, but necessarily leave out some details. It is the student's responsibility to become familiar with the program requirements and to be certain that all graduation requirements and deadlines are met; your major professor will work with you in this, but remember—it is *your* degree that is at stake.

## Requirements & Responsibilities common to all SMS Graduate Programs

**Orientation:** The School of Marine Sciences holds an orientation session for new graduate students early in the fall semester. This *required* event aims to:

- introduce students to the faculty and other graduate students in the program;
- acquaint students with resources on campus and at the Darling Marine Center;

- communicate the faculty's expectations from and responsibilities of a graduate student — especially where they differ from expectations and responsibilities in undergraduate programs;
- familiarize students with program requirements and timelines;
- inform students of opportunities for outside funding and internships; and
- provide a relaxed format in which students can ask questions and allay concerns about the transition to graduate school.

**Marine Science Seminar (SMS 691):** All marine biology and oceanography students should register for this seminar class, preferably in the first year of study. Marine policy students are strongly encouraged to take it.

**Graduate Student Symposium:** All full-time students are expected to present research results and plans for future research at the annual SMS Graduate Student Symposium, usually held at the end of Spring Semester at the Darling Marine Center. Students should alternate oral and poster presentations from year to year, to practice communicating in both media. Part-time students are expected to present every second year, but should attend every year. If a student cannot attend the symposium because of field sampling or another commitment, the student is expected to prepare a poster to be presented *in absentia*. If a student completes *all* degree requirements in the semester in which the Symposium occurs, the student will be excused from presenting at the Symposium, *unless* the student intends to pursue an additional degree in the School of Marine Sciences.

**Student Responsibilities:** You are responsible for conducting yourself as a professional and for taking the responsibility for learning—not only through coursework, but also through readings, research, discussions, and seminars. *Students are expected to attend the weekly SMS seminar, usually held on Friday morning.* Unlike the undergraduate experience of most students, graduate school is an open-ended learning experience. In general, the student who learns more will do better. Grades matter less than achievement of competencies, although there are grade standards that are enforced. This change of academic focus may be disorienting, and you should develop a continuing dialogue with Advisory Committee members and other faculty regarding the emphasis of ongoing learning and research efforts. Building this dialogue is one key to success because the most important evaluations you receive will come in the form of recommendation letters from those advisors and faculty members when you complete your degree and seek further educational or employment opportunities.

**You, the student, are responsible for:**

- Rectifying any deficiencies in your background and for meeting all requirements for the degree (this is done in consultation with the major professor and Advisory Committee, who may require that certain basic courses be taken);
- Completing and documenting required safety training (see below);
- Assembling an Advisory Committee (see Tables 1 & 2 for deadline). It is the student's responsibility to meet with the Advisory Committee annually. The advisor will help to schedule the meeting.

- Registering for courses on time (students should pre-register during designated registration periods in the fall and spring, well in advance of each semester, which is important because it allows faculty to plan for a course);
- Completing/updating your Milestones at the end of each semester on the Student Navigator system, including providing an annual self-assessment at the end of the spring semester, and uploading appropriate files to your student navigator account;
- Making sure that your academic file containing records of coursework, copies of forms, correspondence, etc. is kept up-to-date (this file is kept in the SMS office); and
- Meeting deadlines and completing forms required by the Graduate School – this is especially important as you near graduation (the annual Graduate School calendar includes dates relative to curriculum and degree granting, and there is a useful “Graduation Checklist” on the Graduate School web site for May, August, and December completion of degrees); and
- As a courtesy to other faculty who may wish to attend the thesis or dissertation defense, you must place a final draft copy of your thesis in the SMS administrative office after the Advisory Committee decides on its acceptability and after you make the required changes, usually a week before the defense.

***Safety & Responsible Conduct in Research Training:*** All University of Maine employees are required to undergo Annual Basic Safety Training, and graduate students should also complete Chemical Hygiene (Lab Safety) Training that is specific to the laboratory where you are working. You should consult with your advisor or the laboratory manager where you will be working as soon as possible after arriving on campus regarding details of this requirement, which includes documenting that you have received the training. Depending on your activities, you may need other special training regarding topics such as Biomedical Waste, Boat (Watercraft) Safety, Dive Safety (Scientific Diving), Field Work, Fire Extinguishers, First Aid/CPR, etc. (see <http://www2.umaine.edu/SEM/Training/training.htm> for a complete list and links).

Additionally, all students must receive training in responsible conduct in research, and this is included in the required graduate seminar class, SMS 691. If you will be conducting research with live vertebrate animals or human subjects, additional training and approvals are required. Consult the IACUC website (<http://umaine.edu/research/research-compliance/institutional-animal-care-and-use-committee-iacuc/>) or IRB website (<http://www.umaine.edu/research/research-compliance/institutional-review-board-for-the-protection-of-human-subjects-irb/>) for details.

***Optional Teaching:*** Graduate programs in SMS do not require you to acquire teaching experience. This is unfortunate, but SMS does not have enough teaching assistantships to support its graduate students in this activity, nor is it always acceptable to require graduate students to spend the considerable time and effort required for effective teaching when they are supported by a grant or contract to conduct research. Nevertheless, SMS faculty members believe that it is important for graduate students, especially Ph.D. students, to gain experience as teachers, and encourage them to do so. If you wish to be a teaching assistant (TA) for a semester (occasionally longer), consult with your advisor to



be certain that this is agreeable and advisable. You and your advisor can then request your appointment as a TA, depending on the availability of such an assistantship and the sufficiency of your background to assist in the course. See the Graduate School's web site for further information, including a handbook for teaching assistants at <http://www.umaine.edu/graduate/studenthub/guidelines>. Application procedures and deadlines for SMS TA positions will be available from the SMS Associate Directors and publicized well in advance. The deadline for applications to TA in the upcoming academic year is usually in February.

**When you have questions or need help...** Your first resource for assistance is this handbook, followed by your major professor or members of your advisory committee, and the Graduate School website. For informal assistance, you will find that other SMS graduate students can be very helpful. For formal assistance, however, you may need to consult with any or all of the following:

*The Graduate School:* The Graduate School is located in Stoddard Hall, and is staffed by helpful people. You can find their contact information on the Graduate School website (<http://www.umaine.edu/graduate/> -- click on About, then Office Staff). You will probably need their help to register for classes.

*The SMS Graduate Program Coordinators:* These faculty members are elected to serve as program coordinators for Marine Biology, Marine Policy, and Oceanography. They often respond to initial inquiries from prospective students, are responsible for tracking progress of all students in their respective degree programs, serve as their program representative to the SMS Policy Advisory Committee, and organize regular program faculty meetings (at least one a semester) as well as the annual review of students enrolled in Marine Biology and Oceanography graduate programs. The Program Coordinator also approves and signs some of the official SMS and Graduate School documents that you will generate during your degree program. Current Graduate Program Coordinators are listed in the specific program requirements that follow.

*The SMS Administrative Staff:* Currently, Ms. Susanne Thibodeau maintains all SMS graduate student records and handles paperwork associated with graduate student appointments in cooperation with fiscal staff members Ms. Jessie Gunning and Mr. David Cox. Ms. Jodie Feero assists graduate students with many logistical arrangements.

*The SMS Associate Director for Graduate Studies:* The Associate Director assists the Director of the School of Marine Sciences in overseeing and coordinating graduate program curricula, research and training. If you have a higher-order concern, consult with the Associate Director for Graduate Studies.

**Note (08/2015):** Currently, this position is vacant because the Associate Director, Dr. Rebecca Van Beneden, is serving as interim Director of the School of Marine Sciences.

## **Requirements for a Graduate Degree (M.S. and Ph.D.) in Marine Biology at the University of Maine**

### **The Graduate Program Coordinator**

The current Graduate Program Coordinator in Marine Biology is Dr. Gayle Zydlewski. Her contact information is:

Gayle Zydlewski  
Associate Professor  
202A Libby Hall  
(207) 581-4365  
gayle.zydlewski@maine.edu

### **Advisor**

Students will be first accepted by an advisor prior to their formal acceptance into the Marine Biology Program. Students generally are not admitted “at large,” but must have identified a major professor (advisor) who agrees to direct and help to support their research. In most cases this advisor will work with the student throughout his or her degree program. The student should discuss research interests with the advisor, and if the research interests are misaligned, the student should pursue a change of advisor as early as possible in the program, although such changes are unusual.

*\*\*Advisor–advisee relationships are unique and different for each student. Some advisors and advisees get along remarkably well and have a strong friendship as well as a strong sense of mentoring, while some advisors and students have a strictly professional relationship. Some advisors are “hands-on” in their approach to mentoring students, while other advisors take a more distant approach. Each student will have a different chemistry with the advisor. The key to having a good relationship is to have open lines of communication. A lot of frustration and confusion occurs because either the student or advisor miscommunicated. Sometimes a member of the Advisory Committee can help to smooth over a difficult relationship. \*\**

### **Advisory Committee**

Each student, with his or her advisor, should assemble an Advisory Committee by the end of the student’s first (M.S.) or second (Ph.D.) semester (as you focus your research, committee membership may also need to be adjusted). The Ph.D. student and advisor may wish to assemble a more informal Advisory Group of at least three members early in the second semester and to complete the full Advisory Committee, including an appropriate external member, later in the second semester. All committee members must be members of the University of Maine Graduate Faculty, and depending on the degree program (M.S. or Ph.D.), 2–3 of the committee members must be SMS Faculty. Faculty members from outside the University of Maine are eligible to serve on graduate committees, but must be

appointed as external graduate faculty. Appendix 3 details the criteria for SMS Graduate Faculty appointments.

The advisor normally serves as chair of the Advisory Committee. The Advisory Committee acts as a resource and provides advice to the student in developing the Program of Study and the thesis/dissertation research, provides oversight of the student's academic and research progress, participates in evaluating whether a M.S. or Ph.D. student is qualified to advance to candidacy, evaluates the thesis/dissertation, and administers the final M.S. or Ph.D. oral examination.

*\*\* As with advisors, students will have a different relationship with each member of the Advisory Committee. Committee members represent a wealth of knowledge, providing expertise, equipment, and mentoring, rounding out your thesis and graduate experience. Take care in assembling your committee—choose committee members who are not overcommitted, and who get along well with other committee members, because having tension within a committee can add stress to your graduate experience. \*\**

## **Program of Study**

The student, in consultation with the Advisory Committee, should develop a Program of Study as early as possible. The Program of Study specifies all academic work to be undertaken by the student, including all courses to be taken while the student is enrolled in the degree program. The Program of Study also identifies the topic of the thesis or dissertation project and includes a brief description of the research to be undertaken; a separate, more detailed written proposal for research is also required (see section 3 following). The Program of Study form (available on the Graduate School web site) must be approved and signed by the student's Advisory Committee and the Graduate Program Coordinator, and submitted to the Graduate School before the end of the student's second semester. Please be aware of the Graduate School's requirement that the Program of Study "...must be submitted to the Graduate School before the student's third registration will be approved, or upon completion of 12 hours of graduate credit, whichever comes first."

The Program of Study states the student's required curriculum and is a binding contract. Changes may be made only if a "Request for Change in Program," approved and signed by the student's Advisory Committee and the Graduate Program Coordinator, is submitted to the Graduate School.

## **Electives and Advanced Courses**

In addition to required courses (see below), you should select elective courses that contribute to your background and ability to qualify as a competent investigator and scholar in your particular research area as well as in related disciplines. A list of recommended elective courses is provided in Table 3. Courses at the 400-level and higher qualify for graduate credit. Please be aware of the Graduate School's requirement that students working toward the M.S. degree "...must present a minimum of 12 hours

(exclusive of thesis) of 500- and 600-level course work to partially satisfy requirements for that degree.”

*\*\* Particularly because there are so few required or “core” courses, graduate students in Marine Biology are encouraged to consider taking courses that are not directly related to their research topic. Science is becoming increasingly specialized, and courses and Programs of Study sometimes reflect this. At the same time, marine biology is by nature a hybrid enterprise and is increasingly multidisciplinary. Graduate school will be your last opportunity to take formal courses in which experts have distilled large bodies of knowledge for you. Animal ecologists might consider taking a course in microbiology or phycology, and physiologists, biochemists, or molecular biologists might benefit from learning about biogeochemistry or coral reef ecology. \*\**

### **Degree Requirements common to the M.S. and Ph.D in Marine Biology**

In addition to the requirements defined by the University of Maine Graduate School, these requirements must be met by all students, M.S. and Ph.D., enrolled in the Marine Biology degree program. Degree-specific requirements are detailed in the sections that follow.

#### **1. Required Courses & Symposium Participation**

- i. SMS 500 (Marine Biology)
- ii. one semester of descriptive oceanography, which can be met in several ways:
  - SMS 598 taken in conjunction with SMS 302, or
  - an undergraduate course equivalent to SMS 302 prior to matriculation, or
  - in exceptional cases, other appropriate coursework that must be discussed with the advisor and approved by the Graduate Program Coordinator;
- iii. one semester of statistics at the graduate level, e.g. MAT 437 or PSE 509;
- iv. one semester of SMS 691 Marine Science Seminar, which also meets the Graduate School’s Ethical Conduct in Research training requirement;
- v. participation in the SMS Graduate Symposium during each year of full- time study (part-time students must participate at least every other year).

**2. Foreign Language Requirement:** There is no formal foreign language requirement for either the M.S. or Ph.D. degree. However, if the student’s Advisory Committee deems it necessary, such a requirement may be instituted for that student.

**3. Written Proposal for Thesis or Dissertation:** Each degree candidate is required to submit a statement of the proposed problem for a thesis or dissertation. The due date for this is specified by degree program (see Tables 1 & 2 and Appendix 1). This proposal must be discussed in a meeting of the student’s Advisory Committee and endorsed by all committee members; a copy of the final version should be a part of the student’s file.

*\*\* There is no set format or length for such a proposal, which is determined by each advisor and student. The research proposal is integral to formulating a rational Program of Study, and therefore usually is submitted to the Advisory Committee prior to that deliberation. \*\**

**4. Progress of Students:** The faculty of the Marine Biology degree program annually review the progress of each student in course work, research, and general progress toward the degree. To aid students, advisors and advisory committees in record-keeping and staying on schedule, a “Milestones” tracking system is used to record progress in meeting specific course requirements, and to allow the opportunity for student self-assessment and Faculty assessment. A tracking form (Appendix 1) was transitioned to a web-based form (Student Navigator); instructions are found in Appendix 4. Students and advisors are responsible for completing/updating Milestones at least 2 weeks prior to the annual review (generally held near the end of the spring semester). Self assessments and other documents can be uploaded to Student Navigator; there are also options to add comments for each milestone. The faculty will discuss each student’s progress and provide written feedback to the student, via the Program Coordinator, following the review.

Grounds for dismissal or probation of a student are as follows:

- i. Any grade lower than a “B-” in a course prescribed by the student’s Advisory Committee
- ii. Any report to the Marine Biology degree program faculty from the Advisor or any faculty member indicating dissatisfaction with the student’s progress. In this case, the report must be discussed at a meeting of a quorum of Marine Biology degree program faculty, who shall vote on any subsequent action.

#### **5. M.S. Degree Requirements:**

In addition to the University of Maine Graduate School degree requirements (see University of Maine Graduate Catalog for details (<http://gradcatalog.umaine.edu>) and general Marine Biology requirements described above, there are several requirements specific to the M.S. Degree in Marine biology.

*5a. M.S. Advisory Committee:* The Advisory Committee for a student in the M.S. degree program shall comprise a minimum of three members, at least two of whom shall be faculty in the School of Marine Sciences; all must be members of the Graduate Faculty.

*5b. Public research proposal seminar.* This seminar will last 30 minutes (20 minutes presentation; 10 minutes discussion). This seminar should set the general marine biological background for the research, present hypotheses to be tested, methods to be used, and present preliminary data, if available. This seminar replaces a prior requirement for a written comprehensive exam, and serves as an opportunity for students to demonstrate their knowledge of the relevant background for their research and to obtain helpful feedback from faculty and students with whom they might not otherwise interact. To ensure the latter, all Marine Biology Program faculty and students are encouraged to attend these seminars, and the Marine Biology Program Coordinator may set specific target dates and times for these seminars.

*5c. Thesis Defense:* Students will present a final draft copy of their thesis to the members of their committee at least three weeks before their scheduled final defense. Committee

members must determine if the thesis is acceptable (apart from minor corrections) at least one week before the scheduled defense. Prior to defending, students must file a Tentative Thesis Acceptance form & Notice of Oral Examination form with the Graduate School (see Graduate School website for deadlines associated with these forms). The final defense will consist of a seminar by the candidate, followed by an oral final examination of not more than two hours covering the candidate's research. This examination is conducted by the thesis committee and any other members of the University graduate faculty who wish to attend, although the decision on the examination rests with the student's thesis committee. A vote to Pass must be unanimous.

*\*\* When you have successfully defended your thesis and your committee has completed the "Oral Examination and Final Thesis Acceptance Form," you and your advisor should check to be sure that your personnel file is complete and up-to-date, so that the Graduate Program Coordinator can check this and sign the "Completion of Requirements" form.*

## **6. Ph.D. Degree Requirements:**

In addition to the University of Maine Graduate School degree requirements (see University of Maine Graduate Catalog for details (<http://gradcatalog.umaine.edu>) and general Marine Biology requirements described above, students pursuing the Ph.D. degree must also pass a Ph.D. Comprehensive Examination before they are advanced to the status of Ph.D. Candidate. Additional details for the Ph.D. degree include:

*6a. Ph.D. Advisory Committee:* The Advisory Committee for a student in the Ph.D. degree program shall comprise a minimum of five members, at least three of whom shall be faculty in the School of Marine Sciences, and at least one of whom shall be from other academic units in the University of Maine, or preferably, from outside the University.

*\*\* Remember that if you choose to have a faculty member from outside the University of Maine serve on your Advisory Committee, he or she must be appointed to the Graduate Faculty, and this requires time for consultation, paperwork, and approval by the Dean of the Graduate School. See Appendix 3 for SMS graduate faculty appointment criteria. \*\**

*6b. Public Dissertation Proposal Seminar:* Similar to the proposal seminar for the M.S. degree, this seminar serves as an opportunity for Ph.D. students to practice their oral communication skills, and to receive helpful feedback from students and faculty with whom they might not otherwise interact. The seminar typically lasts 30-45 minutes, with time for discussion and questions. Students often schedule a committee meeting following the proposal, after which time the advisory committee gives its final approval for the proposed work. Unlike the M.S. degree, Ph.D. students must also complete written and oral comprehensive exams.

*6c. Ph.D. Comprehensive Examination:* This examination, administered by the student's Advisory Committee, will consist of written and oral parts. It should be taken no later than the student's fourth semester (or fifth semester if the student matriculated in a Spring-semester). It will be about 12 hours long and consist of four parts. The student must select four topic areas in consultation with his/her major professor and committee as follows:

- Core Disciplines (e.g., evolution, molecular genetics, ecology, physiology, biological oceanography) – choose 2-3 topics;
- Technical Subjects (at an advanced level beyond any other degree requirement (e.g., modeling, microscopy, bioinformatics, systems' design) – choose 0-1 topics; and
- Other Areas (set by the Advisory Committee with agreement by the Marine Biology Coordinator on the Program of Study (POS) – Choose 0-1 topics.

The “Other Area” could be another Core Discipline or an area that is not yet defined in science or a related discipline needed by the student for his/her research, e.g., chemical oceanography. Students are expected to demonstrate advanced knowledge of the areas selected for comps based upon graduate course work and/or directed reading from a Committee member. The student will receive a grade of “satisfactory,” or “unsatisfactory” for each area examined. All areas must be passed with at least a grade of “satisfactory” before the oral part of the examination can occur. A student may be re-examined in any or all topic areas only once. Subsequent failure in those areas could require remedial coursework or dismissal from the Ph.D. Program, the decision resting with the student's Advisory Committee in consultation with the Marine Biology Program Committee.

*\*\* Four areas of questioning are not easily divided evenly among five Advisory Committee members. The student and the Advisory Committee must decide how to deal with this; in practice, a large topical area such as “evolution” or “physiology” may be divided between two committee members having different specialties in these areas. Defining these topical areas rests with the Advisory Committee. Sometimes a committee member is not a marine scientist but is appointed to the committee because of special knowledge or expertise relevant to the student's needs. In such cases, the questions from this member need not be strictly “marine,” so long as the student understands this and the expectations of the committee member, who will often assign specific readings for the student. It is up to the student and the committee to consult on the source of the questions—coursework, assigned readings, the research proposal, etc.—and on the committee's expectations of the student. Communication and common sense on the part of the student and the committee are important in completing this requirement. \*\**

The Ph.D. Oral Comprehensive Examination will be an evaluation of the student's broad area of specialization. The Examining Committee will consist of the student's Advisory Committee, whose Chairperson will preside. Unanimous approval of the Examining Committee is required for passing. Students should complete the written and oral qualifying exams by the end of their fourth semester. Students who do not complete them by the end of the sixth semester will not be allowed to continue in the Ph.D. program, but will have the option of completing a M.S. degree.

6d. *Dissertation Defense*: Students will present a final draft copy of their dissertation to the members of their committee at least three weeks before their scheduled final defense. Committee members must determine if the thesis is acceptable (apart from minor corrections) at least one week before the scheduled defense. Prior to defending, students must file a Tentative Thesis Acceptance form & Notice of Oral Examination form with the Graduate School (see Graduate School website for deadlines associated with these forms).

The final defense will consist of a one-hour seminar by the candidate (a 45-minute presentation with 15 minutes for questions and discussion), followed by an oral final examination of the candidate's research by the thesis committee and any members of the graduate faculty of the University of Maine who wish to attend. A vote to Pass will be taken by the Examining Committee (i.e., the advisory committee) and need not be unanimous for a doctoral candidate to pass the final oral examination; however, only one (1) negative vote will be permitted. [N.B. this voting policy was approved by the Marine Biology Faculty in February 2014, and reflects the Graduate School policy].

*\*\* When you have successfully defended your thesis and your committee has completed the "Oral Examination and Final Thesis Acceptance Form," you and your advisor should check to be sure that your personnel file is complete and up-to-date, so that the Graduate Program Coordinator can check this and sign the "Completion of Requirements" form.*



**Table 3. Recommended Courses for Marine Biology Graduate Students**

This list is for informational purposes only and is not intended to be either a comprehensive or exclusive list of recommendations and opportunities.

Course Title	Number	Typical term offered	Units	Instructor(s)
Applied Population Genetics	SMS 425	Spring	3	Rawson
Engineering in Aquaculture	SMS 449/598	Spring	3*	Bricknell
Fish Aquaculture I	SMS 420/598	Fall	3	Bricknell
Advanced Marine Invertebrate Biology	SMS 510	Fall	3	TBD
Benthic Marine Ecology	INT 563	Spring every other year	3	Steneck
Biological Oceanography	SMS 501	Fall 2012/2013	3	Karp-Boss
Biology of Fishes	SMS 422/598	Fall	3	Bricknell/Hamlin
Chemical Oceanography	SMS 520	Fall	3	Mayer
Comparative Animal Physiology	SMS 485		3	TBA
Coral Reef Ecology	SMS 531	Spring alternating with 563	3	Steneck
Critical Issues in Aquaculture (Fish Parasites)	SMS 401/598	Fall every other year	1-3	Bricknell
Ecology of Marine Sediments	SMS 514	May Term/Summer every other year	2-3	Lindsay
Electron Microscopes – Theory & Use	BIO 441	Spring	3	S. Tyler
Electron Microscopy Laboratory	BIO 541	Spring	0-1*	S. Tyler
Estuarine Oceanography	SMS 491	Fall	3	Mayer/Brady
Fisheries Oceanography	SMS 550	Spring	3	Zydlewski
Fisheries Population Dynamics	SMS 562	Spring	3	Chen
Invertebrate Biology	SMS 480	Fall 2012/2013	4*	Eckelbarger
Life History and Functional Morphology of Marine Invertebrates of Maine	SMS 491	May Term 2012/2013	3*	Eckelbarger
Marine Chemical Ecology	SMS 598	On request		Lindsay
Marine & Freshwater Algae	SMS 373/598	Spring	4*	Brawley
Polar Marine Ecology	SMS 497	May 2013/2014	3*	Waller
Recent Advances in Fisheries Assessment	SMS 598	On request	1-2	Zydlewski
Structure & Function of Plant Genomes	BIO 578	Fall 2012/2013	3	de los Reyes
Zooplankton	SMS 491/598	Fall	3	Runge
*Includes laboratory				

## **Requirements for a Graduate Degree (M.S. and Ph.D.) in Oceanography at the University of Maine**

### **The Graduate Program Coordinator**

The current Graduate Program Coordinator in Oceanography is Dr. Mark Wells. His contact information is:

Mark Wells  
Professor  
201 Libby Hall  
(207) 581-4322  
mlwells@maine.edu

### **Advisor and Advisory Committee**

A student will be first accepted by an advisor prior to his/her formal acceptance to the Oceanography Program. In most cases the advisor will work with the student throughout his/her degree program. The student should discuss research interests with his/her advisor, and if the research interests are misaligned, the student should pursue a change of advisor as early as possible in his/her program.

The student and his/her advisor should assemble an Advisory Committee by his/her second semester (as the student focuses his/her research, committee membership may also need to be refocused). The Ph.D. student may require more time to assemble an Advisory Committee that includes members from outside SMS. In such a case, the Ph.D. student and his/her advisor should assemble a more informal Advisory Group of at least three members by his/her second semester, and should complete the full Advisory Committee before the beginning of his/her fourth semester.

The advisor will normally serve as chair of the Advisory Committee. The Advisory Committee acts as a resource and provides advice to the student in developing the Program of Study and the thesis/dissertation research, provides oversight of the student's academic and research progress, participates in the formal annual review of the student's progress, participates in evaluation of whether a Ph.D. student is qualified to advance to candidacy, evaluates the thesis/dissertation, and administers the final M.S. or Ph.D. oral examination.

### **Program of Study**

The student, in consultation with his/her Advisory Committee, should develop a Program of Study as early as possible. The Program of Study is an outline of all academic work to be undertaken by the student, including all courses to be taken while the student is enrolled in the degree program. The Program of Study also identifies the topic of the thesis or dissertation research and includes a preliminary written proposal of the work to be

undertaken. (The M.S. student will have the opportunity to expand on the thesis proposal; please see below, No. 9 under “M.S. Requirements”. The Ph.D. student also will have the opportunity to expand on the dissertation proposal prior to the Oral Dissertation Examination; please see below, No. 10 under “Ph.D. Requirements”). The form (available on the current Graduate School web site) must be approved and signed by the student’s Advisory Committee and the Graduate Program Coordinator, and submitted to the Graduate School before the end of the student’s second semester.

The Program of Study is the student’s required curriculum. Changes may only be made if a “Request for Change in Program”, approved and signed by the student’s Advisory Committee and the Graduate Program Coordinator, is submitted to the Graduate School.

### **Core Courses**

Core Oceanography Program courses should be completed with a grade of “B-” or better by the end of the second semester of full-time study, and must be completed by the end of the fourth semester:

SMS 501 Biological Oceanography                      SMS 520 Chemical Oceanography  
SMS 541 Physical Oceanography  
SMS 691 Seminar (the seminar should be taken during the student’s first year)

The requirement for one or more of the core courses may be waived if an equivalent course was taken elsewhere with a grade of “B-” or better, and if signed approval is given by the student’s advisor, the instructor of the course whose requirement is to be waived, and the Oceanography Graduate Coordinator. Because the student is responsible for integrating the material provided in the core courses, he/she may wish to consider auditing courses for which the requirement has been waived.

A student who lacks the necessary background for any core course should take the initiative to make up the deficiency. Core course faculty can assist the students in determining if they have adequate background and can provide guidance if more background is needed.

### **Elective and Advanced Courses**

Elective courses should be selected to contribute to the background and ability of the student to qualify as a competent investigator and scholar in his/her research area as well as in related disciplines. Courses at the 400 level and higher qualify for graduate credit. Specific requirements for each degree are given below, under appropriate sections for M.S. and Ph.D.

### **Oceanic Research Cruise**

For an oceanography student, first-hand experience at sea is essential training. All Oceanography degree students are required to participate in a minimum of one oceanic research cruise of at least 5 (continuous) days in duration. Specifics regarding this

requirement must be approved by the student's advisor and the Oceanography Graduate Coordinator. A student may have this requirement waived under special circumstances or by demonstrating previous oceanic cruise experience; the waiver must be signed by the advisor and the Graduate Program coordinator and placed in the student's file.

## **Annual Review**

A review of the progress of all Oceanography Students will be conducted annually by the entire Oceanography Program faculty to provide students with feedback and specific recommendations for improvement. The review will consider grades for courses taken as well as progress of the student toward accomplishing thesis or dissertation research. The review comprises three steps: 1) student self-assessment, 2) Advisory Committee assessment, and 3) Oceanography faculty assessment.

A "Milestones" form (AKA "Tracking" form) will help the student, advisor, and Advisory Committee monitor progress and completion of requirements. The student and Advisory Committee are responsible before each annual review to update timelines for the student's milestones, including completion of the degree. This step is particularly crucial for part-time students.

### **1. Student Self-Assessment**

In preparation for the annual faculty review, and during the two months prior to the review, each student will prepare:

- a. a one-page summary of progress made during the previous year, with supporting figures and tables as necessary,
- b. a one-page statement of work to be undertaken in the coming year, and
- c. a self assessment of strengths and goals for improvement, including how the student plans to achieve the latter and what resources he/she may need to do so. If the student requires financial assistance (e.g., for a course outside the university or to attend a meeting), the student should include a budget and be prepared to discuss the resources required.

### **2. Committee Meeting:**

Before the annual faculty review, the student will meet with his/her committee to:

- a. present the written material (#1, above) to the committee,
- b. discuss progress and future plans, and
- c. receive oral and written feedback from the committee. The advisor is responsible for the written assessment.

### **3. Faculty Assessment**

Both sets of written material (# 1a, b, c and #2c, above) and grades will be made available to all faculty at the annual review. The review by the entire faculty is intended to make assessments fair and uniform, establishing consistent standards for knowledge, skills and abilities across the Oceanography Program. Following the meeting of the faculty, each student will receive a written evaluation, prepared by the Oceanography Program

Coordinator, that summarizes the faculty assessment no later than one month following the Graduate Student Symposium.

Should the faculty find the progress of the student to be “unsatisfactory,” they may recommend corrective action. Should the faculty find the progress of the student as “continuing to be unsatisfactory,” they may recommend that the student be dismissed from the Oceanography Program. Such action must be approved by a majority of the Oceanography Graduate Faculty, with concurrence by the Oceanography Program Coordinator and the Director of the School of Marine Sciences.

### **M.S. Degree Requirements**

In the following description, requirements are labeled according to whether they originate from the Graduate School (**GS**; for full details of those requirements see the Graduate Catalog or current Graduate School web site) or the Oceanography Degree Program (**ODP**).

1. Credit Requirements (**GS**): A minimum of 30 semester hours, including thesis credits, is required. At least six thesis credits, but no more than 15, will be applied toward the degree. A minimum of 15 credit hours of 500- and 600-level coursework is required, including the core Oceanography courses. Only courses at the 400 level and above can be used for graduate credit. The student, in consultation with his/her committee, will select courses most appropriate for his/her career goals.
2. Grades and Credits (**GS**): In general, only a grade of “B-” or better is acceptable for coursework on a student’s program of study, including core Oceanography courses. A grade of “C” may carry graduate credit, if so recommended by the student’s Advisory Committee and approved by the Graduate School; however, no more than 6 credits of “C” grade on a student’s Program of Study can apply toward the GS credit requirement. Audited and Pass-Fail courses are normally not accepted for graduate degree credit.
3. Transfer Credit (**GS**): A maximum of six credits may be transferred from another graduate degree-granting institution, subject to approval by the student’s Advisory Committee. In addition, a total of six credit hours may be transferred from appropriate coursework taken at the University of Maine before matriculation into a graduate degree program.
4. Full-time Registration (**GS**) is defined as six or more course credits per semester.
5. Residence Requirement (**GS**): At least 50 % of the coursework to be applied toward the degree must be taken through the University of Maine.
6. Time Limit (**GS**): All work toward the degree should be completed in two –to three years (but MUST be completed within six years) of first registering for work toward the M.S. degree. The student may petition for an extension for filing an “Exception to Regulation” that must be approved by the advisor, the Graduate Coordinator, and the Graduate School.

7. Advisory Committee (**GS**): The Advisory Committee for the M.S. degree comprises a minimum of three members of the Graduate Faculty. The graduate student, in conjunction with his/her advisor, is responsible for establishing the student's Advisory Committee. If a member of the committee is from outside the University of Maine, the proposed committee member must first be recommended for appointment to the Graduate Faculty by the Graduate Program Coordinator and appointed by the Director of the Graduate School.

**ODP-specific Requirements:** At least two of the three members must be from the Oceanography Graduate Faculty. The Advisory Committee should be formed before the beginning of the student's second semester.

8. Thesis Requirement (**GS**): A thesis is required of all M.S. degrees unless a non-thesis option is specifically given. **ODP-specific Requirement:** The Oceanography Degree Program does not presently offer a non-thesis degree.

9. Thesis Proposal, **ODP-specific Requirement:** In addition to the preliminary thesis topic identified in the Program of Study, a more developed thesis proposal should be submitted to the Advisory Committee before the student's second annual review. A copy of the final version of the proposal will be included in the student's file.

10. Final Examination (**GS**): A final examination for the M.S. degree is required of a student in a thesis program. The examination is the responsibility of the student's Advisory Committee, and only it will evaluate the student's performance. Other members of the faculty may attend and participate in the questioning. **ODP-specific Requirement:** This examination will be given orally. The examination will begin with a public seminar, followed by questions from the audience, after which all members of the public will withdraw. Questions pertaining to the student's thesis will be asked by the Advisory Committee and interested faculty members. The examination will be scored as either a Pass or Fail. In the event of a Fail, the examination may be re-taken at a time to be determined by the student's Advisory Committee but within six months of the initial exam.

11. Application for Graduation (**GS**): A candidate for a M.S. degree must submit an "Application for Degree" to the Office of Student Records according to an established set of dates. The student is responsible for checking with the Graduate School to verify all deadlines.

## **Ph.D. Requirements**

In the following description, requirements are labeled according to whether they originate from the Graduate School (**GS**; for full details of those requirements see the Graduate Catalog or current web site) or the Oceanography Degree Program (**ODP**).

1. Credit Requirements (**GS**): A minimum of 12 hours (exclusive of dissertation credits) of 500- and 600-level coursework is required. Only courses at 400 level and above can be used for graduate credit. After admission to candidacy (please see No. 12, below), a doctoral student must register for a minimum of six credits of dissertation research (SMS 699). **ODP-specific Requirement:** In addition to fulfilling the requirements for the

Oceanography core courses (10 credits), a student in the Ph.D. program must take at least six additional credits of coursework at the 500 level, or higher, in Oceanography.

2. Grades and Credits (**GS**): In general, only a grade of “B-” or better is acceptable for coursework on a student’s program of study, including the core Oceanography courses. A grade of “C” may carry graduate credit, if so recommended by the student’s Advisory Committee and approved by the Graduate School; however, no more than six credits of “C” grade on a student’s Program of Study can apply toward the GS credit requirement. Audited and Pass-Fail courses are normally not accepted for graduate degree credit.

3. Transfer Credit (**GS**): A maximum of 30 credits beyond the bachelor’s degree may be transferred from another graduate degree-granting institution, subject to approval by the student’s advisory committee. In addition, a total of six credit hours may be transferred from appropriate coursework taken at University of Maine before matriculation in a graduate degree program. In no case may the number of credit hours transferred into a graduate degree program exceed 50 % of the student’s entire coursework for the degree.

4. Residency Requirement (**GS**): The minimum residence requirement for the Ph.D. is met by registering for courses or dissertation research through the University of Maine for four semesters beyond the baccalaureate degree or two semesters beyond the M.S. degree.

5. Full-time Registration (**GS**) is defined as six or more course credits per semester. After admission to candidacy (see No. 12, below), one dissertation credit per semester may be considered full time.

6. Time Limit (**GS**): All work for a doctoral degree must be completed within eight years; completion within four to six years is highly recommended. **N.B.:** this requirement has two parts: 1) a student must be admitted to candidacy within four years of his/her first registration within the Ph.D. degree; and 2) the dissertation must be completed within four years of admission to candidacy. The student may petition for an extension for filing an “Exception to Regulation” which must be approved by the advisor, the Graduate Coordinator, and the Graduate School.

7. Advisory Committee (**GS**): The Advisory Committee for the Ph.D. student is composed of a minimum of five members of the Graduate Faculty. It is recommended that one member of the Advisory Committee be from the Graduate Faculty of a department other than that of the student’s degree program. The graduate student, in conjunction with his/her advisor, is responsible for establishing the student’s Advisory Committee. If a member of the committee is from outside the University of Maine, the proposed committee member must first be recommended for appointment to the Graduate Faculty by the Graduate Program Coordinator and appointed by the Director of the Graduate School. **ODP-specific Requirement:** At least three of the five members must be from the Oceanography Program Graduate Faculty. The Advisory Committee should be assembled before the beginning of his/her second semester of registration within the Ph.D. degree program.

8. Examinations to Determine Admission to Candidacy (**GS**): Comprehensive examinations may be written, oral, or both, and will be administered by the student's academic unit and passed to the satisfaction of the Advisory Committee. These examinations may not be taken until the student has completed at least 1.5 years beyond the bachelor's degree, but must be successfully passed within four years of entry into the doctoral program. **ODP**-specific Requirements: Doctoral students must pass two exams in order to advance to Candidacy for the doctoral degree – a Written Comprehensive Examination and an Oral Dissertation Examination. The purpose of the written exam is to examine the student's ability to synthesize his/her oceanographic coursework and readings of the literature. The purpose of oral exam is to document the student's ability to formulate both a suite of testable hypotheses and a plan of research that together are likely to lead to publishable findings.

9. Written Comprehensive Examination (**ODP**-specific Requirements): Normally this exam will be taken in the fourth semester of study (Feb.-March) as a Ph.D. student. The written exam will consist of three 3-hour sessions. A first day of two 3-hour sessions will pose broadly integrative oceanographic questions, and a second day of one 3-hour session will focus on the student's particular area of specialization, which may or may not be a traditional sub-discipline of oceanography. The faculty who teach the core Oceanography courses will design and evaluate this exam, with input from the entire Oceanography faculty. Within one month of the exam, the student will be passed; failed with an opportunity to retake the test once more (either in its entirety or in part, depending on the student's performance); or failed and asked to withdraw.

10. Oral Dissertation Examination (**ODP**-specific Requirements): Normally this exam will be taken before the end of the fourth semester of study as a Ph.D. student, but within a year of successful passing of the Written Comprehensive Examination. The oral exam will focus on the student's dissertation proposal (please see No. 11, below), which must be submitted to the student's Advisory Committee a minimum of two weeks prior to the oral exam. At the oral exam, the student will present his/her proposal to the public (30 minutes), followed by a period of public questioning (< 30 minutes). The Advisory Committee, joined by other Oceanography faculty members, will provide a more intensive oral exam on the order of two hours duration on the material contained in the dissertation proposal plus any fundamental science (oceanographic or otherwise) related to the proposed work. This exam will focus on the student's mastery of the field necessary to perform the research, as well as thinking skills (e.g., ability to critique, quantify, and generate hypotheses) necessary for successful pursuit of research. The Advisory Committee must agree unanimously to a conclusion of pass, fail with an opportunity to retake the test once more, or fail and withdraw from the Program. The Advisory Committee may recommend additional coursework or other means of acquiring skills as a result of this examination.

11. Dissertation Proposal (**ODP**-specific Requirements): In addition to the preliminary dissertation proposal, filed at the time of submission of the Program of Study, a fully-developed dissertation proposal of approximately 10 text pages in length must be submitted to the Advisory Committee at least two weeks before the Oral Dissertation



Examination (please see No. 10, above). A copy of the final version of the proposal will be included in the student's file.

12. Admission to Candidacy (**GS**): Admission to candidacy signifies that the student has successfully fulfilled all degree requirements except for completing the dissertation, the final oral examination, and a few courses, if appropriate. A student in a Ph.D. program will be admitted to candidacy when the Graduate School is informed that the student has successfully passed the Written Comprehensive Examination, the Oral Dissertation Examination, and has met any other departmental requirements. After admission to candidacy (please see No. 1, above), a doctoral student must register for a minimum of six credits of dissertation research (SMS 699).

13. Dissertation (**GS**): The doctoral dissertation must demonstrate the candidate's mastery of the area of research and must embody the results of an original investigation in the principal field of study. Other requirements, including manner of submission and style are obtainable from the Graduate School.

14. Final Examination (**GS**): After the dissertation has been accepted by the candidate's Advisory Committee, the candidate will appear for a final oral examination by an examining committee of no fewer than five members (i.e., the student's Advisory Committee); if substitutions are necessary, additional members may be appointed to the student's Advisory Committee by the Graduate School. Other members of the faculty may attend and participate in the questioning, but only members of the committee may evaluate the student's performance. The original dissertation must be presented to the Graduate School within its required time limits, available on the Graduate School's web site. **ODP-specific Requirements:** The examination will be given orally and will continue as long as necessary. The examination will begin with a public seminar, followed by questions from the audience, after which all members of the public will withdraw and additional questions will be asked by the student's Advisory Committee and interested faculty members. The questioning may range beyond the topic of the student's dissertation to general aspects of the oceanographic sciences. This examination is scored as either a Pass or Fail. In the event of a Fail, the examination may be re-taken once at a time to be determined by the student's Advisory Committee.

15. Application for Graduation (**GS**): A candidate for a degree must submit an "Application for Degree" to the Office of Student Records according to an established set of dates. The student is responsible verifying all Graduate School deadlines.

## **Requirements for an M.S. Degree in Marine Policy at the University of Maine**

The Master of Science degree in Marine Policy in the School of Marine Sciences is designed to take advantage of the strong interdisciplinary nature of the School. All students in the program will receive training in the social science aspects of marine resource management, in marine sciences, and in empirical methods. In addition, students will be expected to gain expertise in either living natural resources or coastal zone management.

### **The Graduate Program Coordinator**

The current Graduate Program Coordinator in Marine Policy (and the Dual Degree Program) is Dr. Teresa Johnson. Her contact information is:

Teresa Johnson  
Associate Professor of Marine Policy  
200 Libby Hall  
(207) 581-4362  
Teresa.Johnson@maine.edu

### **Degree requirements**

A total of 30 credit hours, consisting of 24 hours of course credits and 6 credit hours for thesis/internship, are required to complete the M.S. in Marine Policy.

### **Six credit hours of required coursework**

The following two courses are required and must be taken by each student in the program:

- SMS 552 Coupled Natural & Human Systems (3 credit hours), and
- SMS 567 Knowledge and Participation in the Science Policy Process (3 credit hours)

### **Eighteen credit hours of elective coursework**

The program is designed to give students as much flexibility as possible so that they can take advantage of the various faculty specialties available to them within the School of Marine Sciences and elsewhere in the University. The student and his or her committee will design a program of study. Students will usually take all of their courses at the University of Maine either on the Orono campus or at the Darling Marine Center, but courses taken at the University of Maine School of Law (in Portland) or elsewhere may be credited toward the degree.

### **Six credit hours for thesis/internship**

The program offers both a thesis and a non-thesis option.

Students selecting the thesis option take *SMS 699 - Graduate Thesis (6 credit hours)* and will write a master's thesis that combines theoretical work and research applied to pressing problems. A student's advisory committee must approve a thesis plan in the second semester of the student's enrollment in the program.

Students selecting the non-thesis option take *SMS 683 - Internship in Marine Policy (6 credit hours)* and will undertake an internship with a government agency, a non-governmental organization in the marine area, or a private firm directly concerned with management of marine natural resources or coastal zone management. An internship involves working for the equivalent of three months, full time with the organization. Students in internships write a final paper linking their internship experience with the theoretical and practical literature. A student's advisory committee must approve internship plans prior to beginning the internship.

### **Courses available to students**

A student and his or her advisory committee can draw upon a large variety of courses both within SMS and elsewhere at UMaine when designing a program of study. The list below is intended to be illustrative only. Other courses are not precluded.

<b>Course Number</b>	<b>Course Name</b>	<b>Likely Semester</b>	<b>Instructor</b>
<b>ANT 464</b>	Ecological Anthropology	Fall	Hanes
<b>ANT 550</b>	Anthro. Dimens. of Enviro. Policy	Spring	Isenhour
<b>ANT 553</b>	Inst and Mngmt of Common Pool Resources	Spring	Beitl
<b>ANT 555</b>	Resource Mngmt-Cross Cultural Perspective	Varies	Isenhour
<b>ECO 420</b>	Intermediate Microeconomics	Fall	TBD
<b>ECO 477</b>	Economics of Environmental and Res. Mgt	Spring	Rubin
<b>ECO 581</b>	Socio-ecological Systems Modeling	Fall	Waring
<b>INT 563</b>	Marine Benthic Ecology	Spring	Steneck
<b>SIE 510</b>	Geographic Information Systems applications	Spring	Beard
<b>SMS 513</b>	Broadening the Impacts	Fall	Decharon
<b>SMS 551</b>	Marine Resource Management	Fall	Evans
<b>SMS 552</b>	Coupled Natural and Human Systems	Spring	TBD
<b>SMS 557</b>	Coast Prac. and Coast. Zone Mngmt	Fall	Kelley
<b>SMS 562</b>	Fisheries Population Dynamics	Fall	Chen
<b>SMS 567</b>	Knowl. & Part in the Science Policy Process	Spring	Johnson
<b>SMS 597</b>	Independent Study	All	TBD
<b>SMS 598</b>	Special topics	Spring	Johnson
<b>SMS 598</b>	Special topics	Fall	Evans
<b>SMS 598</b>	Coastal and Marine Law	TBD	TBD

## **Requirements for the Dual M.S. Degree in Marine Policy and Sciences at the University of Maine**

The School of Marine Sciences offers a unique, strongly interdisciplinary dual degree program in marine policy and science. The course of study is normally three years. It leads to two master's degrees: one in marine science (specializing in Marine Biology or Oceanography) and one in Marine Policy.

Students are required to complete the requirements for a master's degree in one of the marine sciences and the requirements for a marine policy degree. Six hours of each degree can be counted as electives for the other; as a result a total of only 48 hours is required to complete both degrees (rather than the 60 usually required for two completely independent masters degrees). The course requirements for the science degrees are described above. For the policy degree, students complete 18 hours of social science courses, including 6 hours of required courses, with 6 additional course credits counted from the science degree.

<b>Marine Policy Degree</b>	<b>Credit hours</b>	<b>Marine Science Degree</b>	<b>Credit hours</b>
<b>Required Courses</b>	<b>6</b>	<b>Marine science courses</b>	<b>18</b>
<b>Social science electives</b>	<b>12</b>	(Including required courses)	
<b>Thesis/Internship</b>	<b>6</b>	<b>Thesis</b>	<b>6</b>
<b>Counted from Science degree</b>	<b>6</b>	<b>Counted from Policy degree</b>	<b>6</b>

### **Thesis/Internship Options**

Students in the dual-degree program may fulfill the thesis/internship requirements for the two degrees in one of three ways (via SMS 699 or SMS 683):

1. A separate thesis may be written for the science degree and for the policy degree.
2. A thesis may be written for the science degree and an internship completed for the policy degree. A student's advisory committee must approve internship plans prior to beginning the internship.
3. A single thesis may be written combining a joint science and policy topic that contains a substantial amount of information on both policy and science. This option is strongly recommended.

### **Advisory Committee**

Students in the dual-degree program will have two graduate advisors, one from the natural science and one from marine policy. The graduate advisory committee, at a minimum, consists of the two advisors plus one additional member from the natural sciences and one from the social sciences, *i.e.*, a committee of at least four members. A program of study for each degree, including thesis or internship plans, must be developed and approved by the advisory committee and the respective graduate program coordinators by the end of the third semester of the student's tenure in the program.

## Graduate School Information and Forms

The Graduate School's web site, <http://www.umaine.edu/graduate/>, has a wealth of useful information (including scholarships, awards, and assistantships, and tax information regarding such support), and links to relevant sites. We encourage you to explore these early in your graduate career. Some competitions for support occur annually, and you and your advisor should be aware of and watch for these.

The link on the home page to "Forms & Documents," <http://www.umaine.edu/graduate/gs-documents-and-forms>, has the latest version of forms that most students and their advisory committees must complete during the students' graduate program. Most of these are listed in your program's Milestones ("tracking") document and in the summary table of requirements and deadlines.

*\*\* SOME ADVICE ABOUT PAPERWORK: Before you can receive your degree, your Graduate Program Coordinator must certify that you have met all of the requirements. This involves checking your personnel file, which should include copies of academic transcripts, all required documents such as the Program of Study, certification that you passed your comprehensive examination, results of the final oral examination and thesis acceptance, etc. Each time one of these forms is completed and signed, you should make photocopies for your own and your advisor's files, as well as giving the original to the SMS Administrative Coordinator, Ms. Susanne Thibodeau, who will retain a copy for your personnel file in the main office and convey the original to the Graduate School. Most of these documents will be returned to SMS after the Graduate School staff has recorded them, but it is safest also to keep the additional copies. There is also a helpful Milestones (tracking) Form that you and your advisor should keep up-to-date in your files. \*\**

## Additional Information That You Might Not Learn Elsewhere

1. Thesis and Dissertation Preparation: Your thesis or dissertation will be the culmination of the original research that you conduct during your graduate program and should be prepared with this in mind. The Graduate School has precise guidelines for the format of these documents, GUIDELINES THAT YOU MUST FOLLOW EXACTLY. These are given in a detailed document, "Guidelines for Thesis and Dissertation Preparation," available on the Graduate School's web site under the link to "Graduate School Documents." Your thesis or dissertation will be reproduced and held in the Library for dissemination to any scholar who requests it, and ensuring a consistent format for the many such documents is the underlying reason for the guidelines. Even a small deviation from the guidelines can result in a delay in the acceptance of your thesis by the Graduate School.

*\*\* Despite its importance, you will write only one dissertation (and perhaps one thesis as well), but you may write dozens of scientific articles in professional journals during your career after graduate school. Accordingly, most students write their thesis or dissertation with an eye toward publishing it (an expectation by most graduate advisors), and indeed some publish parts of their research before writing the dissertation. Especially in the case of a dissertation, the research is usually extensive enough to warrant several publications, perhaps in journals having different styles. This can be accommodated in preparing your dissertation by dividing it into chapters in each of which the style matches that of the journal where you may submit it. All that is necessary is to be certain that the overlying format and organization of the thesis or dissertation conform to the requirements set by the Graduate School. Please be sure to familiarize yourself with the guidelines well before you start to assemble your thesis. \*\**

2. Medical Benefits: The University of Maine requires that its graduate students have medical insurance, and offers such insurance to graduate assistants who do not have alternative coverage. Graduate Assistants, Fellows, and Trainees are *automatically* enrolled in the plan, so those who already have comparable coverage must sign a waiver form declining the UMaine plan. Students appointed as Graduate Research or Teaching Assistants will have received a letter informing them of the details. The letter and a brochure (Student Sickness and Injury Insurance Plan) are also available via a link from the home page of the Graduate School's web site, as is the waiver form and a form for enrolling dependents. The University of Maine Graduate School pays 50% of the insurance cost for Graduate Teaching Assistants (mandatory). The grant paying the stipend for Graduate Research Assistants pays 50% of the insurance cost (mandatory) and may pay up to 100%. The University does not pay any portion of the health insurance expense for Graduate Research Assistants. You should consult with your advisor or the grant administrator, and if necessary, with Ms. Jessie Gunning (Grants Manager and Fiscal Officer in SMS), about your details.
3. Taxes: Graduate Assistantship salaries are subject to tax withholding. If you received a scholarship or fellowship, all or part of it may be taxable, even if you did not receive a W2 form; in most cases this information is available from the source of the

scholarship or fellowship. International students and non-resident aliens may be subject to specific provisions of tax treaties between their country of residence and the U.S. Please refer to the Graduate School's web site, where there are links to some informational documents such as "General Rules on Taxation of Scholarships & Fellowships" and "Scholarships & Other Payments to International Students Who Are Non-Resident Aliens (Not U.S. Residents)". The Internal Revenue Service publishes a number of documents relevant to graduate students. A good starting point on the web is: <http://www.irs.gov/individuals/students/>.

4. Getting Involved within the School of Marine Sciences and the University of Maine: Faculty, staff, and graduate students in SMS are scattered among many buildings on the Orono campus and at the Darling Marine Center. This requires extra effort to establish a sense of community. There are several academic and social events throughout the academic year in which we encourage you to participate.

- In early September, at the end of the first week of classes, there is a barbecue on the lawn in front of Aubert Hall; all SMS faculty, staff, graduate students, and undergraduates are invited.
- Soon thereafter, following the orientation session for new graduate students, the SMS seminar series commences in the first or second week of fall classes and continues weekly throughout the year (see below).
- SMS 500 and SMS 501 (required for graduate students in Marine Biology and Oceanography, respectively (and Dual Degree students) often coordinate a field trip to the Darling Marine Center, where students engage in oceanographic and seaside sampling.
- Near the end of Fall Semester there is a Holiday party for all SMS personnel and their families.
- At the end of Spring Semester we hold the annual SMS Graduate Student Symposium at the Darling Marine Center. This overnight event includes not only student oral presentations and posters, but is also a good occasion to socialize.

Our weekly seminar series brings us together to hear research talks by visiting scientists and members of our own community, and *graduate students are required to attend*. Even if a seminar seems unrelated to your research interests, you will probably learn something from it. Refreshments are provided at 10:45, prior to the 11:15 seminars, on Friday mornings in Aubert Hall. Students resident at the DMC or GMRI will participate in the seminar series by polycom connection. Suggestions for speakers are welcome, and graduate students annually select a distinguished scientist to present a seminar.

SMS graduate students have formed a SMS social committee that organizes a monthly social event, usually on the first Friday of each month, at a local restaurant. Posters and email announcements are disseminated well in advance. This is a good opportunity to mingle with fellow graduate students and faculty in a relaxed atmosphere.

Other SMS graduate student activities have included playing soccer, organizing an intramural sports team, or going on an outdoor activity. These types of activities are usually initiated by a group of students—ask around if you are interested, or initiate

something yourself. Maine's nickname is "Vacationland" and the State offers excellent opportunities for hiking, camping, kayaking, skiing, snowshoeing, etc. Take advantage of your surroundings.

On a more academic note, there are several not-for-credit, interest-driven "journal clubs" on campus that may be of interest to you for your research. Often the journal club is focused on a topic and is cross-departmental, *e.g.*, evolutionary biology (some Biological Sciences laboratory groups and SMS laboratory groups), phycology (SMS groups, together with Molecular and Biomedical Sciences groups), etc. Ask around. Journal clubs typically welcome new members and provide a great way to keep up with the current scientific literature. Graduate Students are encouraged to work with interested faculty members to discuss special topics courses not in the Graduate Catalog, and journal clubs for more informal discussions of the recent literature.

The Association of Graduate Students (AGS) is one of the most important student-run organizations on campus. The AGS represents all graduate and professional students in addressing issues that specifically concern graduate education and graduate student life. The AGS is governed by a board of representatives that includes one graduate student from each department for every 50 graduate students in that department. This means that the School of Marine Sciences requires 1–2 representatives each year. This board meets every other week to vote on matters of policy, procedure, and budget, and these meetings are open to all graduate students. The primary functions of the AGS are to influence University policy decisions, provide representation on University committees, and sponsor special services to graduate students. These services include providing grants for research and travel (an important local source of funds for which you are encouraged to apply), supporting graduate clubs and organizations, co-hosting the annual Graduate Recognition Ceremony, and sponsoring educational and social events. The AGS is funded primarily by activity fees paid by graduate students. For more information about the AGS, graduate students are encouraged to visit the AGS office on the third floor of the Memorial Union, or call 581-4548.



## **Appendix 1. “Milestones” (tracking) Document for graduate degrees in Marine Biology**

The Marine Biology and Oceanography “milestones” documents have been transferred to the SMS Student Navigator system for completion there. However, some students find it helpful to use this document (from July, 2013) to maintain their own hard copy of the information requested. An electronic copy of this form is available from the Marine Biology Graduate Program Coordinator.

### **SMS Graduate Marine Biology Program: “Milestones” Form**

Original to be kept by SMS office; copies kept by Student, Advisor, and Graduate Coordinator; *Student must update form at end of each semester.*

(Revised October, 21, 2010, by Marine Biology Faculty and Graduate Coordinator Susan Brawley)

*(In Student Navigator, enter the following information by editing the bio section of your record; if you don't see “bio”, your faculty advisor should be able to access this part)*

Name:

Advisor:

Studying for: \_\_\_\_ M. S. or \_\_\_\_ Ph.D. (check one)

Joint Program? (specify what programs)

Program Start Date:

Support Source and Duration:

Yr. 1 (M.S./Ph.D.):

Yr. 2 (M.S./Ph.D.):

Yr. 3 (M.S./Ph.D.):

Yr. 4 (Ph.D.):

Yr. 5 (Ph.D.):

Yr. 6 (Ph.D.):

Advisory Committee for M. S. or Ph.D. degree:

Date formed:

Members of Committee (3, if M.S. Committee; 5, if Ph.D. Committee):

Chair:

Co-Chair or Committee Member 2:

Committee Member 3:

Committee Member 4:

Committee Member 5:

Working title for M. S. thesis or Ph.D. dissertation

*(See “milestones” section of your record in Student Navigator; these can be checked off; enter notes from meetings either as comments or upload documents)*

Milestones:

- ☐ Orientation (beginning of 1st semester)
- ☐ Formal Progress Assessment with Advisor(s) (during 1st semester)
- ☐ M. S. Committee formed (by end of 1st semester)
- ☐ M. S. Program of Study (POS) filed (copy to SMS office)
  - ☐ Single M.S. degree (by end of 1st semester)
  - ☐ Joint M.S. degree students (by end of 2nd semester)
- ☐ Ph. D. Committee formed (by end of 2nd semester)
- ☐ Ph. D. Program of Study (POS) filed (by end of 2nd semester) (copy to SMS office)
- ☐ Public Thesis or Dissertation Research Proposal Seminar presented
- ☐ M. S. (by end of second semester) ☐ Ph.D. (by end of fourth semester)
- ☐ Written Thesis or Dissertation Proposal approved by Committee (append)
  - ☐ M. S. (beginning of third semester) ☐ Ph.D. (beginning of 5<sup>th</sup> semester)
- ☐ M. S. Written Qualifying Exam passed (for students matriculating before Fall 2010 *if selected instead of a Public Thesis Proposal Seminar*)
- ☐ Ph. D. Candidacy Exams passed (by end of fourth semester).

(Remember to file Comprehensive Exam form with SMS Office & Graduate School)

List areas of written exams [see *Graduate Handbook, Marine Biology Program*, for areas allowed for the 4 written area exams] and date oral exam passed:

Date Taken:

Subject Areas Covered:

- ☐ Application for Advanced Degree form filed \_\_\_\_\_(date)  
(file form on MaineStreet near beginning of final semester: available on Office of Student Records' website with the [variable] due date posted there)
- ☐ Notice of Oral Examination form filed with Graduate School (two weeks prior to thesis/dissertation defense)

\_\_ Tentative thesis acceptance form (Committee signatures needed, filed with Graduate School 5 days before thesis/dissertation defense along with thesis) (In 2011, the last day to defend is 22nd April).

\_\_ Oral examination and Final thesis acceptance form (filed with Graduate School after Defense; Committee votes and signatures required).

\_\_ Completion of Requirements form (file with Graduate School following thesis/dissertation defense; requires MB Graduate Coordinator's signature and final copy of the updated Program of Study form)

\_\_ Graduated (date)\_\_\_\_\_

(Program of Study forms must be filed with the Graduate School, SMS office, and copies kept by the Advisor and Student; Revisions can be made throughout graduate study with the permission of the Committee. All members of the Committee must sign the POS. Committees of students studying for the Ph.D. usually have 1-2 members who are not SMS faculty members and one of these is often external to the University of Maine, but the external member must be appointed to the Graduate Faculty at Maine.).

Comments:

**Completion of Course/Credit Requirements:**

*N.B.* Marine Biology M.S./Ph.D. students are expected to attend SMS weekly research seminars with regularity when in residence in Orono, the DMC and/or GMRI. These are currently held at 11:15 a.m. on Fridays.

\_\_ **Statistics** (either MAT 437 or PSE 509 or approved equivalent) \_\_\_\_\_

\_\_ **Basic competency in descriptive oceanography**, equivalent to SMS 302, and how completed: ☐ SMS 302 as UMaine undergraduate *or* ☐ SMS 598 Oceanography (SMS 302 plus discussion section for graduate students) *or* ☐ equivalent at another institution (indicate course number, credit hours, institution, and grade: \_\_\_\_\_)

\_\_ **SMS 691** (a 1 credit seminar taken in the spring semester of the first year of study).

\_\_ **Other Courses** (Minimum of 12 credit hours total of 500 & 600 level courses [excluding research credits] is required as part of the 30 credit hours required for the M.S. degree; a minimum of 24 credit hours of course work and research must be completed in residence for the Ph.D. The Committee can approve transfer of prior graduate course work as part of the POS, but this can not exceed 50% of the total course work required for the degree. For M. S. students, a maximum of 6 credit hours can be transferred; for Ph.D. students, a maximum of 30 credit hours can be transferred beyond the B. A./B. S. degree.

- Joint Degree M.S. students require 3 years total for completion of both degrees; 9 credit hours can be counted toward both the Marine Biology and Marine Policy degrees); Ph.D. study is normally completed in 4-5 years, depending upon type of support for graduate study.

Course #	Title	Cr	Semester Completed	Grade

**SMS 699 (Graduate Research)** Completed (list credits/year)

Yr 1:              Yr 2:              Yr 3:              Yr 4:              Yr 5:

**SMS 699 is graded** as P (pass), I (incomplete), or F (fail) and to receive a P at the end of the semester, the student and his/her major professor must agree to goals for the semester's work at the beginning of the semester in which such work is elected. Please fill in these goals after meeting with your major professor at the beginning of any semester in which you are registered for Research Credits (M.S. thesis or Ph.D. dissertation).

Semester	Research goals that must be completed for Pass Grade	Date

**Record of advisory Committee meetings:**

Semester	Comments/Recommendations	Date

**Participation in SMS Graduate Student Symposium** (typically held at the DMC in mid-May)

Year; Presentation Type (Typically rotating between poster and oral after Yr. 2)

- ☐ Yr. 1 Poster
- ☐ Yr. 2 Oral Presentation
- ☐ Yr. 3
- ☐ Yr. 4
- ☐ Yr. 5
- ☐ Yr. 6

**Annual Student Review by Marine Biology Faculty:**

- ☐ Yr 1
- ☐ Yr 2
- ☐ Yr 3
- ☐ Yr 4
- ☐ Yr 5
- ☐ Yr 6

**Append separate sheets for each year of study for:**

***(In Student Navigator, upload these assessments as documents and associate them with the appropriate yearly "Milestones Updated" milestone.)***

**1. Student Self-Assessment**

- a. a one-page summary of progress made during the previous year, including a list of scientific meetings attended, abstracts presented at meetings, and/or publications,
- b. a one-page statement of work to be undertaken in the coming year, and
- c. a self-assessment of her/his progress, strengths, and weaknesses.

**2. Advisory Committee Assessment**

Feedback from the Committee, written by the Advisor.

**3. Marine Biology Faculty Assessment**

Summary of Marine Biology faculty assessment from faculty Annual Review, written by the Graduate Coordinator.

## Appendix 2. “Milestones” (tracking) Document for graduate degrees in Oceanography

The Marine Biology and Oceanography “milestones” documents have moved to the online Student Navigator system for completion there. The information requested and format will change, reflects the following 6-page document is in effect, which may be helpful for organizing your records. An electronic copy of this form is available from the Oceanography Graduate Program Coordinator

### **SMS Graduate Oceanography Program: “Milestones” Form**

*Files to be kept by student, advisor, Oceanography Program coordinator*

**Submit by [date] to [Graduate Program Coordinator]**

**Name:** \_\_\_\_\_

**Please email address:** \_\_\_\_\_

**Advisor:** \_\_\_\_\_

**Candidate for (M.S. or Ph.D):** \_\_\_\_\_

**Status (full-time/part-time):** \_\_\_\_\_

**Program Start Date:** \_\_\_\_\_

### **Support Source and Support Duration:**

This academic year (2011–2012):

Next academic year (2012–2013):

Any upcoming breaks in funding, if known:

### **Advisory Committee for Thesis or Dissertation:**

Date formed \_\_\_\_\_; list members below:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Proposed Topic of Thesis or Dissertation Research:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Milestones (enter date of completion of task):**

\_\_\_ Orientation:

\_\_\_ Advisory Committee formed:

\_\_\_ Program of Study filed:

*Completion of credit requirements; indicate status and number (if applicable):*

\_\_\_ Core courses:

If not completed, state reason: \_\_\_\_\_

\_\_\_ Advanced courses:

If not completed, state reason: \_\_\_\_\_

\_\_\_ Thesis/dissertation credits; number to date: \_\_\_\_\_

\_\_\_ Cruise experience (dates and vessel(s)): \_\_\_\_\_

**If student is in M.S. degree program:**

\_\_\_ Submitted thesis proposal:

**If student is in Ph.D. degree program (enter date):**

\_\_\_ Passed written comprehensive exam:

\_\_\_ Submitted dissertation proposal:

\_\_\_ Passed oral dissertation exam:

**Anticipated date of degree completion:** \_\_\_\_\_



**Course Work completed:**

<u>Course (title and number)</u>	<u>Semester</u>	<u>Grade</u>
----------------------------------	-----------------	--------------

*Core Courses:*

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

*Elective and Advanced Courses:*

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**Participation in SMS Graduate Student Symposium**

Year \_\_\_\_\_ indicate if presentation was oral or poster

**Record of Advisory Committee Meetings (should be at least one per year):**

<u>Date</u>	<u>Comments and/or recommendations</u>
-------------	--

Self-Assessments (written by the student); append separate, named and dated sheets; include your name in the document file names:

1. one-page (max.) summary of your progress during the previous year, with supporting figures and tables as necessary; include any meetings you have attended; classes you have TA-ed; et cetera.
2. one-page (max.) self assessment of your progress, including strengths, weaknesses, and any needs related to successful achievement of your program goals;
3. one-page (max.) statement of work you plan to undertake in the coming year.

Additional assessments will be forwarded to the student, when completed:

1. Advisory Committee Assessment (written by the advisor), including feedback from the student's committee.
2. Faculty Assessment (written by Graduate Coordinator), including summary from the annual student evaluation by Oceanography Faculty (held at the end of spring semester, if possible following the Graduate Student Symposium).

### **Appendix 3: Criteria for Appointment to the Graduate Faculty**

In order to serve on Graduate Advisory Committees or advise graduate students, faculty must be appointed to the University of Maine Graduate Faculty. The prospective committee member fill out a "Record of Qualifications" form (available from Graduate School Website), which is then reviewed and approved by the appropriate Graduate Program Coordinator and SMS Director and submitted to the Graduate School for final approval and appointment. The Dean of the Graduate School evaluates all requests for graduate faculty appointment according to the following criteria, which were voted on and approved by the faculty of the School of Marine Sciences. The following document was approved by the SMS faculty in December 2006 and accepted by the Graduate School in January 2007.

#### **School of Marine Sciences Appointments to the Graduate Faculty**

Appointments to the Graduate Faculty in the School of Marine Sciences are determined by rules described under Article III of the Graduate School constitution and by the guidelines set forth below.

##### **Full graduate faculty**

1. UM faculty members who join (or joined) the School with a research and/ or teaching appointment will be offered Full graduate faculty status for an initial 5-year period.
2. UM full graduate faculty members may chair graduate committees.
3. Reappointment requires demonstrated commitment to graduate mentoring and active scholarship as shown by effective advising and graduate committee participation, and a publication record with a minimum of four peer-reviewed publications in the previous five-year period. Exceptional candidates having other qualifications will be considered for reappointment by the SMS Peer Review Committee.

##### **Associate graduate faculty**

1. The individual must be a member of the UM faculty and have evidence of demonstrated research expertise, usually represented by a publication record with a minimum of two peer-reviewed publications in the previous 5-year period or a career list of >15 peer-reviewed papers or book chapters.
2. Associate graduate faculty may not chair or co-chair a graduate committee, but may serve as a committee member.
3. Reappointment requires demonstrated commitment to graduate mentoring and scholarship as shown by effective advising and graduate committee participation,

and a publication record with a minimum of 1 peer-reviewed publication in the previous five-year period. Exceptional candidates having other qualifications will be considered for reappointment by the SMS Peer Review Committee.

### **External graduate faculty**

1. The individual must show evidence of research expertise relevant to the student's graduate thesis research.
2. The individual must have evidence of demonstrated research expertise, usually represented by a publication record with a minimum of 1 peer-reviewed publication in the previous five-year period or a career list of >10 peer-reviewed papers or book chapters.
3. The individual may not chair a graduate committee, but may serve as a member of a committee. The individual may co-chair a graduate committee after review by the SMS Peer Committee. Such individuals must demonstrate active scholarship as evinced by a publication record with a minimum of four peer-reviewed publications in the previous five-year period.
4. Reappointment requires demonstrated research expertise, usually demonstrated by a publication record with a minimum of 1 peer-reviewed publication in the previous five-year period.
5. Exceptional candidates having other expertise and qualifications will be considered for appointment (and reappointment) after review by the SMS Peer Review Committee.

### **Graduate instructors**

1. The individual must have a record of thorough competence and training in the core subject.
2. The instructor normally holds a Ph.D., but MS level candidates will be considered for appointment by the SMS Peer Review Committee.
3. The individual may not serve on a graduate committee.

Document Approved by the SMS faculty December 2006.

Document Accepted by the Graduate School January 2007.

## Appendix 4: Guide to SMS Student Navigator for Graduate Student & Faculty Users (original version 3/2014 by L. Karp-Boss & S. Lindsay; revised 8/2015 by S. Lindsay)

### Information for Graduate Student Users:

All SMS graduate students will be added to the Student Navigator system, preferably using their @maine.edu email address as their “username”. If you have already set up your directory profile on the SMS website, then you should be able to access Student Navigator through that profile (unless it used a different email address, in which case, see the graduate program coordinator for help). If you have never logged in you should have received an email telling you how to set up a password. If you forgotten your password use the password reset tool to create a new one.

You can log in at: <https://umsms.siteturbine.com/account/login.php>

OR

From your directory profile at the SMS website, scroll down to the bottom of the page and click on the link that lets you login to edit your profile.

Once you have logged in,



Click on the picture of the compass (upper left corner of the page) and this is the page you should see:

Milestone Progress	
Initial meeting with Advisor	Due 12/31/14
Advisory Committee Meeting Year 1	Due 1/1/15
May Graduate Symposium Year 1	Due 5/31/15
Milestones Updated Year 1	Due 5/31/15
Advisory Committee Formed	Due 5/31/15
Program of Study (Grad. School)	Due 5/31/15
Ph.D. Written Comprehensive Exam	Due 12/31/15
Milestones Updated Year 2	Due 5/31/16
Advisory Committee Meeting Year 2	Due 5/31/16
May Graduate Symposium Year 2	Due 5/31/16
Ph.D. Oral Comprehensive Exam	Due 5/31/16
Ph.D. Written Thesis Proposal	Due 5/31/16
Milestones Updated Year 3	Due 5/31/17
May Graduate Symposium Year 3	Due 5/31/17
Advisory Committee Meeting Year 3	Due 5/31/17
Advisory Committee Meeting Year 4	Due 5/31/18
May Graduate Symposium Year 4	Due 5/31/18
Milestones Updated Year 4	Due 5/31/18
May Graduate Symposium Year 5	Due 5/31/19
Milestones Updated Year 5	Due 5/31/19
Advisory Committee Meeting Year 5	Due 5/31/19
May Graduate Symposium Year 6	Due 5/31/20

You should be able to see the following tabs:

- ❖ **Overview** – this is the landing page & has a brief view of your milestones progress and any recent messages.
- ❖ **'Message'** - view and send messages from and to committee members (once all faculty members are added to your record)

- ❖ **'Milestones'** - view and edit your milestones.
- ❖ **'Docs'** – upload documents associated with your milestones (i.e., your annual progress report, called 'milestones updated Year X').
- ❖ **'Faculty'** – a list of your committee members

➤ Click on the **'Milestone'** tab

This is how your page should look (milestones will differ for MS vs. PhD, and depending on your degree program)

Milestone	Due Date	Action
<input type="checkbox"/> Initial meeting with Advisor	Due Dec 31, 2014	
<input type="checkbox"/> Advisory Committee Meeting Year 1	Due Jan 1, 2015	
<input type="checkbox"/> May Graduate Symposium Year 1	Due May 31, 2015	
<input type="checkbox"/> Milestones Updated Year 1	Due May 31, 2015	
<input type="checkbox"/> Advisory Committee Formed	Due May 31, 2015	
<input type="checkbox"/> Program of Study (Grad. School)	Due May 31, 2015	
<input type="checkbox"/> Ph.D. Written Comprehensive Exam	Due Dec 31, 2015	
<input type="checkbox"/> Milestones Updated Year 2	Due May 31, 2015	

Note that the due dates are currently set to defaults, and you may need to adjust them in consultation with your faculty advisor. Only faculty can edit due dates for milestones.

Each student is **RESPONSIBLE** for updating their milestones. Use the check boxes at left to check off those that you have completed; provide details in the comments section (click on the edit icon, , to do so ), and upload any relevant documents (e.g. annual self assessment/progress reports, directions below). Annual progress reports should be uploaded under the appropriate "Milestones Updated Year X" section.

**To add documents**, select the **'Docs'** Tab, then click on the upload documents button to launch the dialog box. Select your file, and the milestone to which it applies (from the drop-down menu), then upload the file. You can use this feature to keep track of important documents. For example, your annual report goes in "Milestones Updated Year X", a copy of your program of study can go in "Program of Study", abstracts for the Symposium might be archived in the "May Graduate Symposium X" milestone, etc.

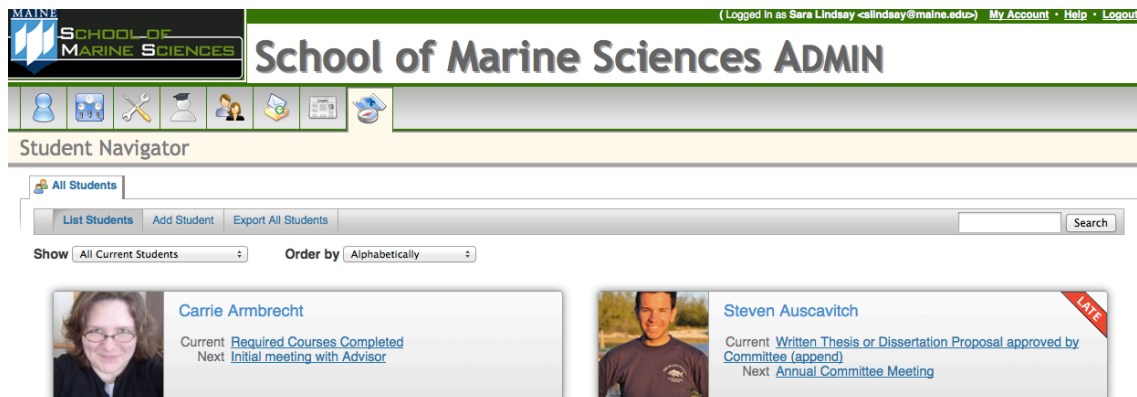
Program coordinators will communicate the deadline for updating your milestones on the website, but it is typically in late April or early May.

Please note, the Marine Biology and Oceanography programs **require** annual updates of student milestones, including a written progress report. Marine Policy and Marine BioResources students are not currently required to complete these reviews, but we encourage you to use this tool to keep track of your degree progress.

### **Information for Faculty Users:**

All Faculty have access to the SMS Student Navigator in which you can monitor and manage graduate student progress in their programs. There is also a feature that lets you conduct & archive conversations among committee members. To access the Student Navigator module, you simply need to login using the same email address and password that you use to edit your Faculty Profile on the SMS website.

- Find the login page here: <https://umsms.siteturbine.com/account/login.php>
- Login into your profile. If you forgotten your password use the password reset tool to create a new one.
- Select Student Navigator (the picture of the compass), and then you should see the following page (or something like it).



Select **All Current Students** from the dropdown menu to view all current SMS graduate students.

Select **Your Students** from the dropdown menu to view SMS graduate students currently assigned to you. If you do not see all the students on whose committees you serve, then you need to be added to their record. You can do this yourself, or the advisor can do this (see details regarding the “Faculty” tab below).

Click on the name of the student whose progress you want to view & you will see this screen:

Milestone Progress	
Initial meeting with Advisor	10/25/13
Advisory Committee Meeting Year 1	Due 1/1/14
Milestones Updated Year 1	Due 5/31/14
Program of Study (Grad. School)	Due 5/31/14
Advisory Committee Formed	Due 5/31/14

The links at the top left provide access to various parts of the student's record.

- ❖ **Overview** is just that. Note the list of milestones on the right side of the screen. The dates may need to be adjusted because they are defaults.
- ❖ **Bio** - lists biographical information about the student, including degree program, type of support, tentative thesis title, awards, etc. Students may not have access to this information themselves, so you may need to fill it in.
- ❖ **Message** – allows you to view/send messages from/to the student and committee members (once all faculty are assigned to each student)
- ❖ **Milestones** - view and edit milestones. Completed milestones can be re-opened if needed. Documents can be uploaded under any milestone. Comments can be added by editing the milestone (click on the pencil & paper icon).
- ❖ **'Docs'** – upload documents associated with selected milestones; choose the milestone in the dialog box when the document is added. Advisor's annual assessments can be uploaded under the "Milestones Updated Year X" milestone.
- ❖ **'Faculty'** – lists faculty associated with the student. Missing faculty can be added by faculty, but not by students. Adding faculty is straightforward, unless they are not current users of the SMS website. In that case, please contact your graduate program coordinator for assistance.

Milestone	Due Date	Actions
<input checked="" type="checkbox"/> Initial meeting with Advisor Met with Sara	Done Oct 25, 2013	Re-open, Edit, Delete
<input type="checkbox"/> Advisory Committee Meeting Year 1	Due Jan 1, 2014	Edit, Delete
<input type="checkbox"/> Milestones Updated Year 1	Due May 31, 2014	Edit, Delete
<input type="checkbox"/> Program of Study (Grad. School)	Due May 31, 2014	Edit, Delete
<input type="checkbox"/> Advisory Committee Formed	Due May 31, 2014	Edit, Delete
<input type="checkbox"/> May Graduate Symposium Year 1	Due May 31, 2014	Edit, Delete

1 Paper draft Nov 1, 2013

#### Some notes:

Milestones differ between PhD and M.S., and by program. Default milestones exist for Marine Biology, Marine Policy, Oceanography and the Dual Degree tracks. Marine



BioResources students have been included in the Student Navigator system, although their milestones are generic. There are no check offs for specific required courses, but you can add these details in the comments section of the “Required courses completed” milestone (this milestone is probably near the end of the list because students have until the end of their program to complete courses).

Due dates on milestones may need to be adjusted from the current default values, which are based on the maximum timeline allowed by the Graduate School. Both students and faculty can edit milestones, but only faculty can delete a milestone.

Oceanography and Marine Biology students have been asked to update their milestones on Student Navigator, and upload their annual report into the “Milestones Updated Year X” milestone (x=the year in their program). Marine Policy students are not currently required to submit an annual report, but have been encouraged to update their milestones and use the Student Navigator system to keep track of their degree progress.