SCHOOL OF OCEAN SCIENCE & ENGINEERING

DIVISION OF MARINE SCIENCE

GRADUATE STUDENT HANDBOOK 2024-2025

This handbook is provided as a general guide for DMS graduate students and a repository for division-level policies. The USM Graduate Bulletin should be consulted for official university policies. Additional information about DMS policies can be obtained from your advisor, the school Associate Director, or the division web pages:

https://catalog.usm.edu/
https://www.usm.edu/graduate-programs/marine-science.php
https://www.usm.edu/graduate-programs/hydrographic-science.php

Revised, 27 June 2024

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INTRODUCTION

Founded in 1910, the University of Southern Mississippi (USM) is one of about 140 universities in the nation to earn the Carnegie Classification of Institutions of Higher Education's "R1: Doctoral Universities - Very high research activity" designation. USM has been given the leadership role in marine science in Mississippi by the Board of Trustees of State Institutions of Higher Learning.

Today's Division of Marine Science (DMS) is a division within the School of Ocean Science and Engineering (SOSE) that also includes the Division of Coastal Sciences at the Gulf Coast Research Lab in Ocean Springs, Mississippi as well an undergraduate teaching campus in Long Beach, MS (Gulf Park Campus). SOSE is housed within the College of Arts and Sciences at USM.

The Marine Science program at USM can trace its history back about 40 years and it continues to be dedicated to research and education in the multi-disciplinary fields of marine science. Since first being established in 1985 to offer graduate degrees in Marine Science, DMS has grown to include additional graduate degrees in Hydrographic Science, as well as undergraduate programs in Marine Science, Ocean Engineering, Marine Biology and Uncrewed Maritime Systems.

Currently offered degrees include:

PhD Marine Science
M. S. Marine Science
PhD Marine Science (Hydrographic Science Emphasis)
M. S. Hydrographic Science

B. S. Marine Science
B. S. Marine Science (Hydrographic Science Emphasis)
B. S. Ocean Engineering
B. S. Marine Biology

Certificate Programs in Uncrewed Maritime Systems (Tiers 1 and 2)

DIVISION CONTACTS

DMS Associate Director
Dr. Christopher Hayes
Office: Stennis Space Center (SSC) Bldg. 1020, Rm 119
Phone: 228-688-3469
Email: christopher.t.hayes@usm.edu
Roles: Supervision of Division of Marine Science Faculty, Academic Programs and Research

DMS Business Manager
Susan Quinn
Office: Bldg. 1020, Rm 117 Phone: 228-688-3336
Email: susan.quinn@usm.edu
Roles: Graduate Assistantships, Tuition Waivers, Liaison with College/University Accounting and Human Resources, NASA billing, Boat and Vehicle Fees, Contracts, Interdepartmental Invoices

DMS Academic Coordinator
Dajaneir Thompson
Office: Bldg. 1020, Rm 116 Phone: 228-688-7097
Email: dajaneir.thompson@usm.edu
Roles: Academic Policies and Procedures, Graduate School liaison, Degree Applications, Course Registration, Class Schedules, NASA Foreign National requests

DMS Administrative Assistant
Sarah Lestelle
Office: Bldg. 1020, Rm 116 Phone: 228-688-3177
Email: sarah.lestelle@usm.edu
Roles: Front Office, mail and packages, office supplies, travel and reimbursement paperwork, room and vehicle reservations, department purchasing, NASA visitor requests (US citizen or permanent resident), event coordination, personnel directory

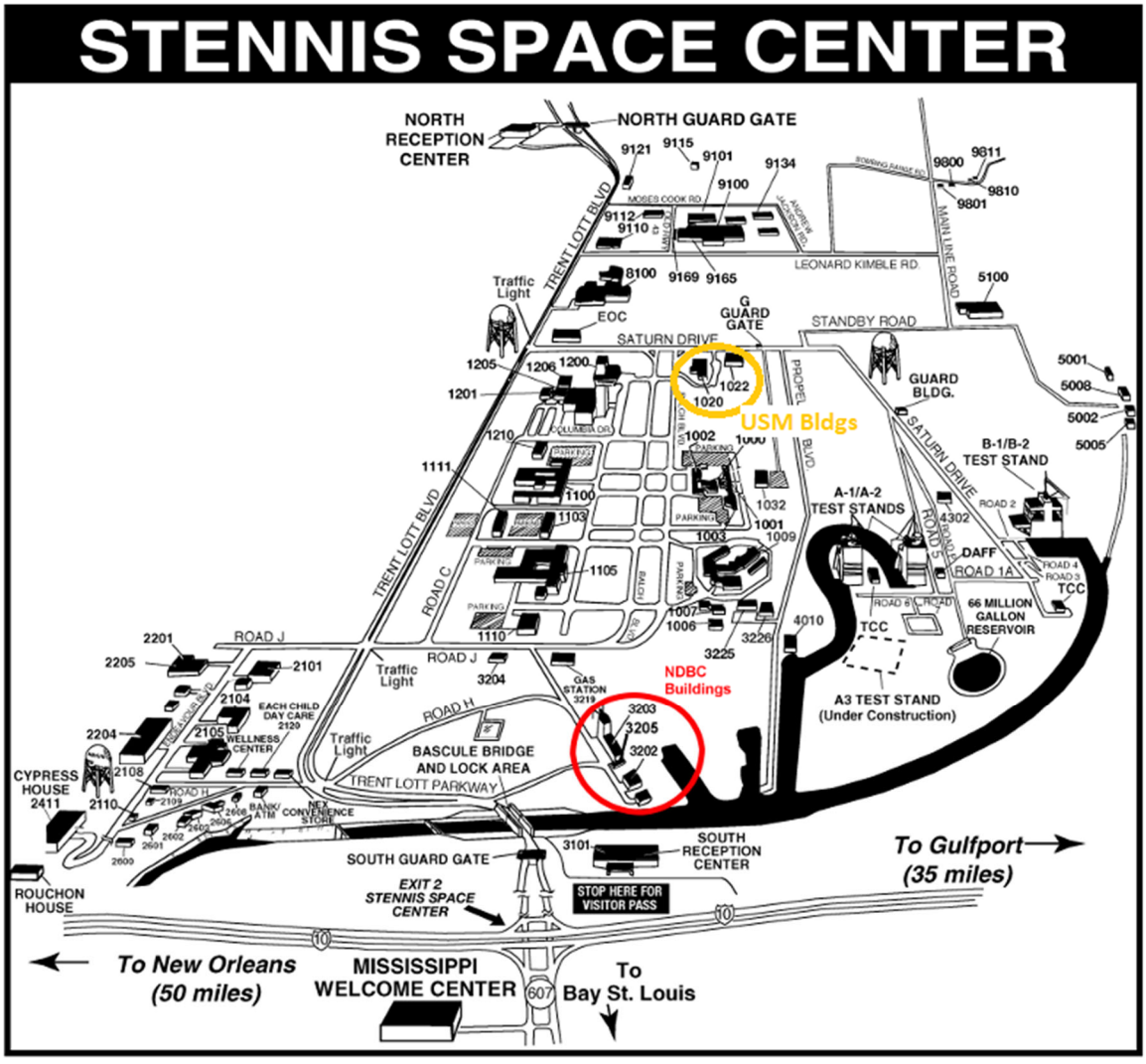
DMS Facilities Manager
Peter Sciarabba
Office: Bldg. 1022, Rm 116 Phone: 228-688-3504
Email: peter.sciarabba@usm.edu
Roles: NASA work orders, Major/Minor Repairs, Lab and Work Safety, Hazardous Waste, Property Inventory, Vehicle Administrator, Office Phones and Office Assignments, Small Appliance Permits

The DMS Associate Director reports to the SOSE Director:
Interim Director: Dr. Robert Leaf
Email: robert.leaf@usm.edu

FACILITIES, LIBRARIES & CONNECTIVITY

Our presence at NASA's Stennis Space Center (SSC) is primarily in three buildings (see Stennis Building Map Below):

- Building 1020: Front Office, Faculty & Graduate Students Offices, Shipping & Receiving, Classrooms and Conference Rooms
- Building 1022: Knauer Marine Science Building: Research Laboratories and Classrooms, Main Seminar Room
- Building 1029: Oceanographic Support Facility: Marine Equipment Storage, Boats and Vehicles, Machine and Electric Shop



DMS faculty benefit from close working relationships with a number of on-site federal agencies at Stennis, including the Naval Research Laboratory, the Naval Oceanographic Office, the Naval Meteorology and Oceanography Command, and NOAA including its National Data Buoy Center and the National Centers for Environmental Information. Many graduates from DMS academic programs have gone on to find gainful employment at these agencies.

Other beneficial associations of DMS:

- Fleet of small boats and trailable vessels (Bldg. 1029)
- Research equipment within DMS laboratories (Bldg. 1022), including a high-resolution mass spectrometer, radiation spectrometry, laser particle analyzers, high performance liquid chromatography, fluorometers, flow cytometry, elemental analyzers, nutrient analyzers, and microscopy.
- USM's Hydrographic Science Research Center (Bldgs. 1020, 1029), including gliders (Slocum; Sea glider), and autonomous vehicles (Eagle Ray; Mola Mola; Sea Trac; WAM-V; Echo Boat).
- Offices and classrooms at the Gulf Park campus, including Elizabeth Hall.
- State Port in Gulfport, home of 135-ft. Research Vessel *Point Sur*, forthcoming 199-ft. UNOLS vessel R/V *Gilbert R. Mason*, USM's Marine Research Center and the Wicker Center for Ocean Enterprise
- USM's High-performance computing cluster (Magnolia) in Hattiesburg
- The Gulf Coast Research Laboratory and its centers, including the Thad Cochran Marine Aquaculture Center, Center for Fisheries Research & Development, and the Marine Education Center
- Other USM Schools that are relevant for collaboration: Polymer Science; Biological, Earth & Environmental Sciences; Center for STEM Education, and Computer Sciences & Computer Engineering.

Library Information

We have access to physical and digital libraries based at USM's campuses in Hattiesburg, Gulf Park and the Gunter Library at GCRL. See the libraries web site for the most up to date information (http://lib.usm.edu). This includes interlibrary loans, scanned document delivery, peer-reviewed journal subscriptions and USM's digital repository, Aquila.

Our Library contact is Joyce Shaw, based at the Gunter Library (Joyce.Shaw@usm.edu) who is a great resource for information. Specific guides can be found here:

- https://libguides.lib.sum.edu/hydrography
- http://libguides.lib.usm.edu/marine_science
- http://libguides.lib.usm.edu/ocean_engineering

We additionally have access to the *Walter H. Munk Oceanographic Library* operated by the Naval Oceanographic Office in Building 1003 at Stennis. Hours are 7:30 a.m. to 3:30 p.m. Monday through Friday, 228-688-4597. This is a great option if you need an older book or article that USM does not have access to. The library also keeps very current books, journals and textbooks across all oceanographic fields. For library privileges, students must present a current Stennis badge. The Munk library catalog can be accessed here: https://1624.lucideahost.com/genie/final/Portal/Default.aspx?lang=en-US

Connectivity
Our USM buildings at Stennis (as well as all other USM facilities) have Internet access available through eduroam. To access this network, you must sign in with your employee id number and password (https://www.usm.edu/itech/how-connect-eduroam.php). A USM guest network is available for visitors if necessary.

The primary communication tool between the division administration and students is your USM email. Our staff will also collect emergency contact information in case we need to contact you by cell phone.

The Stennis offices are also equipped with land-line telephones. Contact our Facilities Manager for help with setting up a voicemail message to these phones. These phones can call within Stennis using short-cut phone numbers. Generally, all Stennis phone numbers start with 228-688-xxxx. You can dial another Stennis phone number directly by dialing 8-xxxx (for instance, 8-4597 for the Munk library above). In order to dial outside phone numbers from the land-lines, dial 9-9-1 and then the number starting with the area code.

STENNIS SPACE CENTER INFORMATION

Security & Site Access
All personnel are required to wear **identification badges** for security purposes at Stennis. Applications for badges require a background investigation. The badging office is located in Building 3103, at the South Gate (just before the site entrance). Temporary passes are also required for guest access to the facility and require some form of Federal or State issued photo identification. Visitor passes need to be requested at least 24 hours in advance from one of the front office staff. They can be picked up at the North and South Gate reception centers. Please contact the DMS Academic Coordinator if you need to request a foreign national visitor's badge, which requires 30 days advance notice as well as more information from the potential visitor.

Access to Stennis during evenings, weekends, and federal holidays are limited to official division business only and only for US citizens or permanent residents.

Foreign Nationals are only allowed on site between 6:00am-6:00pm Monday- Friday, and not including Federal holidays. If site access is needed outside of those hours, a special request can be made by the DMS Academic Coordinator but this requires 5 days advanced notice.

Emergencies
Dial 911 for any emergency, including medical and fire, from any office Landline. Do not call 911 from your cell phone while on site. Doing so will connect you to Hancock County's Sheriff and/or EMT dispatch, and help could be delayed.

If you need to reach the Stennis Emergency teams from a cell phone, please call (228) 688-3636. The Fire Division, EMTs, and health clinic are all located in Building 8000, at

the corner of Trent Lott Pkwy and Saturn Drive. Note the Stennis Health Clinic is available for emergencies on-site but will come at a cost. For non-emergency health concerns, it is recommended to use USM Student Health Services (Moffitt Health Center in Hattiesburg) or your personal doctor.

Driving while on Site

Make sure to obey posted speed limits while driving on site and do not talk on your cell phone or text while driving. Traffic violations on Stennis are enforced by the Stennis security officers. While violations on site are not reported on your State driver's license record, repeated violations can result in revocation of your driving privileges on site. Note that your vehicle is also subject to inspection at any time while on site, as well as when entering and leaving Stennis.

There is a NEX Car Care Center (Bldg. 3219, x8-3492) on site that can perform basic maintenance like oil changes and tire rotations, and the NEX Mini-Mart (Bldg. 2124) where you can purchase gas as well as food, drinks and toiletries.

NASA Exchange and On-Site Amenities

There is an organization that coordinates Stennis Community activities called the NASA Exchange – Stennis Space Center. You can follow their website (https://www.nasastoressc.com/about) or the emails they distribute. This group has an office and NASA store in Building 1100, operates the Wellness Center and provides information about the restaurants and business services available onsite.

On-Site Dining Options: Building 1100 has several indoor options including the main cafeteria, PJs Coffee, Subway, and a periodic farmer's market. There is also Peck's Seafood in bldg. 1200 and the Cypress House in bldg. 2411. Additionally, there are food trucks at various locations including Rue Chow and Coasty's Food Truck. See NASA Exchange emails for latest availability and operating hours.

Child Care Center: The Stennis Child Development Center (Bldg. 2120) offers regular or drop-in child care to Stennis personnel with young children (6 weeks to 5 years old). The center is open Monday through Friday from 6:00 A.M. until 5:00 P.M. and closed on federal holidays. Contact Barabara Croas (x8-3224) barbara.m.croas.naf@us.navy.mil for information.

Bank: Keesler Federal Credit Union (8 a.m. – 4 p.m.) has a branch office located in Building 1100 and offers a full range of banking services for the convenience of employees and students.

Stennis Wellness Center

The Wellness Center is open weekdays, 6 a.m.-6 p.m. (Building 2119, x8.-950) and is located on Road H near the Gass Station and Child Care Center. The Wellness Center offers a variety of exercise classes, cardio equipment (ellipticals, stationary bikes, treadmills) and weight training, outdoor running track, basketball and tennis courts, 25 yd outdoor pool, and nutritional and health guidance. The cost is approximately $20/month but ask about a student discount. Elsewhere at Stennis, there are sand volleyball courts, soccer club, and trail running/biking areas. Contact the Wellness Center (SSC-WellnessCenter@nasa.gov) for more information.

STUDENT AND PROFESSIONAL SOCIETIES

Student Oceanographic Society (SOS)

The Student Oceanographic Society was formed in 1992 by graduate students at Stennis Space Center to offer assistance and to provide a means for the student body to voice concerns they may have directly to faculty. SOS helps with orienting new students, social networking, academic assistance, carpooling, proofreading papers and preparation for conferences. Typical events include the annual year-end DMS Crawfish Boil, Science Fairs and other outreach or fundraising events, and coordination with MEGSA (Marine and Estuarine Graduate Student Association, the graduate student organization at GCRL). Please consider being active with this group. Current officers:

Faculty-Student Liaison: Dr. Johnson Oguntuase
President: Luis Altamirano Perez Vice President: Aliyah Cabell
Secretary: Toluwani Akande Treasurer: Avijit Talukder
College of Arts & Sciences Student Body Representative: Morgan Segrest (COA)
Graduate Student Senate Representative: Olagoke Daramola

Marine Technology Society (MTS)

The Marine Technology Society is a professional organization dedicated to promoting awareness, understanding, advancement, and application of marine technology. USM maintains an MTS Student Chapter which benefits from an annual budget of $500 from MTS plus many scholarships and awards, including conference registrations to their annual OCEANS conference. The MTS USM Student Chapter Advisor is Dr. Stephan Howden.

Oceanic Engineering Society (OES)

The Institute for Electrical and Electronics Engineers (IEEE) Oceanic Engineering Society is another professional organization that sponsors professional development by funding conference attendance, publications, and grants for the development of new technology or outreach activities. The USM OES student branch was created in 2018. Funding opportunities include up to $2,000 for student activities and OES also participates in the OCEANS conference. The OES Student Branch Advisor is Dr. Kemal Cambazoglu.

LIVING ON THE COAST

Transportation & Housing

Public transportation is relatively minimal along the western part of the Mississippi Coast. The Coast Transit Authority bus line services the Gulfport area and points east. Greyhound bus lines have routes along the coast, but do not come to Stennis Space Center. In general, a personal vehicle is necessary for transportation to/from Stennis, as well as for living necessities such as groceries, shopping, and social events. Consult faculty and other students for information regarding obtaining a driver's license and purchasing a car or consider carpool options.

Students are responsible for their own living accommodation. The closest available housing is ~15 miles from SSC (Waveland/Bay St. Louis, MS, Picayune, MS or Slidell, LA). Most faculty and students live in the surrounding communities of Long Beach, Pass Christian, Bay St. Louis, Waveland, Diamondhead, and Picayune in Mississippi and Slidell or New Orleans in Louisiana. Housing options change over time but typically available housing includes apartment complexes or renting a room within a house. The Student Oceanographic Society has created an apartment guide to help incoming students select a town and apartment to live in.

Attractions & Entertainment

The Gulf Coast provides many attractions, including the public beaches on the Mississippi coast, tours to Ship Island with Fort Massachusetts, canoeing along the Wolf River, and deep sea or bayou fishing, just to mention a few. Of course, New Orleans has a myriad of fun things to do, only one hour away. New Orleans is famous for the Aquarium of the Americas, the French Quarter, Louisiana Philharmonic Orchestra, riverboat tours, museums, world-class restaurants, and a variety of nightclubs. One of the best-known aspects of life in this area is Mardi Gras, celebrated with parades and parties in the two weeks prior to the start of Lent. Two hours to the east are Mobile, Ala., and Pensacola, Fla., where you can find clear water, beautiful beaches, and access by car to barrier islands.

Severe Weather Preparedness

Our area is commonly impacted by tropical storms, hurricanes and other extreme weather events. If you have not dealt with this type of weather before, we have developed some informational guides on how to deal with them. Please visit https://www.usm.edu/ocean-science- engineering/internalportal/resources-severe-weather-preparedness.php for information regarding policies, evacuation procedures, and helpful links to emergency preparedness at Stennis, USM campuses and surrounding areas.

DIVISION LOGISTICAL POLICIES

Keys & Office supplies

The three USM Buildings at Stennis (1020, 1022, & 1029) are unlocked during business hours on weekdays. For keys that allow after-hours access to these buildings, and for keys to laboratories in Building 1022, please see the DMS Academic Coordinator. Duplicates are NOT allowed, so please take care of keys; they are to be returned upon completion of the program. If you plan to work outside of the office business hours, be sure to carry your keys with you. Keys must be returned when you graduate.

Office supplies are available for academic and administrative use ONLY. Please take only what you need for classes or working in your office. For supplies required during laboratory and/or field work, please consult your advisor.

USM Property & Laptops

The DMS Facilities Manager maintains USM Property records (computers, equipment, instrumentation, etc.) at DMS. If new equipment is purchased through either division or grant/project funds, it must be registered with USM. DO NOT remove DMS property (equipment, instrumentation, etc.) from site without authorization from your supervisor AND the property accounting manager.

All DMS graduate students are provided, by the Division, one working laptop during your stay in our program. Computing equipment beyond the standard laptops purchased must be supported by your advisor. Laptops (as well as external hard drives) are still considered USM property, although they can be taken home with you for your work. However, there is a property tracking system (SOAR) in which your identity is associated with each particular piece of equipment and when you graduate from the program laptops and any other USM property must be returned.

On-site assistance is available if needed regarding computers, networking, printers, emails, etc. The University Help Desk, located in Hattiesburg, is managed by iTech and is a resource available to answer many questions. Please have your Student ID number ready for the technician. Call (601) 266-HELP (4357) or email helpdesk@usm.edu. You can also place a work order online by visiting https://usm.edu/itech and clicking the "Enter a Work Order" link in the middle of the page. You will need to log in with your employee ID and password and provide the USM asset # (6-digit number/barcode sticker on your laptop).

Students must review and abide by the University's Acceptable Use Policy https://usm.policystat.com/policy/8603515/latest/ for information technology.

Vehicles & Vessels

The Division has a fleet of 4 University vehicles (2 sedans, 1 passenger van and 1 truck)

that are available for academic or research purposes. Academic purposes are funded by the division and include driving to teaching sites, attending official University functions, and field trips for courses. The vehicles can be used for research including field sampling, boat trailing or research conference attendance, but know that your advisor will have to supply grant account information to support the cost of this use.

Drivers must have a valid U.S. driver's license and must complete an annual Vehicle Use Agreement collected by the Facilities Manager. Driving trips require filling of a log book, documentation of trip purpose, mileage, funding source and fuel purchases. The car log books contain a Fuelman credit card that can be used for fuel purchases at most gas stations in Mississippi. Vehicles can be reserved with the Administrative Assistant.

Operation of the division sea-going vessels requires boat driver certification which is offered periodically from the GCRL campus. Please see the Boat Usage page on the DMS website for more information (https://www.usm.edu/ocean-science-engineering/boats.php).

Collaborative Institutional Training Initiative (CITI) Certification

The University of Southern Mississippi requires training before students begin their research activities through the CITI certification. The training is for all principal investigators, faculty, and key personnel involved in research, including staff, post-doctoral fellows, graduate, and undergraduate students. More information can be found at the USM Office of Research Integrity website.

Graduate School Orientation

The Graduate School gives an online orientation that is mandatory for all new graduate students, currently through Canvas, our learning management software (https://usm.instructure.com). New graduate students are notified of the availability of the orientation module and have the entire first semester of their program to complete the module. If the orientation has not been completed at the end of the first semester, a registration hold is placed on the student account preventing enrollment access.

DIVISION ACADEMIC POLICIES

Registration

It is the student's responsibility to consult with his or her advisor, select courses, and register in a timely manner. Failure to do so may result in late registration fees or delay in stipend disbursement. **First- time** registration is handled by the DMS Academic Coordinator but may still require consultation with your academic advisor.

Registration for continuing students is done through SOAR (https://soar.usm.edu). Refer to the current academic calendar for important student-related deadlines: https://www.usm.edu/registrar/calendars.php. Course offerings for the following semester are published by the end of the prior semester.

General Degree Requirements

For official information about program requirements, consult the USM Graduate Bulletin (http://catalog.usm.edu). The DMS Graduate Student Handbook is the repository for Division-level policies, but policy in the Graduate Bulletin will supersede this Handbook.

All students must adhere to the University's Academic Integrity Policy (https://usm.policystat.com/policy/11838205/latest/) and the USM Student Code of Conduct (https://www.usm.edu/dean-students/code-student-conduct.php).

Furthermore, with regard to Academic Performance, all students must meet the following standards from the Graduate School's General Degree Requirements that applies to all programs:

"A minimum of 3.0 GPA in coursework is required for graduation. No grade below a C is acceptable in any graduate-level coursework attempted. No more than two grades of C+ or C across six credit hours is allowable in any graduate-level coursework. Some programs require a higher GPA and further restrict the number of allowable C grades for graduation. Students who fail to meet these requirements and remain in good academic standing will be placed on probation."

Failure to maintain good academic standing can further result in loss of your graduate assistantship or dismissal from the graduate school. Please be familiar with this policy (https://usm.policystat.com/policy/10976851/latest/#autoid-vr873).

Graduate students have the right to appeal disciplinary actions or file a grievance per the Graduate School policy (https://usm.policystat.com/policy/12706406/latest/).

Program Specific Requirements

The Marine Science programs [MS, PhD and PhD (Hydrography)] have an additional academic performance policy: the 4 required core courses (Physical Oceanography, Biological Oceanography, Geological Oceanography and Marine Chemistry) must be

passed with a grade of B or better. A student that does not earn a B will be required to either retake the course or perform remedial work as stipulated by the instructor. Students may remediate no more than 2 courses under this policy. Only one full course re-take is allowed by the Graduate School.

Student Petitions for Exemption from Required Courses

A Marine Science student may opt out of one or more of the required core courses if they have taken an equivalent graduate level course in that discipline at another University. This is often the case for Marine Science PhD students entering with a Master's degree from another marine science program. However, the following conditions must be met to grant the exemption:

1. The student must provide evidence of the content of the prior course, such as a course syllabus, as well as good performance in the course from graduate transcripts.
2. The instructor of the core course, the DMS Associate Director and the student's advisor must all approve the exemption.
3. Exemption of the requirement does not exempt the student of any credit hour requirements, however. For instance, if opting out of Marine Chemistry (3 credits), then an additional elective course (3 credits) will have to be taken at some point in the student's degree program.
4. Course substitution forms are prepared by the DMS Academic Coordinator and must be approved by the Graduate School.

Degree Program Time Limits

In general, full-time students are expected to complete M.S. degrees in 2.5 years or less, a Ph.D. from a master's degree in 5 years or less, and a Ph.D. from a bachelor's degree in 6 years or less. For part-time students, the timelines will be longer, but the Graduate School stipulates that a Master's degree cannot be awarded beyond 5 years of starting the program or beyond 8 years for a PhD. If these limits are exceeded, the student can petition for revalidation of courses taken beyond the time limit. The Graduate Bulletin's General Degree Requirements contains more information on the course revalidation process.

Student Progress Timelines

Expected semester-by-semester progress varies by academic program. Typical timelines for full-time students are given below. Keep track with your advisor and the Academic Coordinator of your Degree Progress Report made available to you through SOAR by the Graduate School as early as your first semester. Of course, a particular student's pathway may be different. Do not worry about completing steps early! If falling behind, the Division is here for you to ameliorate any obstacles to your progress.

Marine Science M.S.—Typical Timeline

Semester	Course or Milestones
Fall Year 1	MAR 600 Biological Oceanography (3 cr.) MAR 660 Physical Oceanography (3 cr.) MAR 660L Physical Oceanography Lab (1 cr.) MAR 691 Directed Research (2 cr.)
Spring Year 1	MAR 640 Marine Chemistry (3 cr.) MAR 621 Geological Oceanography (3 cr.) MAR 591 Adv. Field Methods in Marine Science (3 cr.)‡ MAR 689 Seminar in Marine Science I (1 cr.)
Summer Year 1	MAR 691 Directed Research (1 cr.)
Fall Year 2	MAR 689 Seminar in Marine Science II (1 cr.) MAR 691 Directed Research (add'l credits to make 9 for semester) Approved Elective, if necessary ***Form Thesis Committee****See Add'l Program Requirements* **Hold First Committee Meeting***
Spring Year 2	MAR 698 Thesis (3 cr.) MAR 691 Directed Research *** Prospectus Approval Meeting with Committee*** *See Add'l Program Requirements*
Summer Year 2	MAR698 Thesis (1 cr.) ***Finish Field Research Required Days (10)*** *See Add'l Program Requirements* ***Apply for Fall Graduation***
Fall Year 3	MAR698 Thesis (2 cr.) MAR 691 Directed Research ***Submit Completed Thesis to Committee*** ***Hold Oral Defense and Comprehensive Exam*** ***Submit Any Revisions for Thesis Publication***

‡Note we are currently undergoing a revision to the Marine Science M.S. and PhD program requirements that will ultimately replace three of the former core course labs (Biological Oceanography Lab, Marine Chemistry Lab, and Geological Oceanography Lab) with this combined, integrative 3 credit course. A course substitution form will have to be filed for the former Lab course requirements until the Graduate Bulletin is revised.

Marine Science PhD—Typical Timeline

Semester	Course or Milestones
Fall Year 1	MAR 600 Biological Oceanography (3 cr.) MAR 660 Physical Oceanography (3 cr.) & MAR 660L (Lab, 1 cr.) MAR 791 Directed Research (2 cr.)
Spring Year 1	MAR 640 Marine Chemistry (3 cr.) MAR 621 Geological Oceanography (3 cr.) MAR 591 Adv. Field Methods in Marine Science (3 cr.) MAR 689 Seminar in Marine Science I (1 cr.)
Summer Year 1	MAR 791 Directed Research (1 cr.)
Fall Year 2	MAR 689 Seminar in Marine Science II (1 cr.) MAR 791 Directed Research (add'l credits to make 9 for semester) ***Approved Electives****See Additional Program Requirements below*
Spring Year 2	MAR 791 Directed Research Approved Electives ***Form Dissertation Committee****See Add'l Program Requirements* ***Hold First Committee Meeting****See Add'l Program Requirements*
Summer Year 2	MAR 791 Directed Research (1 cr.)
Fall Year 3	MAR 791 Directed Research Final Approved Electives, if necessary ***Complete Comprehensive Exam***
Spring Year 3	MAR 791 Directed Research (9 cr.) *** Prospectus Approval Meeting with Committee*** ***Finish Field Research Required Days (10)***
Summer Year 3	MAR 791 Directed Research (1 cr.)
Fall Year 4	MAR 791 Directed Research (9 cr.)
Spring Year 4	MAR 791 Directed Research (9 cr.) ***Complete Research Tools Requirement****See Add'l Requirements*
Summer Year 4	MAR 898 Dissertation (1 cr.)
Fall Year 5	MAR 898 Dissertation (5 cr.) MAR 791 Directed Research
Spring Year 5	MAR 898 Dissertation (5 cr.) MAR 791 Directed Research
Summer Year 5	MAR 898 Dissertation (1 cr.) ***Hold Oral Defense*** ***Submit Any Revisions for Dissertation Publication***

*Marine Science PhD (Hydrography Emphasis)—Typical Timeline****Note this timeline will be shorter if the student has completed the M.S. Hydrographic Science (Cat. A certificate) first. This schedule assumes the student is pursuing both the Cat. A certificate and the PhD degree simultaneously****

Semester	Course or Milestones
Fall Year 1	MAR 600 Biological Oceanography (3 cr.) MAR 660 Physical Oceanography (3 cr.) HYD 600 Classical Geodesy (3 cr.) MAR 668 Applied Ocean Acoustics (3 cr.)
Spring Year 1	MAR 640 Marine Chemistry (3 cr.) MAR 621 Geological Oceanography (3 cr.) HYD 604 Kinematic Positioning (3 cr.) HYD 612 Water Levels (3 cr.)
Summer Year 1	HYD 603 Law & Policy for Hydrographic Sci. (1 cr.) HYD 606 Nautical Cartography and GIS (2 cr.)
Fall Year 2	HYD 608 Practical Hydrographic Science (2 cr.) HYD 620 Math Concepts for Hydrographers (3 cr.) HYD 609 Nautical Science (1 cr.) MAR 791 Directed Research (3cr.)
Spring Year 2	HYD 601 Hydrographic Data Management (3 cr.) HYD 611 Remote Sensing for Hydrographers (3 cr.) HYD 605 Applied Bathymetry (3 cr.) ***Form Dissertation Committee****See Add'l Program Requirements*
Summer Year 2	HYD 610 Hydrographic Science Field Project (3 cr.)
Fall Year 3	MAR 791 Directed Research (9 cr.) ***Hold First Committee Meeting****See Add'l Requirements*
Spring Year 3	MAR 791 Directed Research (9 cr.) ***Complete Comprehensive Exam***
Summer Year 3	MAR 791 Directed Research (1 cr.)
Fall Year 4	MAR 791 Directed Research (9 cr.) *** Prospectus Approval Meeting with Committee*** ***Finish Field Research Required Days (10)***
Spring Year 4	MAR 791 Directed Research (9 cr.)
Summer Year 4	MAR 898 Dissertation (1 cr.) ***Complete Research Tools Requirement****See Add'l Requirements*
Fall Year 5	MAR 898 Dissertation (5 cr.) MAR 791 Directed Research
Spring Year 5	MAR 898 Dissertation (5 cr.) MAR 791 Directed Research
Summer Year 5	MAR 791 Directed Research (1 cr.) ***Apply for Fall Graduation***
Fall Year 6	MAR 898 Dissertation (1 cr.) ***Hold Oral Defense*** ***Submit Any Revisions for Dissertation Publication***

Hydrographic Science M.S.—Typical Timeline (2 year track)

Semester	Course or Milestones
Fall Year 1	HYD 600 Classical Geodesy (3 cr.) HYD 608 Practical Hydrographic Science (2 cr.) HYD 609 Nautical Science (1 cr.) HYD 620 Math Concepts for Hydrographers (3 cr.) HYD 691 Directed Research (3 cr.)
Spring Year 1	HYD 601 Hydrographic Data Management (3 cr.) HYD 604 Kinematic Positioning (3 cr.) HYD 691 Directed Research (3 cr.)
Summer Year 1	HYD 603 Law & Policy for Hydrographic Sci. (1 cr.) HYD 606 Nautical Cartography and GIS (2 cr.)
Fall Year 2	HYD 607 Oceanography for Hydrographers (3 cr.) MAR 668 Applied Ocean Acoustics (3 cr.) Approved Elective (3 cr.) HYD 691 Directed Research (3 cr.)
Spring Year 2	HYD 605 Applied Bathymetry (3 cr.) HYD 611 Remote Sensing for Hydrographers (3 cr.) HYD 612 Water Levels (3 cr.) HYD 691 Directed Research (3 cr.) ***Apply for Summer Graduation***
Summer Year 2	HYD 610 Hydrographic Science Field Project (3 cr.) ***Hydro. Certificates Recognition Ceremony***

Hydrographic Science M.S.—Typical Timeline (1 year track)

Semester	Course or Milestones
Fall Year 1	HYD 600 Classical Geodesy (3 cr.) HYD 607 Oceanography for Hydrographers (3 cr.) HYD 608 Practical Hydrographic Science (2 cr.) HYD 609 Nautical Science (1 cr.) HYD 620 Math Concepts for Hydrographers (3 cr.) MAR 668 Applied Ocean Acoustics (3 cr.)
Spring Year 1	HYD 601 Hydrographic Data Management (3 cr.) HYD 604 Kinematic Positioning (3 cr.) HYD 605 Applied Bathymetry (3 cr.) HYD 611 Remote Sensing for Hydrographers (3 cr.) HYD 612 Water Levels (3 cr.) **Apply for Summer Graduation**
Summer Year 1	HYD 603 Law & Policy for Hydrographic Sci. (1 cr.) HYD 606 Nautical Cartography and GIS (2 cr.) HYD 610 Hydrographic Science Field Project (3 cr.)

ADDITIONAL PROGRAM REQUIREMENTS

The following additional requirements apply to the Marine Science M.S. and PhD programs (including the Hydro. Emphasis PhD)

Forming your Research Committee

Your Thesis or Dissertation Advisor will have been assigned to you during your entrance to the program. Work with your advisor to form an appropriate committee at least by your second year in residence. A committee member from outside of USM may serve on a thesis/dissertation committee if they have applied and been approved as associate graduate faculty (see DMS Academic Coordinator for the necessary paperwork). USM Research Faculty can be co-chairs or members on student committees, but a tenure-track faculty member must be the advisor of record.

Master's Student Committees: The thesis committee will consist of the major advisor and 2 additional faculty members, one of whom may be external to USM. External member paperwork must be approved by the Graduate School and Graduate Council. Once the committee membership is formed, contact the DMS Academic Coordinator to enter the information into SOAR.

Ph.D. Student Committees: The dissertation committee will in most cases consist of the major advisor and four additional members. Under some circumstances, a committee of only four or more than five committee members may be approved by the Graduate School. The committee will have a minimum of one and a maximum of two non-DMS regular faculty.

10-day Research Cruise/Field Experience Requirement

We enrich our program by requiring the thesis/dissertation degree students to complete at least 10 days of relevant fieldwork outside of the classroom or laboratory. These days can be from research cruises, coastal small boat sampling, land-based excursions or even appropriate workshops or field trips. The experience need not relate to the student's own research, and often these opportunities may arise from helping other students or faculty with their research projects. This requirement can be completed any time before your graduation. The requirement is met by the advisor drafting a memo for the Associate Director's approval, describing when the 10-days have been completed and what the experiences were. Approved memos are filed at the Division level by the Academic Coordinator.

Research Tools Requirement (Ph.D. Students only)

The Research Tools Requirement is a General PhD requirement from the Graduate School. The advisor and dissertation committee should work with the student to target

what additional skillset, outside of the student's direct research work, that would benefit the student in their future career. In Marine Science, the following guidelines can be followed to fulfill this:

Completion of 9 credit hours or the equivalent of formal course work or other training.
Possible courses might include, but would not be limited to, those dealing with scientific ethics, teaching or communication skills for science, remote sensing, software applications, computer programming, statistics, mathematics, and/or numerical modeling. These credits could take the form of MAR 791 Directed Research hours with the major advisor, if appropriate. Other training might include short courses or workshops run by commercial vendors, government agencies, USM, or other universities or academic/research institutions. Such training exercises would not be taken for credit but would be allotted an equivalent amount of semester hour credit, as determined by the student and their advisory committee, toward the 9-hour Research Tools requirement. The student's advisory committee may require the student to demonstrate learned skills or to submit a written report summarizing the instruction received in any short or non-credit course with examples of the applied use of learned skills.

This requirement is met with the advisor preparing a memo for approval by the Associate Director, explaining the mechanism by which the research tools requirement has been met. Approved memos are filed at the division level by the Academic Coordinator.

Additional Electives Policy for PhD program
Note the Marine Science PhD program requires at least 12 credits of elective classes that are named classes, i.e. you cannot use Directed Research credits for this. Plan ahead to ensure enough Elective Courses will be available. Courses from other Schools can be counted toward this requirement. Graduate level courses from a previous degree can also be used toward this requirement if available (see *Utilizing Coursework from an Awarded Graduate Degree to Meet Competencies in a Second, Higher Graduate Degree* section of the General Degree Requirements in the Graduate Bulletin). The Marine Science PhD (Hydro emphasis) degree requires 16 credits of named electives, but these are generally covered by the courses required for the Category A certificate if the student is pursuing that.

Advancement in the M.S. and PhD programs
Advancement in the Marine Science M.S., and Marine Science PhD programs (including Hydro. Emphasis) are defined by the following milestones:
For M.S. students, once the research prospectus has been approved by the Thesis committee.
For PhD students, once the research prospectus has been approved, the comprehensive exam has been passed and the research tools requirement has been fulfilled. For PhD

students this is considered advancing to become a PhD candidate.

These advancement milestones come with a raise in stipend salary if the student is working as a graduate or teaching assistant.
The current base rates for assistantships are (as of Academic Year 2024-2025):

M.S. Marine Science or Hydrographic Science starting: $2050/month
M.S. Marine Science after prospectus approval: $2150/month

PhD Marine Science and Hydro emphasis starting: $2100/month
PhD after advancing to candidacy: $2200/month

When you have reached the advancement milestone, please have your advisor inform the DMS Academic Coordinator and Business Manager. The Business Manager is responsible for updating the payroll paperwork, but know that there is some processing time involved with this. If you reach the milestone in a given semester, your stipend will generally increase in the following semester.

Master's Degree *en route* to PhD

A Ph.D. student may request the awarding of an M.S. degree 'en route' to their Ph.D. To do so, students must complete all coursework requirements of the thesis-based Marine Science M.S. program, with the exception of MAR 698 (Thesis). Other electives, as determined by the student in agreement with their advisory committee, will be substituted for MAR 698. The student must also obtain approval of a Ph.D.-level research prospectus and pass the comprehensive examination. Note this option is only available for PhD students. A student that begins as a M.S. student will have to switch into the PhD program before being awarded a master's en route.

Thesis/Dissertation Prospectus Guidelines

A formal prospectus is required and must be submitted to and approved by the student's graduate committee as soon as possible after research goals have been established. The student should consult with their faculty advisor for information on the form and content of the prospectus. Several drafts may be necessary. The body of the prospectus (excluding cover and title pages and references) should be limited to 15 pages in length, not including references.
The prospectus should include the following sections:

a) Prospectus Cover Sheet,
b) introduction briefly stating the nature of the proposed work,
c) background section documenting the relevant literature and highlighting the study area to which their research will contribute new information,
d) brief statement of objectives and hypotheses,
e) detailed experimental plan,

f) timetable for completion of the research and writing of the thesis, and
g) references.

When the prospectus is complete, it should be submitted to the student's research committee and a committee meeting should be held (*prospectus approval meeting*) for the committee to provide input and ultimately decide to approve the prospectus or suggest necessary modifications. The approved prospectus represents an agreement between the student and their committee as to what will constitute their thesis/dissertation. If the student changes aspects of their research plan, the committee should be kept informed through regular committee meetings as necessary.

Once a prospectus is approved, contact the DMS Academic Coordinator to file the appropriate forms and approvals.

Comprehensive Exam Guidelines

A comprehensive exam is required for the M.S. Marine Science and PhD Marine Science (and Hydro. Emphasis) students. This exam is administered by the thesis/dissertation committee and is a rigorous evaluation of the student's knowledge and abilities.

For Master's students, this is an oral exam given immediately following the public oral defense of the student's thesis. Committee members will be prepared to ask questions relevant to the presented research as well as the committee member's areas of expertise in Marine Science if they see fit.

For Ph.D. students, the comprehensive exam is performed once all required coursework in the program is completed and is a requirement of advancing to candidacy in the PhD program. PhD comprehensive exams are required to have an oral component (in the context of a research committee meeting) and may also have written components, at the discretion of the research advisor. A common format is to have the committee members write up questions in advance, the advisor compiles them and assigns the student to complete the written questions in a specific amount of time and send the answers to the committee members for evaluation. The oral exam component (1-2 hours) can then be used as a follow up to the written material as well as an opportunity for committee members to ask questions to assess that the student has become an expert in their desired field of Marine Science.

The comprehensive exam is graded on pass/fail basis, requiring the vote of each committee member. A student that fails the comprehensive exam can retake the exam only once. Successful comprehensive exam completion should be reported to the DMS Academic Coordinator for entry of results to the graduate school.

M.S. Thesis Guidelines and Defense Preparation

Master's students will write a thesis that is deemed an acceptable scientific document by their thesis committee after being approved by their committee. Please reference the

Graduate Schools document guidelines and templates: https://www.usm.edu/graduate-school/internalportal/templates.php

When preparing to defend your thesis, a defense date should be scheduled between yourself and your research committee. Please make the DMS staff and the DMS Seminar coordinator aware of the date to ensure there are no scheduling conflicts. Defenses are to be held in Rm 101 of Building 1022 and may include virtual attendance. Defenses must be publicly advertised at least 2 weeks prior to the defense date.

Also at least two weeks prior to the thesis defense, students will present an acceptable copy of the thesis to their thesis committee for review. The thesis will reflect work that is grammatically correct, understandable, properly cited and acknowledged, a reflection of good ethical research practices, the use of applied scientific principles throughout the duration of the project as evidenced with a clear hypothesis with effective tests, appropriately applied sampling and analysis methods, and acceptable data interpretation made by utilizing an up-to-date knowledge base.

The Oral Defense is given publicly within a 1 hour time period (aim for 45 minutes presentation to allow for 15 minutes of questions from the general audience). Following the public defense, the student and the research committee will have a closed meeting to administer the Master's Comprehensive Exam. The Master's Comprehensive Exam does not have a strict time limit but would typically be less than 60 minutes.

Keep in mind the Graduate School Deadlines, if you are targeting to graduate in a particular semester. The Oral Defenses usually must be completed around the mid-term period of the semester to graduate in that semester. There is no issue with scheduling an Oral Defense past that date within a given semester—this just means that the award of the degree would occur in the following semester. https://www.usm.edu/graduate-school/internalportal/graduate-school-deadlines.php

Ph.D. Dissertation and Defense Guidelines

Each Ph.D. student will write a scholarly dissertation based on his/her original research. The research topic must be approved by the students' dissertation committee. While a Master's Thesis typically represents one complete project, a PhD Dissertation will generally contain multiple chapters of several projects, synthesized as a whole. The exact content of the Dissertation is up to the discretion of your advisor and research committee. Careful assessment of your expectations throughout your graduate time at USM is necessary for success in developing your dissertation. Please reference the Graduate Schools document guidelines and templates: https://www.usm.edu/graduate-school/internalportal/templates.php

Dissertation defense scheduling should follow the same polices given for the M. S. Thesis defense given above.

Also similar to the MS Thesis Defense, the Oral Dissertation Defense is given publicly within a 1 hour time period (aim for 45 minutes presentation to allow for 15 minutes of questions from the general audience). Following the public defense, the student and the research committee will have a closed meeting to administer the PhD Oral Exam. The PhD Oral Exam does not have a strict time limit but typically would not exceed 2 hours. The content of the Dissertation being defended is longer and the evaluation committee is larger and this the questioning during the exam is expected to take longer. But don't fret! Similar to a peer-review process in scholarly publication, the dissertation defense questions will almost certainly improve your research product.

Keep in mind the Graduate School Deadlines, if you targeting to graduate in a particular semester. The Oral Defenses usually must be completed around the mid-term period of the semester to graduate in that semester. There is no issue with scheduling an Oral Defense past that date within a given semester—this just means that the award of the degree wouldn't occur until the following semester.

Graduation Application Deadlines

Please be cognizant of all other important deadlines published per semester by the graduate school in order to ensure timely graduation including application for degree, and the initial and final submission of the approved thesis/dissertation to USM's digital repository, Aquila https://www.usm.edu/graduate-school/internalportal/graduate-school-deadlines.php.

Student Assistantship Policies

Graduate assistants provide support for teaching activities, research, and division administration. In general, teaching assistants (TAs) provide support for teaching and other division activities; research assistants (RAs) provide support for faculty research. Decisions on support are usually made in April for the following academic year.

Assistantships are awarded, in accordance with USM policy, only to full- time students in good academic standing who are making timely progress towards a degree. Good academic standing means maintaining an average GPA of 3.0 (B), as per Graduate School policy. Award of assistantships depends on these conditions as well as the availability of funds.

Award memoranda for assistantships are written for each academic year (roughly August 15 thru May 15 of the following year) and for each summer period (May 15-August 15). Students who accept the assistantship offers are obligated to perform 20 hours of work per week for the instructor/division (TAs) or the sponsoring faculty member (RAs) during the contract period. The 20 work hours does NOT include coursework or directed research hours. Graduate assistants are also obligated to be available during normal working hours, the same time periods that faculty are available.

Failure to perform work duties or to maintain good academic standing can result in termination of an assistantship.

Assistantship holders generally always have their tuition fees waived, either through direct grant funding or through a tuition waiver. Please be cognizant of how many credit hours you register for each semester, however, as the tuition payment from the grant or waiver from the Graduate School must be applied for the exact amount of credits you are registered for. The Graduate School will only waive 9 to 12 hours each fall and spring semester, and between 1 and 3 hours for the summer term.

Although your tuition will be covered from assistantships, there are University fees, Student Activity fees and Course fees that are the responsibility of the student and these cannot be paid by University funds.

Regarding summer assistantships, there are generally no Teaching Assistantships available in the summer. Thus, most summer assistantships are supported by grant funds. Be communicative with your advisor early in the year to ensure availability of summer assistantship funding, as it is not guaranteed. Pursuit of other avenues of external funding such as scholarships, fellowship or internships may be appropriate.

There are rules about engaging in external employment outside of USM, while on a graduate assistantship. If a student engages in outside employment, it is likely to interfere with his/her good progress. Therefore,it is required that students discuss outside employment with their faculty advisor prior to accepting any outside position. In addition, Graduate Assistants must complete the GA Request for Permission to Engage in External Employment and submit it through the Graduate School (https://www.usm.edu/graduate-school/graduate-school-attachments/ga_request_external_employment_2024.pdf). In the case of division assistantships, both your advisor and the Associate Director of the school will need to give approval. Such approval would be considered only under the most exceptional of circumstances.

DIVISION AWARDS

Marine Science Scholar Fellowship
The Marine Science Scholar Fellowship provides a full year assistantship over the period of August 1 through July 31. The summertime support may be used as stipend or applied as discretionary funding that can be allocated toward conference travel or other research expenses.

Eligible students will be nominated for the Fellowship by their faculty advisor (who must be a member of the Corps of Instruction). Each faculty member can nominate only one student. Nominations will open at the beginning of April with decisions made at the May faculty meeting.

A nomination package will consist of a) a statement and examples of the student's accomplishments (e.g., publications, presentations, awards, grades, and prospectus), b) letters of support from three people including the nominator, and c) evidence of good progress through the program (e.g., copy of plan of study/academic advisement/progress to degree plan with accomplishment dates indicated). The nomination package will be put forward by the nominator.

The DMS faculty (i.e., Corps of Instruction) will examine the applications and decide on the awardee. Each voting faculty member will rank their top three choices with the individual faculty scores added to determine the winner of the Fellowship.

The awardee will present a division research seminar during the Fellowship period.

Marine Science Recruitment Fellowship
Each year, the faculty of the Division of Marine Science vote on awarding an incoming student a 9-month assistantship. Decisions on the Marine Science Recruitment Fellowship are made in the spring of each year.