



**NSU Oceanographic Center
Course Catalog 2010-2011**

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1.0. Oceanographic Center Overview

1.1. Oceanographic Center Mission Statement

The mission of the Oceanographic Center is to carry out innovative, basic, and applied research and to provide high-quality graduate and undergraduate education in a broad range of marine-science and related disciplines. The Center also serves as a community resource for information, research, and education on oceanographic and environmental issues.

1.2. Main Campus

The Oceanographic Center is part of Nova Southeastern University (NSU). The main NSU campus is located on a 300-acre campus in Fort Lauderdale approximately 15 miles from the Center. Nova Southeastern University has more than 25,000 students and is the largest independent institution of higher education in the Southeast United States. It is the sixth-largest independent institution nationally and offers various graduate and undergraduate degrees through 16 colleges and schools. Oceanographic students have full access to the main campus facilities including the Alvin Sherman Library, Research, and Information Technology Center; and the University Center. The Alvin Sherman Center is the largest library building in Florida with wireless access throughout the building, reading niches, twenty-two study rooms, 1,000 user seats, and a café. The University Center is a 366,000-square-foot, multipurpose facility which houses a 5,500-seat arena and convocation center, a fitness and wellness center, a student union, and a performing arts center.

1.3. Location

The Oceanographic Center is located on a ten-acre site within John U. Lloyd Beach State Park in Dania Beach, Florida, bordering Fort Lauderdale. It is situated on the ocean side of Port Everglades, adjacent to the port's entrance. The Center has a one-acre boat basin. Its location affords immediate access to the Gulf Stream, the Florida Straits, and the Bahama Banks.

1.4. Research Activities

The Oceanographic Center has a forty-eight year history of research excellence. Faculty and students pursue studies and investigations in experimental, observational and theoretical oceanography. Research interests include biological and chemical oceanography; coral reef ecology, assessment, restoration, and monitoring; Pleistocene and Holocene sea level changes; benthic ecology; marine plankton; invertebrate systematics and phylogeny; calcification of invertebrates; cell ultrastructure; marine fisheries; anatomy and physiology of marine vertebrates; molecular ecology and evolution; wetlands ecology; marine mammals; modeling of large-scale ocean circulation; coastal dynamics; ocean-atmosphere coupling, and surface gravity waves. Regions of interest include not only Florida's coastal waters and the continental shelf/slope waters of the southeastern United States, but also the waters of the Caribbean Sea, the Gulf of Mexico, and the Atlantic, Indian, and Pacific Oceans.

1.5. Facilities

1.5.1. Laboratories and Offices

The Center is composed of three buildings and two modulars. The main 2-story building houses 7 laboratories, a conference room, a workroom, and 13 offices. A second building contains a large 2-story warehouse and staging area, 2 classrooms, biology laboratory, electron microscopy laboratory, darkroom, machine shop, electronics laboratory, library, student computer lab/computing center, and 15 offices. A one-story building contains a wetlab/classroom, coral workshop, and an X-ray facility. A modular laboratory is used for aquaculture studies. A large modular provides a union area, a classroom/conference room, and student/staff offices.

1.5.2. Library Resources

The William S. Richardson Library at Nova Southeastern University's Oceanographic Center is a research-oriented library for all disciplines of marine and aquatic science. Located at the entrance of Port Everglades, it is open to the public for browsing, but its primary use is for faculty research, and for Master's students in Marine Biology (OCMB), Coastal Zone Management (CZMT) and/or Marine Environmental Sciences (MEVS), and Ph.D. students in Oceanography/Marine Biology.

The library has 100 current subscriptions to journals and over 3000 books and monographs that can be found in the Online Catalog. Databases include ASFA (Aquatic Sciences and Fisheries Abstracts), Science Direct (full-text Elsevier Journals) and Web of Knowledge, among others. These can be accessed through NSU's [Electronic Library](#). Interlibrary loan service is available for receiving books and/or copies of journal articles from other libraries around the country.

The librarian is a member of the International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC), and SAIL, its regional branch.

1.5.3. Computer Resources

For faculty and student computing, the Oceanographic Center has approximately 140 PC's on a LAN connected to main campus and the Internet. The student computer lab has fifteen individual computer stations with networked Pentium computers connected to laser and inkjet printers. Various peripherals throughout the Center include an HP 1055C large format poster printer, color flatbed scanners, and assorted imaging software and hardware.

The Center is linked to the Internet and NSU main campus via a T-1 network link. A wireless network allows indoor and outdoor access to the Internet from any location at the Center.

The center's Web site is located at

1.6. Institutes

1.6.1. National Coral Reef Institute

The National Coral Reef Institute (NCRI) was established by Congressional mandate in 1998. The Institute's primary objective is the assessment, monitoring, and restoration of coral reefs through basic and applied research and through training and education. NCRI operates at the Nova Southeastern University Oceanographic Center near Fort Lauderdale, Florida.

Mission

NCRI's mission is to identify gaps and constraints in scientific knowledge of reef structure and function as it relates to issues of assessment, monitoring, and restoration. Through active research and collaborative funding, NCRI undertakes and facilitates hypothesis-based scientific research in emerging reef issues and technologies. NCRI provides scientific synthesis and evaluation criteria of existing programs for use by the research and management community. These include the study of minimally impacted, stressed, and imminently threatened and endangered reefs. Assessing and monitoring biodiversity is a priority, especially as it affects and interacts with ecological processes, overall reef function, reef recovery, and restoration. NCRI's primary capability is that of offering a strong scientific focus as well as innovative approaches to relevant scientific issues in all aspects of coral reef biology.

More information about NCRI can be found at

1.6.2. Guy Harvey Research Institute

The Guy Harvey Research Institute (GHRI) is a scientific research organization based at the Oceanographic Center. GHRI was established in 1999 through collaboration between the renowned marine artist Dr. Guy Harvey and NSU's Oceanographic Center. The Institute is one of only a handful of private organizations dedicated exclusively to expanding the scientific knowledge base for effective conservation of fish populations and maintenance of fish biodiversity.

Mission

The Guy Harvey Research Institute (GHRI) conducts high quality, solution-oriented, basic and applied scientific research needed for effective conservation, biodiversity maintenance, restoration, and understanding of the world's wild fishes. The GHRI also provides advanced scientific training to U.S. and international students who will serve as future stewards of the health of our oceans.

More information about GHRI can be found at

1.6.3. Institute of Marine and Coastal Studies

The Institute of Marine and Coastal Studies (IMCS) is the academic arm of the Oceanographic Center and is headed by the Director of Academic Programs. All certificate and degree programs

offered by the Oceanographic Center fall under the IMCS and these programs are detailed in this catalog.

Mission

The Institute of Marine and Coastal Studies provides high-quality graduate and undergraduate education in a broad range of marine-science and related disciplines with the goal to prepare graduates with the knowledge and skills to enter the workforce or academia.

1.7 Faculty and Staff

Information about the faculty including their background, the courses they teach, and their research interests, as well as links to their specific web sites, can be found at. Information about staff and their positions is also located there.

2.0. Academic Programs

2.1. Programs and Majors

The Oceanographic Center offers a doctorate (Ph.D.) degree in Oceanography (with emphasis on Marine Biology or Physical Oceanography) and master's (M.S.) degrees in Marine Biology, Coastal Zone Management (online or onsite), Marine Environmental Sciences, and Physical Oceanography. Joint M.S. degrees can be obtained in Marine Biology and Coastal Zone Management; Marine Biology and Marine Environmental Sciences; Marine Biology and Physical Oceanography; and Coastal Zone Management and Marine Environmental sciences. A non-degree distance Graduate Certificate is offered in Coastal Studies. More information about the certificate can be found in the Distance Education section (3.10).

This catalog provides guidelines and rules to assist the student in fulfilling the academic requirements of the M.S. and Ph.D. degrees. M.S. majors and the Ph.D. course of study contain a common core of five courses (Physical Oceanography, Marine Ecosystems, Marine Geology, Marine Chemistry, and Biostatistics) that provides an overview and foundation in the ocean sciences. Specialty and tutorial courses provide depth in each program. The Oceanographic Center operates on a quarter-term system with 12-week courses.

For graduation, students must fulfill the curriculum and course-load requirements of the catalog in effect at their initial registration or that of any later-edition catalog. Other than curriculum and course-load, graduate students are responsible for requirements set forth in the most recent edition of this catalog, unless exceptions are specifically (and individually) approved by the program administration. Updates may be issued at the Oceanographic Center between catalog publications. Copies of the catalog and updates are located on the Center's website.

For the M.S. program each class meets typically one evening per week in a three-hour session. However, some courses are offered in day, weekend, compressed, and online formats. Thesis and non-thesis (capstone review) tracks are offered in all M.S. majors.

For completion of the M.S. degree, students must submit either a capstone review paper or a research thesis. A capstone review paper is a scholarly manuscript, based upon a comprehensive literature search and communication with researchers actively involved in the chosen topic. A thesis is an original contribution to knowledge resulting from the systematic study

of a significant problem or issue. All entering students are automatically accepted in the capstone track option. Carrying out either a thesis or capstone track is possible only after agreement with a major professor, and completion of an approved proposal. This proposal must be approved by the student's committee and the Director of Academic Programs, and be submitted to the Departmental Administrator in the Program Office before the student can register for thesis or capstone credits. For further details, students are referred to section 3.8 of this catalog and to the online guidelines for the capstone or thesis track found on the Oceanographic Center Student Information page at:

The capstone track requires a minimum of 45 credits, including five 3-credit core classes, eight 3-credit specialty courses and a 6-credit capstone review paper consisting of an extended literature review of an approved subject. Once a student starts registering for capstone credits, they cannot stop registering for credits until the capstone is completed and defended. The completed capstone paper is presented in an open defense that includes the student's advisory committee.

The thesis track requires a minimum of 39 credits, including five 3-credit core classes, five 3-credit specialty courses and at least nine credits of master's thesis research. The number of thesis research credits above the minimum is dependent upon the length of time needed to complete the thesis research, which may be more than the minimum three terms. The final thesis is formally defended in an open defense that includes the student's advisory committee.

Students in the single major track are allowed to take up to two elective courses outside their degree orientation and have them count towards their final credit count.

The joint specialization M.S. degrees require a minimum of 57 course credits (19 courses) or 51 course credits (17 courses) (for capstone review or thesis paper respectively) including nine credits minimum thesis research or the six credits for the capstone review paper. For the joint programs, students take approximately equal numbers of courses within each of the two specialties. The final thesis is formally defended in an open defense that includes the student's committee.

For both the capstone and the thesis degree tracks, once the proposal has been accepted, enrollment in the chosen track must continue until completion of the degree.

The Ph.D. degree requires a minimum of 90 credits beyond the baccalaureate. At least 48 credits must consist of dissertation research. At least 42 credits must be in upper-level course work, which usually consists of tutorial studies with the major professor. The student also must successfully defend a dissertation proposal, complete the Ph.D. comprehensive examination, and defend the completed dissertation before the committee. The Oceanographic Center faculty has final approval of the dissertation.

As part of the core curriculum, all students, (M.S. and Ph.D.), must also complete a 0-credit/0-cost seminar series to graduate and are required to attend a minimum of 8 seminars. Distance students can fulfill this requirement through online conferencing tools (e.g., Elluminate, Wimba, compressed video).

Although not required, it is highly recommended that all students take one or more field courses at the first available opportunity. This provides the student a bonding experience with peers and a heightened sense of community that, in turn, enhances the entire educational experience.

2.1.1. M.S. Marine Biology (OCMB)

This course of study is designed to equip students with a substantial understanding of the nature and ecology of marine life and provide grounding in other overlapping areas of marine science. Program flexibility provides preparation for further graduate study, secondary education career enhancement, or employment in technical research institutions, government agencies, or environmental consulting firms. Applicants should hold a bachelor's degree in biology, oceanography, or a closely related field, including science education.

Expected program outcomes are:

- Students will achieve and maintain a high cumulative grade point average (GPA \geq 3.0) from course grades earned throughout the program.
- The combination of courses comprising the degree ensures that students acquire and demonstrate
 - effective communication skills
 - a full understanding of the scientific method
 - competency in geological and chemical concepts as they relate to marine biota
 - an understanding of the taxonomy, natural history, and ecology of marine organisms
 - in-depth knowledge of a specific aspect of marine biology
- Completion of the degree is expected to lead to: placements in the chosen field, in a position requiring graduate training; career advancement in the case of working professionals; and/or advanced graduate training (Ph.D.).
- Students are expected to complete the degree within 2 years of full-time study, and within 5 years of part-time study.

2.1.2. M.S. Coastal Zone Management (CZMT)

This program leads to a multidisciplinary professional M.S. degree, intended for employees of government and industry seeking career enhancement as well as for recent college graduates seeking careers in planning and management with governmental agencies, industries, and other activities depending on or affecting the coastal zone or its resources. The program also can be of value for enhancement of careers in education. It focuses on contemporary problems and conflicts arising from increased use of coastal areas, and emphasizes the evaluation of alternative policy management solutions. Coastal studies combine elements of ecology, geology, physics, engineering, economics, law, the social sciences, and management. Because of this diversity, applicants with any undergraduate major will be considered for admission. However, a science major is most useful. Some science background including general biology, chemistry, and organic chemistry is essential. The M.S. in Coastal Zone Management is offered in both in-house and distance study format.

Expected program outcomes are:

- Students will achieve and maintain a high cumulative grade point average (GPA 3.0) from course grades earned throughout the program.
- The combination of courses comprising the degree ensures that students acquire and demonstrate
 - effective communication skills
 - a full understanding of the scientific method
 - competency in ecological, geological, chemical and biological concepts, as they relate to resource management in the coastal zone
 - an understanding of coastal zone processes
 - familiarity with current management problems and approaches to their solution
 - in-depth knowledge of a specific aspect of coastal zone management
- Completion of the degree is expected to lead to: placements in the chosen field, in a position requiring graduate training; career advancement in the case of working professionals; and/or advanced graduate training (Ph.D.).
- Students are expected to complete the degree within 2 years of full-time study, and within 5 years of part-time study.

2.1.3. M.S. Marine Environmental Sciences (MEVS)

This master's degree program results from the need to educate professionals beyond the bachelor's degree in a synthesis of diverse disciplines, each of which views the marine environment in disparate ways. It is important to differentiate the Marine Environmental Sciences M.S. Program from the Coastal Zone Management M.S. Program. The MEVS is a more broadly based degree without the in-depth management emphasis of CZMT. The MEVS is not designed as an intermediate degree for the Ph.D., although some MEVS graduates will be well prepared for, and may later apply to, a Ph.D. program either at the Oceanographic Center or elsewhere. Students who complete the MEVS Program typically directly enter, or re-enter, the work force. Graduates can find employment in environmentally oriented agencies/organizations and the program is of value for prospective or actual employees of government and industry seeking to advance careers in marine-related areas. Because of this diversity, applicants with any undergraduate major will be considered for admission. However, a science major is most useful.

Expected program outcomes are:

- Students will achieve and maintain a high cumulative grade point average (GPA 3.0) from course grades earned throughout the program.
- The combination of courses comprising the degree ensures that students acquire and demonstrate
 - effective communication skills
 - a full understanding of the scientific method
 - a generalized knowledge in ecological, geological, chemical and biological concepts as they relate to the marine environment
 - a generalized knowledge of the natural and human-driven problems currently impacting, and anticipated to impact, the marine environment
 - in-depth knowledge of a specific aspect of marine environmental sciences

- Completion of the degree is expected to lead to: placements in the chosen field, in a position requiring graduate training; or to career advancement in the case of working professionals.
- Students are expected to complete the degree within 2 years of full-time study, and within 5 years of part-time study.

2.1.4. M.S. Physical Oceanography

This course of study prepares students for careers that involve either a technical, mathematical, or computational expertise in the processes and dynamics of the oceans. As with the other M.S. programs, flexibility provides preparation for further graduate study, secondary education career enhancement, or employment in technical research institutions, government agencies, or environmental consulting firms. Applicants should hold a bachelor's degree in physics, mathematics, astronomy, engineering, oceanography, or a closely related field, including computer science. Unlike the other M.S. programs, MSPO applicants must satisfy a college level calculus requirement before formal admission to the program.

Expected program outcomes are:

- Students will achieve and maintain a high cumulative grade point average (GPA \geq 3.0) from course grades earned throughout the program.
- The combination of courses comprising the degree ensures that students acquire and demonstrate
 - effective communication skills
 - a full understanding of the scientific method
 - competency in physical, mathematical, and computational concepts as they relate to marine physics
 - an understanding of the overall physical structure and dynamics of the world's oceans
 - in-depth knowledge of a specific aspect of Physical Oceanography
- Completion of the degree is expected to lead to: placements in the chosen field, in a position requiring graduate training; career advancement in the case of working professionals; and/or advanced graduate training (Ph.D.).
- Students are expected to complete the degree within 2 years of full-time study, and within 5 years in the case of part-time students.

2.1.5. Joint M.S. Degrees

The joint M.S. degrees are combinations of essential elements of the separate majors: Marine Biology/Coastal Zone Management, Marine Biology/Marine Environmental Sciences, Marine Biology/Physical Oceanography, or Coastal Zone Management/Marine Environmental Sciences. These options give students a broader training in marine science. They do, however, require that students take additional courses past the single M.S. program's curriculum to satisfy requirements of a joint M.S. degree. Students are expected to complete the degrees within 3 years of full-time study, and within 6 years in the case of part-time students.

2.1.6. Ph.D. in Oceanography/Marine Biology

The Ph.D. degree consists of a program of upper-level course work and original research on a selected topic of importance in the ocean sciences. Courses consist of required general core

courses as well as tutorial studies with the major professor. Ph.D. programs are informally divided into physical oceanography and marine biology.

A successful recipient of the Ph.D. degree in Oceanography/Marine Biology is expected to:

- understand basic marine biological, chemical, geological, and physical processes to a level sufficient to communicate and collaborate with experts in those sub-disciplines; and to be able to apply this knowledge to issues in research and resource management
- apply the scientific method to define, investigate, and evaluate hypotheses in at least one of these sub-disciplines
- conduct (as guided by, and to the satisfaction of, the doctoral committee and Oceanographic Center faculty) advanced, original, and independent research that adds to the body of oceanographic knowledge in one or more of the sub-discipline areas
- communicate scientific results and conclusions clearly and logically in a written dissertation and in scientific presentations and publications
- students are expected to complete degrees within 5 years of full-time study, and within 9 years in the case of part-time students (a minimum of 3 years enrollment in the Ph.D. program is required)

3.0. Graduate Educational Programs

3.1. Admission

3.1.1. Application

Prospective students may apply at any time during the year and, if accepted, may begin at any term during the year of acceptance or the following year.

Applications must be submitted online at [For online directions please visit.](#)

Prospective distance students are encouraged to visit the link at:

The \$50 application fee can be paid online via credit/debit card or e-check. Any additional application materials must be completed and mailed to the following address:

Enrollment Processing Services
Attn: Oceanographic Center
3301 College Avenue
PO Box 299000
Fort Lauderdale, FL 33329-9905

It is the responsibility of the applicant to obtain the supporting documents required for application.

For international students wishing to come to the Oceanographic Center for study, the student I-20 visa may be issued only upon completion of all admission requirements. Therefore, international students are urged to be sensitive to requirements prior to applying to the program. For more information regarding procedures for obtaining a student visa, please contact the Office of International Students:

Nova Southeastern University
Attn: Office of International Students
3301 College Avenue

Fort Lauderdale, Florida 33314
Phone: (954)262-7241 or 1-800-541-6682 x7241 (long distance)
Email: intl@nova.edu

3.1.1.1 Application Requirements

To complete the Center's application, prospective students must provide the following documents:

For Non-degree seeking students:

- Application
- \$50 Application fee

For the Graduate Certificate in Coastal Studies:

- Application
- \$50 Application fee
- Official transcript showing baccalaureate

For M.S. degree:

- Application
- \$50 Application fee
- Statement of career goals
- Official transcripts of all post-secondary schooling
- Three letters of recommendation (on letterhead sent directly to the Center)
- GRE scores (general only)

For Ph.D. degree, all of the above plus:

- Statement of support from prospective advisor
- Curriculum Vitae (C.V.)
- General Research Topic

3.1.2. Acceptance Status

If accepted, students are accepted in one of three classifications: full, with academic requirement, and special status.

- Full acceptance is awarded to students satisfying all acceptance criteria (stated below).
- Acceptance with academic requirement is provided to students who have not satisfied all of the criteria, but who have given evidence that they may succeed in the degree program.
- Special student status is reserved for non-degree-seeking students. This status does not preclude applying for full acceptance. However, enrollment in, or satisfactory completion of, courses while in special student status does not guarantee admission to any program. Special students are limited to 2 classes.

When application is complete, students will be notified of the status under which they may register. For acceptance with academic requirement, students must maintain a 3.0 cumulative GPA for their first two terms or they will be removed from the program.

3.1.3. Acceptance Criteria

3.1.3.1. M.S. acceptance

Table 1 lists full and academic requirement admissions/acceptance criteria for M.S. programs in Marine Biology, Coastal Zone Management, Marine Environmental Sciences, Physical

Oceanography, and the joint M.S. programs. M.S. applicants must have completed an undergraduate degree in a relevant discipline. Applicants may be fully accepted or accepted with academic requirement only if they meet at least the minimum guidelines. For full acceptance, at least two of the three criteria (GPA, GRE, and letters) must be met satisfactorily. If applicants do not meet minimum provisional guidelines, the applications may be rejected out of hand and not circulated through the Admissions Committee.

3.1.3.2. Ph.D. acceptance

Table 1 lists full admissions/acceptance criteria for the Ph.D. degrees in Marine Biology and Oceanography. There is no acceptance with academic requirements for the Ph.D. Ph.D. applicants must have completed an M.S., or equivalent, degree. Previous degree(s) should be in the area of mathematics for Physical Oceanography or an appropriate area of the natural sciences for Marine Biology. A master’s degree in Oceanography, Biology or Marine Biology, or a related science is preferred, especially for the biological sciences Ph.D.

Ph.D. applicants need to obtain a written agreement from a prospective faculty member who will serve as Major Professor and submit it with an overview of proposed research. Students are not admitted without prior agreement on a research topic and a Major Professor. Furthermore, the Major Professor will need to state in writing that she/he has or will be able to acquire sufficient funds to cover the Ph.D. student’s research expenses for the duration of the student’s course of study at the Oceanographic Center. The OC will not be responsible for covering research expenses in the event of funding loss by the Major Professor.

The application process should be initiated online ay. Submit the application package containing letters of recommendation, statement of career goals, GRE scores, undergraduate and graduate transcripts, general research topic, and statement of support from prospective Major Professor. This is the package that will go to faculty. Acceptance into the Ph.D. program is effectively provisional for all. The accepted student is a “pre-candidate” until later defense of proposal and successful passing of Comprehensive Exams.

Table 1. Acceptance categories for the Ph.D. and M.S. programs at the Oceanographic Center.

Acceptance Category	Full	With Academic Requirement
For Ph.D.		
Undergraduate Biology Major for Marine Biology	YES	N/A
M.S. in Field for Marine Biology Ph.D.	Preferred	N/A
Undergraduate Science Major for Physical Oceanography	YES	N/A
For M.S.		
Undergraduate Biology Major for MB M.S.	YES	Preferred
A Science Major or Concentration for CZMT M.S.	Preferred	Preferred
A Science Major or Concentration for MEVS M.S.	Preferred	Preferred
For PO only: 1 year of college level Calculus with a 3.0 GPA or better is required for full admission. Students not meeting this criterion can be accepted with academic requirement and fulfill the Calculus requirement during their first year		
For Both Ph.D. and M.S.		

Letters of Recommendation	3	3
Statement of Career Goals	YES	YES
GRE Scores – Verbal, Quantitative, Analytical Writing	55%, 55%, 4.0	40%, 40%, 3.5
The Oceanographic Center only requires the general GRE. The Graduate Record Examination (GRE) is administered by the Educational Testing Service, P.O. Box 955, Princeton, NJ 08542		
All Official Undergraduate and Graduate Transcripts	YES	YES
Undergraduate GPA Major	3.0	2.75
Undergraduate Cumulative GPA	2.9	2.5
Provisions (> 3.0 in first four graduate courses)	None	YES
TOEFL (foreign applicants only)	600	550
Scores from the Test of English as a Foreign Language (TOEFL) are required for applicants where their undergraduate language was not English. Certification may also be submitted from other institutions' intensive English Programs. Information may be found at		
For Ph.D. only		
Statement of support from prospective advisor	YES	N/A
Curriculum Vitae (C.V.)	YES	N/A
General Research Topic	YES	N/A

3.1.3.3. Graduate Certificate Entrance requirements

Applicants for the distance Graduate Certificate in Coastal Studies are required to have a baccalaureate (four year degree). They must apply for the certificate at and must submit an official transcript as part of the application process.

3.1.4. Class Registration

It is the student's responsibility to register *prior to* the beginning of class. First term in-house students must register on paper with the Oceanographic Center. First term students will have registration packets mailed to their permanent address. From then on students may register online or at the Oceanographic Center Program Office. Payment is due to the Bursar's office upon registration. NSU accepts major credit cards, checks, money orders, and financial aid. M.S. students pay tuition each term for their courses, according to the number of credit hours taken. Ph.D. students pay a flat rate per term. In addition to registering, the WebStar site allows students to update addresses, look at financial aid standings, and view transcripts anytime day or night. For more information about WebStar, please see:

NOTE: NSU Full-time Employees must always register by paper at the program office.

3.1.5. NSU ID

To reduce identity theft, NSU has developed its own identification system for all students, faculty, and staff. The NSU ID is a nine-character code that starts with "N" and is followed by 8 digits. This code is created at the time of application and will remain with a student throughout their academic career at NSU. Students who forget their NSU ID may look it up at. They will need their social security number and WebStar pin; or their NSU email name, NSU email password, and either the last 4 digits of their social security number or the month/day of birth.

Students will need their NSU ID to

- access WebStar for student services, including registration and financial aid
- access NSU Online library resources
- request transcripts

Protect your Identity - Keep your NSU ID Secure

3.1.6. NSU PIN

Once accepted into an OC program, students are mailed PIN numbers. If you need to receive a PIN, or if you have misplaced your PIN, there are two choices.

1. Go to and enter your NSU email name, password, and the last four digits of your NSU ID.
2. You can contact the PIN Specialist online at or by calling (954) 262-4850 (local) or 1-800-541-6682 x4850 (long distance) between 8:30 a.m. and 5:00 p.m. weekdays or via email at pinhelp@nova.edu.

3.1.7. NSU Email Address

Upon acceptance, incoming students also need to get an NSU email address. Example: janedoe@nsu.nova.edu. Please note that all official electronic mail communications directed to NSU students, faculty, and staff members are sent exclusively to NSU email computer account addresses. Students should use this email address for all formal university correspondence. This is available from:

Students need their NSU email name and password

- to log in to distance courses offered on WebCT
- to access their NSU WebMail account
- for security access to various NSU web applications

For all policies related to use of your NSU computing account, please see the NSU Student Handbook at and the NSU Policy on Acceptable Use of Computing Resources at

3.2. Credit-Hour Requirements

For individual M.S. degrees (Marine Biology, Coastal Zone Management, Marine Environmental Sciences): The (non-thesis) capstone review requires a minimum of 45 total credits, consisting of 13 three-credit courses (including five core (OCOR) courses), a six-credit capstone review paper, and extra capstone review continuation credits as necessary. The thesis track requires a minimum of 39 total credits, consisting of 10 three-credit courses (including five core (OCOR) courses), a minimum of nine credits of master's thesis research, and extra thesis research credits as necessary.

For joint OCMB/CZMT, OCMB/MEVS, or CZMT/MEVS majors: The capstone review track requires a minimum of 57 total credits, consisting of five core (OCOR) courses, six courses from each of two specialties chosen from the three available, and a six-credit capstone review paper. Additional capstone review paper credits are taken as necessary. The thesis track requires a minimum total of 51 credits consisting of five core (OCOR) courses, nine (five plus four) specialty courses chosen from two of the three specialties: Marine Biology (OCMB), Coastal Zone Management (CZMT), or Marine Environmental Sciences (MEVS), and a minimum of nine thesis credits. Additional thesis credits are taken as necessary.

3.3. Transfer Credit Policy

3.3.1. Transfer of Credits to Oceanography

M.S. students may transfer up to six credits of previous graduate course work. Course work must replicate Oceanographic Center offerings in the major field of interest or must clearly be closely related. Students should submit requests for transfer credits in writing to the Program Office with documentation indicating the subject matter and that the transfer credits were of graduate level from accredited institutions. This can consist of the course syllabus, transcripts, and/or the course description from the professor.

Ph.D. students may transfer up to 30 graduate course credits from prior graduate programs in the same discipline as the Ph.D. degree aspired to. Transfer courses must be either reasonable duplicates of courses offered at NSU or clearly in the applicable Ph.D. field of interest. Students should submit requests for transfer credits in writing to the Program Office with documentation indicating the subject matter and that the transfer credits were of graduate level from accredited institutions. This can consist of the course syllabus, transcripts, and/or the course description from the professor.

Transfer acceptability for both the M.S. and Ph.D. programs will be decided by the Director of Academic Programs at the Oceanographic Center.

3.3.2. Transfer of Credits from Oceanography

Nova Southeastern University has no control over acceptance of course credits at other institutions. Credits earned at the Oceanographic Center are transferable to other institutions at the discretion of the receiving school.

3.4. Time Limits

The maximum time limit for completion of the M.S. program is five years for full-time students, nine years for part-time students. There is no minimum time limitation for completion of the M.S. Students must petition the program office in writing for an extension of the time limit, which may be granted only under extenuating circumstances.

Ph.D. students are expected to complete the program in nine years; a minimum of three years is required. Students must petition the program office in writing for an extension of the time limit, which may be granted only under extenuating circumstances.

3.5. Tuition, Fees, Withdrawal, Leaves of Absence

3.5.1. Tuition and Fees

Tuition and fees are listed at

Payments not made within 30 days are charged a \$50 late fee by the Bursar's office, and a hold is placed on the student's account. This prevents students from registering, obtaining transcripts and prevents conferral of degree. After 120 days, delinquent charges are submitted to a collection agency.

3.5.2. Withdrawal and Refunds

M.S. students may withdraw from a course at any time before the fourth class meeting (or, in the case of distance students, before the fourth week of class) and receive a partial refund. A request for tuition refund must be made in writing at the time of withdrawal. Refunds will be made solely at the option of the university and will be based on the legitimacy of the reason for withdrawal. If granted, refunds are adjusted as follows:

• Before the first class meeting/week of class	100%
• Before the second class meeting/week of class	75%
• Before the third class meeting/week of class	50%
• Before the fourth class meeting/week of class	25%
• Thereafter	0%

Refunds are not granted to Ph.D. students upon withdrawal.

3.5.3. Leaves of Absence

A leave of absence may be granted in all OC programs, see below. However, it is clearly understood that during a leave the student is neither working on a research or review project nor is in communication with their advisor on academic subjects.

Note: Unregistered students lose their online library privileges, including database searches and interlibrary loan. Students not registered for 6 months will automatically lose their email account.

3.5.3.1. M.S. Program

Students do not have to register for course work sequentially in each subsequent term. If a student anticipates a hiatus of one term or longer between registrations for course work, the program office should be notified. Note, however, that once a student has formally registered for credits towards their capstone review paper or thesis, continuous registration each term for a minimum of three credits is required. Failure to register for capstone or thesis credits during a given term without an approved leave of absence is not permitted and may signal a student's withdrawal from the degree program.

A leave of absence for one or more terms may be granted under special circumstances if a student must interrupt thesis research or capstone review paper studies. The leave request must be submitted in writing and approved in writing. It is granted at the discretion of the Director of Academic Programs. Reentry into the M.S. program after a leave of absence should be requested in writing and is not guaranteed.

3.5.3.2. Ph.D. Program

Students are expected to register for course or thesis work sequentially in each subsequent term. A leave of absence for one or more terms may be granted under special circumstances if a student must interrupt dissertation research. The leave request must be submitted in writing and approved in writing. It is granted at the discretion of the Director of Academic Programs. Reentry into the Ph.D. program after a leave of absence should be requested in writing and is not guaranteed.

3.6. Academic Activities and Approvals

3.6.1. Advising

Students should consult their (thesis/capstone) advisors or program administration for questions about their M.S. or Ph.D. program.

3.6.2. Orientation

A mandatory orientation session is held every fall for incoming in-house students and may be held at other times for groups of incoming students to inform them about center facilities and M.S. program requirements. It is recommended that in-house students not starting in the fall meet with the Director of Academic Programs during their first term. Distance students are welcome but not obliged to attend place-based orientation sessions.

3.6.3. Disabilities

If a student has a documented disability, they should contact The Office of Student Disability Services on the main campus. It is the student's responsibility to initiate the process for disability services. The mission of Student Disability Services is to provide accommodations, support services, and auxiliary aids to qualified students with disabilities to ensure equal and comprehensive access to University programs, services, and campus facilities. Once the student has established eligibility with Student Disability Services, they should also notify the Program Office at the Oceanographic Center to ensure that this information is kept with their file. For more information, please call 954-262-7189 or visit the Student Disability Services website at:

3.7. Program of Studies

Descriptions for all courses are located at An updated schedule of courses for the current term and the following three terms may be viewed online or obtained from the program office. Distance course descriptions are listed on the distance learning website at:

Five core courses are required for MB, CZMT, MEVS, and for the joint major:

Concepts in Physical Oceanography

Marine Ecosystems

Marine Geology

Marine Chemistry

Biostatistics I

or Biostatistics II

Five core courses are required for MSPO:

Concepts in Physical Oceanography

Concepts in Fluid Mechanics

Ocean Circulation

And two more chosen from those core courses available to other majors

For the Marine Biology major, elective courses include:

Bio-Physical Interactions in the Ocean

Biology of Sharks

GIS & Environmental Remote Sensing

Coral Reef Ecology

Coral Reef Geology and Evolution

Deep-Water Ecology of the Straits of Florida
Ecology of the Great Barrier Reef
Invertebrate Zoology
Marine Biodiversity
Marine Ichthyology
Marine Mammals
Molecular Marine Biology
Plankton Ecology
Population Ecology
Scientific Diving and Coral Reef Assessment
Scientific Writing
Taxonomy of Marine Invertebrates
Wetlands Ecology

For the Coastal Zone Management major, elective courses include:

Aquaculture
Aquaculture Systems
Aspects of Marine Pollution (distance)
Biology of Sharks and Rays (distance)
Coastal Ecology
Coastal Policy (distance)
Coastal Zone Interpretation (distance)
Conservation Biology
Dry Coastal Ecosystems
Environmental Conflict
Environmental GIS
Environmental Policy
Environmental Regulation
Environmental Remote Sensing and Geographic Information Systems (distance & in-house)
Environmental Sustainability (distance)
Environmental Toxicology (distance)
International Integrated Coastal Zone Management (distance)
Internship in Coastal Policy (distance)
Introduction to Environmental Sciences
Life on a Water Planet (distance)
Marine Botany
Marine Biodiversity
Marine Environmental Policy
Marine Mammal Management (distance)
Ocean Observing (distance)
Oil Pollution Effects
Resolving Environmental and Public Disputes (distance)
Scientific Writing
Tropical Marine Fish Ecology
Water Resource Impacts
Water: Cross-cultural, scientific, and spiritual perspectives (distance)

For the Marine Environmental Sciences major, elective courses include:

Aquaculture
Aspects of Marine Pollution
Biology and Ecology of Coral Reefs
Coastal Ecology
Conservation Biology
Deep Water Ecology of the Straits of Florida
Environmental Chemistry

Environmental Conflict
Fish and Wildlife Management
Fundamentals of Aquatic Ecotoxicology
Environmental Conflict
GIS & Environmental Remote Sensing (distance & in-house)
Introduction to Environmental Sciences
Marine Botany
Marine Biodiversity
Marine Environmental Policy
Marine Mammals
Molecular Marine Biology
Oil Pollution Effects
Scientific Writing
Wetlands Ecology

For the Physical Oceanography major, elective courses include:

Air-sea interactions
Coastal Ocean Observing Systems
Coastal Dynamics
Data Analysis Methods in PO
Nearshore Processes
Satellite Oceanography I
Satellite Oceanography II
Waves in the Ocean

For the joint Marine Biology and Coastal Zone Management; Marine Biology and Marine Environmental Sciences; and Coastal Zone Management and Marine Environmental Sciences majors, the choice of courses includes those listed above for the individual specialties.

Since the “normal” electives for each major may not exactly suit an individual student’s career goals, interests, or research needs, some program flexibility may be provided in the form of elective courses from a specialty other than the one in which the student is enrolled. Permission for program flexibility must be given in writing by program administrators. Such course flexibility is limited to one or (in extreme cases) two courses. It is stressed that any deviation from the normal program must be done carefully and with approval of a program administrator and the major professor (if one has been selected). The applicability of the elective course must be justified and approved prior to registration. Failure to do this risks non-approval of the course for program credit after the fact. This can delay a student’s progress.

Specific suggestions for the timeline of activities for a capstone or thesis proposal are located at and

3.8. M.S. Capstone/Thesis Tracks

3.8.1. Committee Composition

Each M.S. student will have an advisory committee. To obtain the maximum benefit, it is to the student’s advantage to form this committee early in his or her program.

Capstone review: The capstone review committee will consist of at least two members, one of which must be a faculty member of the Oceanographic Center. The major professor must have

the terminal degree in a field relevant to the capstone topic. Other members of the committee must ordinarily have the terminal degree.

Thesis: The thesis advisory committee will consist of a major professor from the Oceanographic Center faculty and at least two additional members, one of whom may be from another center of Nova Southeastern University or from outside the university. In rare cases, requiring approval by the Director of Academic Programs, the major professor may be an adjunct faculty member. The committee participates in topic selection and preparation of the proposal/outline and thesis. Close coordination between student and committee during this process is strongly advised. The major professor must have the terminal degree in a field relevant to the thesis research. Other members of the committee must ordinarily have the terminal degree.

3.8.2. Report of Progress

This report is required from each student registered for thesis or capstone credits by the end of each term of registration before a grade is issued. The completed report is turned into the Program Office by the student's advisor.

The report will include the following information:

- student's name and date
- a brief narrative synopsis of the work completed since the last report -- for example, details of experiments conducted and literature reviewed
- target date for thesis or capstone completion
- estimate of time spent on thesis or capstone work this term
- a list of problems experienced (if any)
- major professor's comments
- major professor's signature

3.8.3. Capstone review

The capstone review paper is an extended library paper in a format generally similar to that of the more formal thesis. It is a serious scholarly review and should not be confused with a course term paper. A typical capstone is in excess of 50 pages and references about 50 sources, predominantly peer-reviewed.

The capstone process begins with the student finding an advisor credentialed in the topic of interest to the student. This is a collegial process; there must be a mutual agreement between advisor and student. Neither topics nor advisors are assigned to students. Students having difficulty finding an advisor should see the Director of Academic Programs for assistance. After a topic is decided, and a second committee member has agreed to serve on the student's committee, the student prepares a proposal. This may take several iterations. Once the capstone review paper proposal has been approved by the student's committee the final draft is submitted and approved by the Director of Academic Programs. Only after proposal approval by the Director may capstone students register for the first of two three-credit capstone courses (OCMB-7000, CZMT-0701 or MEVS-5026). The capstone review paper is expected to be completed by the end of the second term of registration. However, if the capstone review paper is not finished after completion of the minimum number of required capstone review credits (6), the M.S. student continues registration for three additional credits in each subsequent term until the capstone review paper is finished and has been successfully defended. If a student fails to register for any

given term without written approval by the Director, missed credits must be made up before graduation, usually during the next term of registration. A recommended timeline, helpful suggestions, and examples of required cover sheets are provided at For distance students, capstone guidance is also provided at:

3.8.3.1. Capstone Style and Format

The capstone should be soft-cover bound using the Oceanographic Center Library approved cover (please contact the OC librarian) and should be presented as a high-quality, word-processed, laser-printed document. The student should use a manuscript format applicable to library research and term papers. Capstone reviews must follow the writing and citation guidelines of the Chicago Manual of Style. The Manual is available online A table of contents must be provided which is then expanded into major topics and divided with subtopics. A left-hand margin of one and one-half inches is essential. Tables and Figures should be imbedded in the text. Final copies of capstones with a left-hand margin less than one and one-half inches will be rejected. This is necessary to prevent loss of text during binding. All other margins (e.g. right-hand, top and bottom) should be one inch. Word processing should be neat and clean and laser-printed. For the final copies, paper must be of good quality, acid-free, 20 percent cotton (rag) bond. Erasable bond and heat-sensitive paper for thermal printers are absolutely forbidden. Right margins should be justified. Please check with the librarian for current printing protocols.

No further guidelines are provided in order to allow some flexibility. Three copies of the capstone are required: one for the library, one for the M.S. program office, and one for the major professor.

3.8.4. Thesis

The thesis is a write-up of a scientific study done by the student. The thesis process begins with the student finding an advisor credentialed in the topic of interest to the student. This is a collegial process; there must be a mutual agreement between advisor and student. Neither topics nor advisors are assigned to students. Thesis research is typically tied to grants or contracts held by the thesis advisor. The number of research projects available at any one time is dependant on the vagaries of funding. The student interested in pursuing a thesis should begin searching for a project as soon as possible. After a research project is decided upon, and two additional faculty members have agreed to serve on the student's committee, the student prepares a proposal. This may take several iterations.

Once the thesis proposal has been approved by the student's committee the final draft is submitted and approved by the Director of Academic Programs. Once the thesis proposals have been approved by the Director, M.S. thesis students sequentially register for and complete a minimum of three thesis research credits (OCMB-6900, CZMT-0681, or MEVS-5028) in each succeeding term until the thesis is complete and has been successfully defended. Sequential registration continues until the thesis is finished. If a student fails to register for any given term without written approval by the Director, missed credits must be made up before graduation, usually during the next term of registration. It should be noted that while a minimum of nine thesis research credits is required; more than this is usually necessary for the completion of M.S. research. A recommended timeline, helpful suggestions, and examples of required cover sheets are provided at.

The thesis is hardcover bound through the Oceanographic Center (see Center librarian) at the student's cost. The required editorial style for a thesis that is reporting lab or field research can be obtained from an appropriate scientific journal in the field (selected with approval of the major professor). Each journal publishes a list of guidelines to authors. The thesis is written as a journal article but with more methodological detail and raw data than would normally be published. The intent is to prepare the thesis in a form that can be pared down and submitted for publication.

A left-hand margin of one and one-half inches is essential. Tables and Figures should be imbedded in the text. Final copies of theses with a left-hand margin less than one and one-half inches will be rejected. This is necessary to prevent loss of text during binding. All other margins should be one inch. Word processing should be neat and clean and laser-printed. For the final copies, paper must be of good quality, acid-free, 20 percent cotton (rag) bond. Erasable bond and heat-sensitive paper for thermal printers are absolutely forbidden. Right margins should be even, not ragged. Three copies are required: one for the library, one for the M.S. program office, and one for the major professor.

3.8.5. Rough Drafts - Committee Inspection of Capstones and Theses

Rough draft copies of a capstone or thesis submitted to committee members prior to the defense must be complete, containing figures and tables with legends and a bibliography. The draft copy must be double-spaced and should be in good form. It must not be missing parts essential to a proper evaluation, especially the data. A complete and detailed outline should be included with all drafts.

Students should expect demands for major revisions by the committee (editorial or otherwise), especially in the first drafts. Several drafts are usually necessary before the final form is achieved. The entire process from first draft to a final defensible copy can be very time consuming. To avoid unnecessary delays, students are advised to work out a timeline with their advisors and committee members and adhere to it. Bear in mind that staff and faculty members have a host of responsibilities. Without prior coordination, an unanticipated draft may languish on a committee member's desk for weeks or even months (for example, if a committee member is in the field).

3.8.6. Defense of Capstone and Thesis

On completion of the capstone review paper or thesis to the major professor's satisfaction, it is formally submitted to the other committee members. Upon agreement of the full committee, submission of the paper to the program office, and approval of the Director of Academic Programs, the defense may be scheduled.

The defensible copy must be complete, including, for example, all relevant materials, appendices, figures, and data tables. The copy (or reproductions thereof) will be available for review to any interested faculty member. Incomplete works will not be acceptable for defense. Once the defensible copy is submitted, additional revisions should not be made or circulated prior to the defense.

All M.S. thesis defenses must be scheduled at least two weeks in advance and all M.S. capstone review paper defenses must be scheduled at least one week in advance through the Institute of Marine and Coastal Studies. Thus, although they may be scheduled later, a defense for a capstone review may be scheduled no sooner than one week after submission to the program office, and for a thesis no sooner than two weeks after submission. For very long works, this time period may be extended to provide interested faculty adequate time for reading.

There are two components to a defense: public and private. For the public defense, requirements generally include a 30- to 50-minute oral presentation (with appropriate visual aids) to the faculty, student body, and other interested persons. In the case of distance students who are unable to

attend their defense in person at the Oceanographic Center, alternate arrangements may be made using audio-visual software. The committee then will question the candidate in private on aspects related to their capstone or thesis work. This private session is closed and limited to the candidate, members of the committee, and interested faculty members. The committee then takes a vote in closed session. The capstone review paper or thesis may be accepted, accepted with revision, or rejected.

The Oceanographic Center faculty ultimately must pass on thesis acceptability. The student should consult frequently with the committee during all phases of thesis work for continuity and in order to avoid problems during the formal defense. If the paper is not acceptable, the student receives the grade of "F" for the thesis or capstone credits. If the paper and defense are acceptable, the student receives a grade of "P". If the paper is acceptable, but requires only minor corrections, the student may receive a grade of "P" when the corrected paper is received. The student will be informed of the committee's decision following the closed defense. If extensive corrections are required the student may have to register for additional thesis or capstone credits.

3.9. Ph.D. Program

3.9.1. General and Credit-Hour Requirements

There are two informal divisions within the Ph.D. in Oceanography Program: marine biology and physical oceanography. The Ph.D. degree requires a minimum of 90 credits beyond the baccalaureate. At least 48 credits must consist of dissertation research. The student may not register for research credits (DIS) until after successfully defending the research proposal. At least 42 credits consist of upper-level course work. Required courses include the five M.S. core courses (Physical Oceanography, Marine Ecosystems, Marine Geology, Marine Chemistry, Biostatistics). Other upper-level course work consists of electives and tutorial studies with the major professor. The student must successfully complete the Ph.D. comprehensive examination and successfully defend the completed dissertation before the committee. The Oceanographic Center faculty has final approval of the dissertation.

Ph.D. students pay full tuition while in active status; that is, while taking courses, finalizing the proposal, performing research, and writing the dissertation. The minimum activity requirement is three years, but the typical activity requirement for a student with an in-field master's degree is more than three years. The minimum time limit (three years) begins with the initial course registration. Once Ph.D. activity has begun, registration is sequential each term. Full tuition must be paid each term. Failure to register for a particular term is not permitted without prior written approval by the Director and may signal the student's resignation from the degree program. A recommended timeline, helpful suggestions, and examples of required approval and cover sheets are provided at

3.9.2. Academic Activities and Approvals

Ph.D. students may transfer up to 30 graduate course credits from prior graduate programs in the same discipline as their anticipated Ph.D. Transfer courses must be either reasonable duplicates of courses offered at NSU or clearly in an applicable Ph.D. field of interest. Transfer acceptability will be decided by the Director of Academic Programs, the student's advisors, and the student's dissertation committee (if formed at entrance).

3.9.3. Committee

The student's Ph.D. Committee consists, at a *minimum*, of four people, at least three of whom must be Center faculty and one of who must be from outside the Oceanographic Center. The committee monitors all phases of the candidate's progress. The committee is formed prior to acceptance or within two terms of admission.

3.9.4. Proposal Defense

Before research relevant to the Ph.D. can begin, a student must produce a detailed research proposal written under guidance of the major professor and members of the supervising committee. The dissertation proposal should consist of at least the following elements:

- title of the proposed dissertation
- statement of the problem and hypothesis to be tested
- statement of the significance of the work
- detailed description of the methodology with enough detail that the methodology can be understood without having to consult secondary sources
 - literature should be cited where applicable
 - proper experimental design is very important and will be subject to review and comment by the dissertation committee
 - expected results of the research should be provided, and any required funding, facilities, and other equipment/resources should be listed
- references/bibliography

A candidate will defend the proposal in an oral presentation to faculty. A written version must be submitted at least one week beforehand and reside in the program office for inspection by the faculty if desired. At the oral presentation defense, a candidate will be expected to demonstrate sufficient knowledge about the proposed research project, and to justify the chosen research topic. Presentation will be open to all faculty; a closed session with the student will follow, restricted to the committee and interested faculty. If areas of deficiency are highlighted, a candidate will be notified and will have the opportunity to modify the proposal. The committee may require a second presentation.

3.9.5. Qualifying Examination

Within 6 months to a year after admission, the student will complete a qualifying exam before his/her committee that will determine basic knowledge and deficits to be corrected by coursework. This test is used to tailor the student's curriculum. It is not graded, and does not determine candidacy. The qualifying examination may be taken directly after the proposal defense.

3.9.6. Comprehensive Examination

The examination consists of written and oral phases. The written exams, taken on completion of formal course work, are administered by the major professor and consist of questions submitted by each committee member. The candidate is allowed a day to answer each member's questions. The entire exam takes at least three days. The student is informed of the results of the written examination within one week of completion. At that time, the committee determines if the answers to the written portion warrant further examination, in which case an oral exam is scheduled. The student normally takes the oral examination within two weeks of this notification. The oral phase consists of questions concerning any aspect of marine science posed by each committee member during a joint meeting but typically concentrates on areas highlighted by weak responses

on the written exam. After the examination, the student will be excused and the committee will determine the outcome. The decision of the committee must be unanimous. A student failing either written or oral parts may retake the exam once, typically two to six months after the first attempt.

3.9.7. Defense of Dissertation

On completion of the dissertation to the major professor's satisfaction, it is formally submitted to the other committee members. The dissertation may be scheduled for defense only after approval by the entire committee and the Director of Academic Programs.

All Ph.D. dissertation defenses must be scheduled at least two weeks in advance through the program office. Notice will be provided to the faculty. At least two weeks prior to a student's scheduled defense, a copy of the work must be submitted to, and reside in, the program office. For very long works, this time period may be extended to provide the committee adequate time for reading. The defendable copy must be essentially complete, including, for example, all relevant materials, appendices, figures, and data tables. The copy (or reproductions thereof) will be available for review to any interested faculty member. Incomplete works will not be acceptable for defense.

The defense will consist of a 40- to 50-minute oral presentation (with slides/visual aids) to the faculty, student body, and other interested persons. The committee will then question the candidate on the dissertation work and related aspects. This session is closed and limited to the candidate, members of the committee, and interested faculty members. The committee then takes a vote in closed session. The thesis may be accepted, accepted with revision, or rejected. The Oceanographic Center faculty ultimately must pass on acceptability of the dissertation. The student should consult frequently with the committee during all phases of thesis work for continuity and in order to avoid problems during the formal defense.

3.9.8. Final Submission of Dissertation

At least three signed copies of the successfully defended dissertation, including any revisions specified during the defense, must be submitted, in bound form, to the Oceanographic Center librarian. The complete dissertation may be submitted to the librarian for binding or the student may elect to have this done elsewhere. The cost of binding is the student's responsibility.

The major professor is responsible for insuring that changes specified by the committee are incorporated in the final version. One bound copy will be placed in the library, one is for the student's major professor, and one is for the program office. The student may submit any number of additional personal copies for binding.

3.9.9. Report of Progress

This report is required from each student registered for dissertation credits by the end of each term of registration. The completed report is turned into the Program Office by the student's advisor.

The report will include the following information:

- student's name and date

- a brief narrative synopsis of work completed since the last report -- for example, details of experiments conducted and literature reviewed.
- target date for dissertation completion
- estimate of time spent on dissertation work this term
- a list of problems experienced (if any)
- major professor's comments
- major professor's signature

3.9.10. Ph.D. Course Descriptions

In addition to specialized courses (listed and described at Ph.D. candidates register for OCGY-8000 (Ph.D. Dissertation Research).

3.10. Distance Education

The Oceanographic Center offers a variety of courses in a distance learning format, most usually at a graduate (M.S.) level, but also, upon enquiry, for undergraduate credit or general interest. (A course designated on WebStar by the DE1 suffix is offered at a graduate level; those with a DE3 suffix are undergraduate level. Students registering for courses on WebStar should double-check to make sure that they have selected the appropriate level.) Students may apply to enter into distance study in any term; winter, spring, summer or fall.

Prospective students are encouraged to explore the Oceanographic Center's distance learning website (and to contact the Coordinator of Distance Learning by telephone (1 800 541 6682, ext. 3621) or email (douganj@nova.edu). The Coordinator may also be contacted "instantly" through AOL instant Messenger (NSUOCdistance) and MSN Messenger (douganj@nova.edu).

While distance students are very welcome to visit the Oceanographic Center, courses are designed considering the student who may be located in another state or on another continent. There is therefore no mandatory requirement for distance students to come to the site. Similarly, in recognition of differing time zones, synchronous (real-time) activities may be scheduled within specific courses, but attendance at these is not obligatory, and the majority of web-based course communication is asynchronous. Students admitted into the distance program are expected to take the distance versions of the core courses, and have priority with regard to all distance courses. In the event that registration is full in a distance course, in-house students will be "bumped" in favor of distance students, in sequence according to the most recent registrations.

The **schedule** of distance courses is found at: Course descriptions link directly from this.

Distance courses that may be taken individually or within specific majors include:

Core courses (within the M.S. in CZMT):

Biostatistics I
 Introduction to Physical Oceanography
 Marine Chemistry
 Marine Ecosystems
 Marine Geology

Elective courses (3-credit):

Aspects of Marine Pollution
 Biology of Sharks and Rays
 Coastal Policy
 Coastal Pollution and Environmental Toxicology
 Coastal Zone Interpretation

Environmental Remote Sensing and Geographic Information Systems
Environmental Risk Assessment
Environmental Sustainability: Choices for the Future
Environmental Toxicology
International Integrated Coastal Zone Management
Internship in Coastal Policy (available year round upon approval of supervising professor)
Marine Mammal Management
Ocean Observing
Resolving Environmental and Public Disputes (offered through the School of Humanities and Social Sciences)
Water: Cross-cultural, Scientific and Spiritual Perspectives

3.10.1. Course Delivery

Distance courses are offered directly from the web by means of the WebCT course software delivery program (found at [Students must be fully admitted, registered within a course, and have an active NSU email account before they can access their WebCT materials.](#) (Distance students especially should be cautioned that their NSU email account privileges may expire after a six-month period of inactivity, and so they may need to renew these after any extended break in study.) Admitted distance students are encouraged to explore the information and links at:

To ensure effective communication, it is particularly important that distance students update WebStar with any changes in contact details (e.g. address, telephone), and use their NSU email address for all formal email communication.

The distance program staff and faculty want distance students to feel a “connected” part of the OC student community. Towards this end, incoming students are encouraged to submit (and update) brief informal biographies and photographs for posting on the distance course website. Likewise, distance students are welcome to take OC compressed on-site and OC field courses. Students admitted into the distance education program should explore the specific links for admitted students on the distance education home page at:

3.10.2. Textbooks

Any texts required for distance learning courses may generally be ordered and shipped from the NSU bookstore, which can be accessed directly from the web at:

3.10.3. Library

Distance students should contact the OC librarian, Kathy Maxson, (email: maxson@nova.edu), to establish communication and get an overview of the services available to them. They should also virtually “visit” and explore the resources available to distance students through the main NSU campus library, at:

3.10.4. Technological HELP Desk

The Office for Information Technologies at NSU maintains a computing help desk that may be contacted for assistance with any academic computing problems. They can be contacted online at: or by telephone at (954) 262-HELP (4357), or toll free: (800) 541-NOVA (6682) x4357.

Distance students are advised to explore the range of technological support services available to them at:

3.10.5. Attendance

As a requirement for accreditation, regular online attendance is necessary. Each professor has the responsibility to enforce class attendance. To fulfill this requirement, students must have

logged-in, accessed, and/or interacted with the majority of online course requirements (e.g. assignment submissions, asynchronous discussion) by the tenth week of term or they may be withdrawn from the course by the instructor through the Program Office. For this reason, if students anticipate or encounter any reason why they may be unable to engage with their online coursework for an extended period during a term, they must communicate this to their instructor and the Distance Education Coordinator as soon as possible. Students do have the option of requesting an Incomplete; if this is granted by their instructor, they then have 3-months from the end of the term date to submit the required course work as decided with the instructor. An incomplete grade agreement form must be completed and filed with the distance education office. An instructor reserves the right to request original written documentation to substantiate any such absences. A falsified excuse is cause for disciplinary action. Distance students are referred to the section 3.5.2. of this catalog for details on course withdrawals and refunds.

3.10.6. Final Examinations

If a final examination is scheduled for a distance course, students who reside within a 50-mile radius of the Oceanographic Center are required to come to the site to write it. Final exams are generally scheduled in the evening during the last week of term. Students located close to NSU Student Educational Centers may make arrangements to write there. Students who reside more than 50-miles from the Oceanographic Center, and do not wish to travel to the Center, must make formal arrangements to write their final examinations under the supervision of invigilators at an appropriate institution convenient to them. Further details on this can be provided by the Coordinator of Distance Learning.

3.10.7. Student Conduct

Distance students are referred to the section on Student Conduct (5.0) later in this handbook, especially with regards to clarity about plagiarism.

3.10.8. Distance Certificate and Degree Programs

Distance students may take individual courses, or study towards a range of distance programs, offered either by the Oceanographic Center or in conjunction with other NSU departments. Distance programs include:

3.10.9. Graduate Certificate in Coastal Studies

The Institute of Marine and Coastal Studies at the Oceanographic Center, Nova Southeastern University, offers a distance learning Graduate Certificate in Coastal Studies. This is awarded upon successful completion (defined as a course grade of C or better) of any four Oceanographic Center distance-learning courses at the graduate level. Courses do not have to be taken within any one term, or consecutively, but the Certificate must be completed within 5 years of admission. Successful completion of the Graduate Certificate will award the equivalent of 12 graduate credits. Students taking courses for general interest (audit) may also obtain a Certificate in Coastal Studies after completion of any four distance courses. Should a Graduate Certificate student wish to go on to full graduate study, credits may be transferred to specific Master's programs, including the M.S. in Coastal Zone Management and the MA in Cross-Disciplinary Studies, provided the student meets graduate acceptance criteria. Because the time-frame may differ considerably from student to student in the Graduate Certificate program, it is each individual student's responsibility to advise the Coordinator of Distance Learning when they have completed their 4 courses, and to request transmission of their Graduate Certificate. Students who have completed their Graduate Certificate in Coastal Studies and wish to continue with distance study can take a maximum of two additional distance courses as a "Special Student". After that, they must be formally accepted within an alternate distance program (e.g. the M.S. in CZMT, MACS) before they can continue registering for distance courses.

3.10.10. M.S. in Coastal Zone Management– Distance Education

The distance M.S. in Coastal Zone Management (CZMT) is equal to the in-house M.S. degree, and students should refer to the program description provided in section 2.0 of this catalog. Students registered in the distance M.S. in CZMT have the option of registering for in-house electives and field courses with the Oceanographic Center, but must take the distance versions of the core course requirements. Distance core courses are restricted to distance students, and can only be taken by in-house students with the permission of the Director of Academic Programs. An updated schedule may be found at

Required distance core courses for the M.S. in Coastal Zone Management are:

Marine Geology

Marine Chemistry

Biostatistics I

Introduction to Physical Oceanography

Marine Ecosystems

All distance M.S. in CZMT students are automatically admitted into the Capstone Track option, and should review the details of the capstone process found in this catalog in Section 3.8 and on the web at:

Distance M.S. in CZMT students are encouraged to make arrangements to come to the Oceanographic Center to defend their capstone. If this is not possible, alternate arrangements can be made to link with their committee by means of audio-visual technologies or software programs such as Horizon and Wimba. The Oceanographic Center also contributes graduate-level distance courses within the School of Humanities and Social Sciences and the Fischler School of Education and Human Services (see below).

3.10.11. Environment and Society Concentration Track of the M.A. in Cross-Disciplinary Programs (MACS)

Offered by the School of Humanities and Social Sciences

The M.A. in Cross-disciplinary Studies is multidisciplinary, experiential, and allows students to self-design their graduate studies. The program is designed to meet the needs of students who are seeking a broader learning forum and who appreciate the unique self-design of cross-disciplinary studies. The M.A. program provides intellectual advancement and the opportunity to expand and enrich educational horizons in keeping with the liberal studies traditions. The M.A. program utilizes a multidisciplinary approach and variety of perspectives for observing, analyzing, and addressing contemporary social issues. Students focus on systemic approaches and methodologies when studying human challenges. The M.A. utilizes experiential learning to provide students with hands-on training where theory and practice are integrated.

The M.A. consists of an 11-course (33 credits) sequence that includes core classes, practica, and a 12-credit concentration track.

For more information, please visit the link at: or contact Erica Guterman by email (guterman@nova.edu), or by telephone at 1-800-541-6682, ext. 3003.

3.10.12. M.S. in Education with Specialization in Environmental Education

Offered by the Fischler School of Education and Human Services

The M.S. in Education with specialization in Environmental Education (OCEE) is as a component of the National Graduate Teacher Education online program. NGTE is a fast-paced online master's program designed to be completed within one year. A new cluster (group) begins each winter, summer and fall. Students within an assigned cluster take the same courses in sequence. There are 2 sessions each term and 3 terms each year, to give 12 courses and 36 credits. Students remain with their "cluster" throughout the program, and so build a strong sense of being part of a virtual learning community.

The degree is conferred by Nova Southeastern University's Fischler School of Education and Human Services, but the specialization is a collaborative offering between Fischler and the Oceanographic Center. Each term, one course is taught with an emphasis on the "education" field, the other with an emphasis on "environmental" components of education.

For more information, please see the link at or contact Jane Dougan by email at douganj@nova.edu, or by telephone at 1-800-541-6682, ext. 3621.

4.0. Grading

4.0.1. Grading System

The following system is used to grade academic performance:

GRADE	DESCRIPTION
A	Excellent
B	Satisfactory
C	Marginal Pass
D	Poor
F	Failure
W	Withdrawal: Given after the third class week or termination by the instructor for non-completion of the course by the student.
I	Incomplete: Given when most (80 percent), but not all, work has been completed.
Au	Audit
P	Pass

Professors may use + or – in grading. However, the grading scale ranges from A to D-, no A+ or F+ are awarded.

A grade of incomplete (I) must be requested from the instructor, have the Director's approval, and be accompanied by a **completed contract specifying outstanding course requirements and completion dates**. Completion of the course graded incomplete must occur within one term (or 3 months) of the end of the course and the incomplete be changed to a different grade. If the course is not completed in 3 months, or the student has not withdrawn and received a W, the incomplete will automatically be converted to a grade of F. Under unusual circumstances students may request a time-extension to complete the course. Such requests must be submitted to, and approved by, the Director of Academic Programs prior to the end of the 3-month time limit. There are no exceptions to this rule. Securing the completed and signed incomplete contract forms is the responsibility of the **student**. Blank forms are available online at.

Students are permitted to retake, at their expense, courses for which a grade of C or lower has been earned. Retaking a course is only permitted once. Retaking of courses does not remove from the student's official transcript the entry of the earlier registration nor the grades earned; however, only the highest grade earned in a course will be computed as part of the grade point average, thus enabling the student to improve his/her academic standing. Courses with a grade of C- or lower will not be counted as credits towards degree requirements. Core classes with a C- or lower must be retaken to count towards degree conferment.

4.0.2. Quality Points

Quality points are used to compute the overall Grade Point Average (GPA) of a student.

GRADE	QUALITY POINTS
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	0.67
F	0.00

Not all courses are graded with the letter + or - system. In some courses, only whole letter grades are given.

4.0.3. Grading Policies

4.0.3.1. Audit

Master's degree candidates and special students may audit courses (non-credit) for one-half the normal tuition rate (plus fees). These students may withdraw from audited courses and receive full or partial tuition reimbursement according to the Withdrawal and Refund Policy listed in the handbook and bulletin. Ph.D. candidates may register to audit courses at no additional charge beyond their regular tuition.

Audit students are expected to attend classes and participate in the courses as regular students. If this is not the case, the students will be administratively dropped from the class roster. Audit students may take course exams and complete term papers at their option. An audit does not count towards degree or certificate requirements.

4.0.3.2. Attendance

As a requirement for accreditation, regular and punctual class attendance is necessary. Each professor has the responsibility to enforce class attendance. To fulfill this requirement, students must be present for 80% of the regularly scheduled sessions and field trips or they will automatically be withdrawn from the course by the instructor through the Program Office. There are no excused absences for purposes of this rule.

4.0.4. Examinations

Final written examinations are required in graduate courses, except in seminars and other tutorial courses where research papers or other requirements may replace a final exam. Usually the final examination or total accumulated points determine the grade for a course. However, the instructor may indicate otherwise.

A student failing to take the final examination in any course must notify the Director's office as soon as circumstances permit, preferably prior to the final. If the Director is satisfied that the absence was justified, permission may be given to take a makeup examination within six months or the next time the course is regularly offered.

4.0.5. Student Grade Transmittal

No grades will be released to students without full payment of tuition and fees (or firm arrangements for their payment). *Grade reports are mailed to the student's permanent address and are not given over the telephone or verbally by the program office.* Students may access their grades in [WebSTAR](#).

4.0.6. Grade Appeal/Grievance Procedure

Students who have reason to believe that there has been an error in assigning a grade may formally protest and invoke the Grade Appeal Procedure. The grade appeal or other grievance procedure for students is itemized below and should be followed in all instances, making sure that each step is completed before going on to the next step. If resolution is reached at the end of any given step, it is not necessary to continue.

Step 1:	The professor should be contacted to discuss the grade disparity. The problem should be resolved at this level if at all possible.
Step 2:	The student must make an appeal in writing to the professor noting specific objection to the grade received or the problem encountered. The professor must respond in writing giving justification for the grade or action given. Copies of both communications should be forwarded to the program administrator. The program administrator may decide the matter, if that is agreeable to all parties.
Step 3:	An appeal committee will review both written and oral arguments in the case. The committee will consist of at least one administrative officer of the program, at least one faculty member who teaches in the program, and others as deemed necessary by the program administrator(s).
Step 4:	The student and professor will be informed of the committee's decision and, barring any written objections to the committee by either party within fourteen calendar days, the recommendations of the committee will be accepted.
Step 5:	If written objections are received within fourteen days, the matter will be referred to the Director of the Institute of Marine and Coastal Studies for review and resolution. This step does not apply if the Director served on the appeal committee. In the latter case, the matter will be referred to the Dean of the Oceanographic Center.

4.1. Academic Standing

The academic progress of all students will be evaluated after each term, including the summer term. **Students shall be deemed in good academic standing unless they have a cumulative**

GPA of less than 3.0. Any student who fails to maintain a cumulative 3.0 GPA will be placed on academic probation for two terms. If probation is not removed at the end of the two terms, the student will be released from the program. A student may petition for reinstatement after 12 months, explaining the reasons why their academic potential has changed and re-admission should be considered. Reinstatement is not guaranteed and is only possible if it is probable that the student can raise their cumulative GPA to 3.0 in two terms.

A 3.0 cumulative average is required for graduation.

4.2. Grade/Progress Reports

Each student will be provided a grade at the end of every term. Grades will also be placed in the student's official record, maintained by the school's registrar, to which IMCS has access. The student may access their unofficial transcript through [WebSTAR](#). This transcript shows current status of grades and earned semester hours for all courses completed and/or attempted.

5.0. Student Conduct

All students are expected to comply with the legal and ethical standards of the institution. Academic dishonesty and/or nonacademic misconduct will result in disciplinary action.

The University and the Oceanographic Center expects its students to manifest a commitment to academic integrity through rigid observance of standards for academic honesty. The academic honesty standards include:

1. Original Work. Assignments such as course preparations, exams, texts, projects, term papers, practicums, etc., must be the original work of the student.

Original work may include the thoughts and words of another author but if that is the case those ideas or words must be indicated in a manner consistent with a university-recognized form and style manual.

Work is not original that has been submitted previously by the author or by anyone else for academic credit.

Work is not original that has been copied or partially copied from any other source, including another student, unless such copying is acknowledged by the person submitting the work for the credit at the time the work is being submitted or unless copying, sharing, or joint author-ship is an express part of the assignment.

Exams and tests are original work when no unauthorized aid is given, received, or used prior to or during the course of the examination.

2. Referencing the Works of Another Author. All academic work submitted for credit or as partial fulfillment of course requirements must adhere to each center's specific accepted reference manuals and rules of documentation.

Standards of scholarship require that proper acknowledgment be given by the writer when the thoughts and words of another author are used.

At Nova Southeastern University, it is plagiarism to represent another person's work, words, or ideas as one's own without use of a center-recognized method of citation. Deviating from center standards (1) or (2) is considered plagiarism at Nova Southeastern University.

3. Tendering of Information. All academic work must be the original work of the student. Giving or allowing one's work to be copied, giving out exam questions or answers, or releasing or selling term papers is prohibited.

4. Acts Prohibited. Students should avoid any impropriety or the appearance thereof, in taking examinations or completing work in pursuance of their educational goals. Violations of academic responsibility include, but are not limited to:

- plagiarism
- any form of cheating
- conspiracy to commit academic dishonesty
- misrepresentation
- bribery in an attempt to gain an academic advantage
- forging or altering documents or credentials
- knowingly furnishing false information to the institution
- falsifying excuses for attendance

For clarification on plagiarism and copyright, students are referred to the online overview provided at:

In cases of academic dishonesty occurring in the classroom, the faculty member has the option of discussing the incident with the student and deciding on the appropriate sanction (e.g. refusing to accept the paper, failing the course, etc.). A memo describing the offence and sanction is forwarded by the faculty member to the student and the Director of Academic Programs at the Oceanographic Center. For a first offense, this is placed in the student's file at the Program Office. For subsequent offenses, further review and more serious disciplinary action may be warranted, including suspension or expulsion.

The Oceanographic Center is committed to maintaining a student, staff, and faculty culture where high ethical standards are the norm. Faculty members at the Oceanographic Center have access to comprehensive web-based Turnitin.com plagiarism prevention software. Students registered in OC classes have the option of requesting access to for evaluation of their research papers, prior to submission, as a learning tool.

The institution reserves the right to require a student to withdraw at any time for misconduct as described above. It also reserves the right to impose probation or suspension on a student whose conduct is determined to be unsatisfactory.

STUDENTS WHO FEEL THEIR RIGHTS HAVE BEEN DENIED ARE ENTITLED TO DUE PROCESS.

The NSU student handbook is located on the student affairs website
