

2016

M.S. in Marine Environmental Sciences Program Overview

Nova Southeastern University

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M.S. in Marine Environmental Sciences 2016

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 Halmos College of Natural Sciences and Oceanography 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. Applicants are required to have a degree in the natural sciences.

Learning Outcomes

Expected learning outcomes are:

- 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 environment.
- A generalized knowledge of the natural and human-driven problems currently, and anticipated to, impact the marine environment.
- In-depth knowledge of a specific aspect of their major.

Delivery System

On campus graduate classes typically meet one evening per week in a three hour session. Exceptions are field courses which may entail several days of intensive study. On-line courses meet periodically at the convenience of faculty and students

Degree Tracks

There are two tracks for completing an M.S. degree.

Capstone (45 credits)

All entering M.S. students are accepted under the Capstone degree track.

Curriculum Breakdown:

- 5 core courses (15 credits)
- 8 elective courses (24 credits)
- 2 semesters of capstone (6 credits)

Defining a Capstone:

A capstone paper is a scholarly manuscript, based upon a comprehensive literature search, review, and synthesis of the chosen topic. It is similar to a thesis, inasmuch as data need to be acquired and analyzed within the framework of a scholarly article with the exception that these data can be acquired from the literature. Carrying out a Capstone paper takes place with guidance from a major professor.

Starting a Capstone:

Prior to beginning a Capstone and registering for Capstone credits, the student must write a proposal which must be approved by the student's major professor, committee, and the Chair of the Department of Marine and Environmental Sciences.

Thesis (40 credits)

Curriculum Breakdown:

- 5 core courses (15 credits)
- 5 elective courses (15 credits)
- 3 semesters of thesis (10 credits)

Defining a Thesis:

A thesis is an original contribution to knowledge resulting from the systematic study of a significant problem or issue.

Starting a Thesis:

To be allowed entry into the Thesis track the student must secure agreement from a faculty member to be the student's major professor. There must be adequate funding to carry out the proposed research. Prior to beginning thesis research and registering for thesis credits, the student must write a proposal which must be approved by the student's major professor, committee, and the the Chair of the Department of Marine and Environmental Sciences. The Thesis is typically a longer duration track and number of credit hours than the Capstone track.

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 [Halmos College of Natural Sciences and Oceanography Student Information](#) page

M.S. Credit Hour Requirements

The Capstone track requires a minimum of 45 credits. This includes five 3-credit core classes, eight 3-credit specialty courses and a minimum of two 3-credits of Capstone. Once a student starts registering for capstone course credits, they cannot stop registering for credits until the capstone is completed and defended. It is expected the Capstone can be completed within two terms or less. The completed Capstone is presented in an open defense that includes the student's advisory committee.

The Thesis track requires a minimum of 39 credits. This includes 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 typical minimum three terms. The final thesis is formally defended in an open defense that includes the student's advisory committee.

Elective Courses

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

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

Joint M.S. Degrees

Also offered are Joint M.S. Degrees

- M.S. in Marine Biology/Coastal Zone Management
- M.S. in Marine Biology/Marine Environmental Sciences
- M.S. in Coastal Zone Management/Marine Environmental Sciences

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

Curriculum

Core Courses - 15 Credit Hours

- [OCOR 5601](#) Concepts of Physical Oceanography (3 credit hours)
- [OCOR 5602](#) Marine Ecosystems (3 credit hours)
- [OCOR 5603](#) Biostatistics (3 credit hours)
- [OCOR 5604](#) Marine Geology (3 credit hours)
- [OCOR 5605](#) Marine Chemistry (3 credit hours)

Marine and Environmental Science Electives - 24 Credit Hours (Capstone Track) or 15 Credit Hours (Thesis Track)

- [MEVS 5590](#) Aquaculture (3 credit hours)
- [MEVS 5165](#) Coral Reef Ecology (3 credit hours)
- [MEVS 5155](#) Corals from the Inside Out: Comparative Histopathology (3 credit hours)
- [MEVS 5550](#) Deep Sea Biology (3 credit hours)
- [MEVS 5700](#) Ecosystems Applications (3 credit hours)
- [MEVS 5160](#) Fertilization Ecology (3 credit hours)
- [MEVS 4001](#) Geospatial Field Methods (3 credit hours)
- [MEVS 5023](#) GIS and Environmental Remote Sensing (3 credit hours)
- [MEVS 5520](#) Histology of Marine Organisms (3 credit hours)

- [MEVS 5595](#) Ichthyology (3 credit hours)
- MEVS 5606 Introduction to Bioinformatics (3 credit hours)
- [MEVS 5600](#) Invasive Species (3 credit hours)
- MEVS 5607 Invertebrate Zoology (3 credit hours)
- [MEVS 6001](#) Laboratory q-PCR and Culture Techniques (3 credit hours)
- [MEVS 5107](#) Marine Biodiversity (3 credit hours)
- [MEVS 5065](#) Marine Fisheries (3 credit hours)
- [MEVS 5580](#) Marine Larval Ecology (3 credit hours)
- [MEVS 6341](#) Marine Mammalogy (3 credit hours)
- [MEVS 5565](#) Professional Development (3 credit hours)
- [MEVS 5480](#) Scientific Method and Experimental Design (3 credit hours)
- [MEVS 9904](#) Techniques in Invertebrate Identification (3 credit hours)
- [MEVS 5000](#) Tropical Fish Ecology (3 credit hours)
- [MEVS 5145](#) Ultrastructure of Marine Organisms (3 credit hours)
- [MEVS 5615](#) U.S. Living Marine Resource Policy (3 credit hours)