MARINE SCIENCES MINOR

Contact Information
Department of Earth, Marine, and Environmental Sciences
Visit Program Website (https://emes.unc.edu/)
Murray and Mitchell Halls

Eric Kirby, Chair
Brent McKee, Associate Chair
Kevin Stewart, Director of Undergraduate Studies (GEOL)
KGSTEMAR@email.unc.edu
Marc Alperin, Director of Undergraduate Studies (MASC)
alperin@email.unc.edu
Violet Anderson, Student Services Manager
vmanders@email.unc.edu

The minor in marine sciences is designed to allow students access to departmental courses, facilities, and advisors in order to develop marine specializations related to their majors and to prepare for postgraduate study in marine sciences or a related field.

Department Programs
Majors
Minors
  • Geological Sciences Minor (http://catalog.unc.edu/undergraduate/programs-study/geological-sciences-minor/)
  • Marine Sciences Minor (p. 1)

Graduate Programs
  • M.S. in Geological Sciences (http://catalog.unc.edu/graduate/schools-departments/geological-sciences/)
  • M.S. in Marine Sciences (http://catalog.unc.edu/graduate/schools-departments/marine-sciences/)
  • Ph.D. in Geological Sciences (http://catalog.unc.edu/graduate/schools-departments/geological-sciences/)
  • Ph.D. in Marine Sciences (http://catalog.unc.edu/graduate/schools-departments/marine-sciences/) (http://catalog.unc.edu/graduate/schools-departments/geological-sciences/)

Requirements
In addition to the program requirements listed below, students must:
  • take at least nine hours of their minor "core" requirements at UNC–Chapel Hill
  • earn a minimum cumulative GPA of 2.000 in the minor core requirements. Some programs may require higher standards for minor or specific courses.

For more information, please consult the degree requirements section of the catalog (http://catalog.unc.edu/undergraduate/general-education-curriculum-degree-requirements/#degerequirementstext).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASC 101</td>
<td>The Marine Environment</td>
<td>3</td>
</tr>
<tr>
<td>MASC 401</td>
<td>Oceanography</td>
<td></td>
</tr>
</tbody>
</table>

One course emphasizing global oceanic processes: 3

One course emphasizing the coastal ocean 3

Group 1:
- ENEC 222 Estuarine and Coastal Marine Science
- MASC 52 First-Year Seminar: Living with Our Oceans and Atmosphere
- MASC/ENEC 220 North Carolina Estuaries: Environmental Processes and Problems
- MASC/GEOL 223 Geology of Beaches and Coasts
- MASC 432 Major World Rivers and Global Change: From Mountains to the Sea

One course featuring practical experience in marine sciences. Choose one from the following four groups: 3

Group 2:
- MASC 472 Barrier Island Ecology and Geology

or an equivalent course with a focus on the coastal ocean and approved by the director of undergraduate studies

Code | Title                                                        | Hours |
-----|--------------------------------------------------------------|-------|
ENEC 222 | Estuarine and Coastal Marine Science                          |       |
MASC 55 | First-Year Seminar: Change in the Coastal Ocean              |       |
MASC 58 | First-Year Seminar: Connections to the Sea: The Challenges Faced by Using and Living near Coastal In |       |
MASC/ENEC 220 | North Carolina Estuaries: Environmental Processes and Problems |       |
MASC/GEOL 223 | Geology of Beaches and Coasts                              |       |
MASC/ENEC/GEOL 411 | Oceanic Processes in Environmental Systems                 |       |
MASC 432 | Major World Rivers and Global Change: From Mountains to the Sea |       |
MASC/ENEC 433 | Wetland Hydrology                                           |       |
MASC 440/BIOL 462 | Marine Ecology                                             |       |
MASC 442/BIOL 457 | Marine Biology                                              |       |
MASC/ENEC 448 | Coastal and Estuarine Ecology                               |       |
MASC/ENEC 471 | Human Impacts on Estuarine Ecosystems                       |       |
MASC 472 | Barrier Island Ecology and Geology                          |       |
MASC/GEOL 503
Marine Geology

MASC 504/
BIOL 657/
ENVR 520
Biological Oceanography

or an equivalent field course approved by the director of undergraduate studies

Group 2:
MASC/ENEC/
GEOL 415
Environmental Systems Modeling

MASC/GEOL/
ENVR 480
Modeling of Marine and Earth Systems

MASC/GEOL
483
Geologic and Oceanographic Applications of Geographical Information Systems

MASC 561
Time Series and Spatial Data Analysis

or an equivalent mathematical modeling or data analysis course approved by the director of undergraduate studies

Group 3:
MASC/ENEC
Marine Phytoplankton

444/BIOL 456

MASC 445
Marine Invertebrate Biology

or an equivalent laboratory course approved by the director of undergraduate studies

Group 4:
MASC 395
Undergraduate Research in Marine Sciences

or MASC 396
Independent Study in Marine Sciences

A marine sciences course of the student’s choosing

3

Total Hours
12

1 Students may not receive credit for both MASC 101 and MASC 401


**Special Opportunities in Marine Sciences**

**Undergraduate Research**
The department offers opportunities to undergraduates to conduct directed research in our laboratories. Students work directly with faculty members and may enroll for credit as part of an honors or research project. The liaison for undergraduate research provides information about research opportunities in marine sciences, and assists undergraduates in finding a faculty advisor/research group that matches their interests.

**Experiential Education**
There are three opportunities for experiential education in Marine Sciences:

- MASC 220 is taught during Maymester at the main campus with one week at the UNC–Chapel Hill Institute of Marine Sciences in Morehead City, NC.
- MASC 395 can be taken with the permission of a faculty advisor.
- MASC 472 is taught at the UNC–Chapel Hill Institute of Marine Sciences in Morehead City, NC, during the summer session and provides an experience in the field.