OCEANOGRAPHY (M.S.)

https://ceps.unh.edu/earth-sciences/program/ms/oceanography

Description

The Oceanography (OCE) graduate program has a diverse set of faculty, staff, and students who examine ocean processes in broad fields of physical, biological, chemical, and geological oceanography and geophysics. Basic and applied research of an experimental, numerical, and analytical nature is conducted in oceanic settings that range from shallow nearshore and estuarine waters to the deep ocean and span all ocean basins on earth including the Arctic.

OCE offers programs leading to M.Sc. and Ph.D. degrees. These interdisciplinary programs prepare students for professional careers in ocean-related fields. In addition, students can also pursue an ocean mapping option within the Department of Earth Sciences and carried out within the Center for Coastal and Ocean Mapping.

Research and Facilities

The oceanography graduate program within the Department of Earth Sciences and the School of Marine Science and Ocean Engineering (SMSOE) is enhanced by the ocean engineering and marine biology graduate programs, and by other departments and institutes at UNH, including the civil and mechanical engineering and biology departments; the Institute for the Study of Earth, Oceans, and Space (EOS); the Center for Coastal and Ocean Mapping (CCOM); and the Ocean Processes Laboratory (OPAL). Other related programs include the N.H. Sea Grant Program, the Center for Collaborative Science, and the Atlantic Marine Science and the School of Marine Science and Ocean Engineering (SMSOE) is enhanced by the ocean engineering and marine biology graduate programs, and by other departments and institutes at UNH, including the civil and mechanical engineering and biology departments; the Institute for the Study of Earth, Oceans, and Space (EOS); the Center for Coastal and Ocean Mapping (CCOM); and the Ocean Processes Laboratory (OPAL). Other related programs include the N.H. Sea Grant Program, the Center for Collaborative Science, and the Atlantic Marine Aquaculture Center, Coastal Response Research Center (CRRC), Northeast Consortium (NEC), and the Piscataqua Region Estuaries Partnership (PREP). Oceanographic laboratories at UNH include the Shoals Marine Laboratory (SML) on Appledore Island, the Coastal Marine Laboratory (CML) in Newcastle, the Jackson Estuarine Laboratory (JEL) at Adams Point on the Great Bay, and the Chase Ocean Engineering Laboratory (COEL) on the main UNH campus. Additional laboratories for the oceanography faculty are located on campus in James, Morse, Rudman, and Spaulding Halls. The SMSOE operates a marine support facility and two UNH research vessels moored in Portsmouth Harbor at the UNH pier, the R/V Gulf Challenger and the R/V Gulf Surveyor, as well as a number of small boats. The SMSOE also supports the UNH Diving Program and oversees a shared use Instrumentation Pool for student and faculty use.

Admission Requirements

Applicants should have completed an undergraduate major related to one of the oceanography disciplines, including biology, chemistry, engineering, geology, physics, or mathematics, or an appropriate array of science and engineering courses within their major field. Applicants are expected to have completed one year each of calculus and chemistry and two semesters of physics and/or biology. It is not necessary to have had previous coursework in oceanography.

Requirements

M.S. Degree Requirements

Students must complete a minimum of 30 credits for the thesis option or 34 credits for the non-thesis option.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ESCI 997</td>
<td>Seminar in Earth Sciences</td>
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<td>ESCI 998</td>
<td>Proposal Development</td>
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<tr>
<td>BIOL 855</td>
<td>Biological Oceanography</td>
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<td>Chemical Oceanography</td>
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<td>ESCI 858</td>
<td>Introduction to Physical Oceanography</td>
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<td>ESCI 859</td>
<td>Geological Oceanography</td>
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<td>Select one of the following:</td>
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<tr>
<td>OCE 899</td>
<td>Master's Thesis (acceptable to the thesis-examining committee and must pass a thesis defense)</td>
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<td>ESCI 898</td>
<td>Directed Research (Or OCE 898 Directed Research)</td>
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<td>Other Relevant Graduate Courses</td>
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<tr>
<td>CEE 822</td>
<td>Introduction to Marine Pollution and Control</td>
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<td>ESCI 801</td>
<td>Quantitative Methods in Earth Sciences</td>
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<td>ESCI 820</td>
<td>Ocean Measurements Lab</td>
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<td>ESCI 834</td>
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<td>ESCI 841</td>
<td>Geochemistry</td>
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<td>ESCI 845</td>
<td>Isotope Geochemistry</td>
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<td>ESCI 847</td>
<td>Aqueous Geochemistry</td>
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<td>ESCI 854</td>
<td>Sedimentology</td>
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<td>ESCI 856</td>
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<td>ESCI 862</td>
<td>Glacial Geology</td>
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<td>ESCI 864</td>
<td>Spectral Analysis of Geophysical Time Series Data</td>
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<td>ESCI 865</td>
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<td>Asymptotic and Perturbation Methods</td>
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<td>Waves in Fluids</td>
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<td>Ocean Waves and Tides</td>
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<td>OE 857</td>
<td>Coastal Engineering and Processes</td>
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<td>Underwater Acoustics</td>
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<td>ZOOL 810</td>
<td>Sharks and Bony Fishes</td>
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