



# COLLEGE OF MARINE STUDIES

**H**ow much do you know about the resource that covers more than 70% of the Earth? If you'd like to learn more about the ocean, the UD College of Marine Studies (CMS) can help you explore it. Like many other marine institutions around the country, CMS confers only master's and doctoral degrees. However, CMS offers special courses and programs to introduce undergraduates to the ocean realm and to help advanced students choose and prepare for graduate work in marine studies.

Ranked among the top marine colleges in the nation, CMS strives to advance the knowledge, use, and conservation of ocean and coastal environments through a program of excellence in research, teaching, and service. From the 120-foot research vessel *Cape Henlopen* to one of the world's only tilting wind-wave tanks, CMS maintains state-of-the-art research and teaching facilities on both the UD main campus in Newark and on the Hugh R. Sharp Campus in Lewes, at the mouth of the Delaware Bay.

Using these facilities, CMS faculty and students are working to address complex marine issues such as coastal pollution, fisheries decline, wetlands loss, global warming, and many others. Our faculty and students participate in research around the globe, from Delaware marshes to Caribbean coral reefs, from ocean policy meetings in the nation's capital to submarine expeditions to deep-sea hydrothermal vents. Students may pursue master's and doctoral degrees in one of the college's four major program areas: marine biology-biochemistry, marine policy, oceanography, or physical ocean science and engineering. For detailed information about the college's research and facilities, please visit the CMS Web site at <http://www.ocean.udel.edu>.

## UNDERGRADUATE COURSES

**C**MS currently offers two undergraduate courses. "The Ocean" (MAST 200) is designed primarily for non-science majors and provides an overview of how the oceans work. This course integrates basic physical, chemical, geological, and biological principles while exploring topics ranging from why the oceans are salty to the status of the world's fisheries.

A more advanced course, "Introduction to Ocean Science" (MAST 482), is geared to junior and senior science, engineering, and math students interested in oceanography. It is designed both as a stand-alone course, as well as a first course for students interested in

pursuing graduate-level oceanography courses. It provides a more detailed introduction to the ocean including seafloor geography, the chemistry of water and sediments, the physics of ocean circulation, and the biology of the seas. The course takes a problem-solving approach requiring introductory calculus, chemistry, and physics. Subjects covered include global climate change, deep-sea hydrothermal vents, coastal pollution, waning fish stocks, and the ozone hole.

Advanced undergraduate students may enroll in entry-level graduate courses in marine studies with the instructor's permission. While some classes are taught at the CMS research complex in Lewes, 90 miles south of the main campus, interactive television linking the two sites allows Newark-based students to attend without commuting to Lewes.

CMS also sponsors the following programs for upper-division students that immerse them in a graduate-student atmosphere and introduce them to the work of marine scientists.

**Semester-in-Residence.** This program is developed especially for juniors and seniors at the University of Delaware. Each year, up to 12 students with a minimum 3.0 grade-point average are selected to spend a semester at the Lewes campus in an intensive exploration of marine science. Inexpensive housing is available at the student housing complex in Lewes. The experience includes graduate-level course work and seminars as well as an individual research project guided by a faculty advisor. The nature of this program necessitates that interested students begin planning fairly early in their college career to incorporate this special semester into their curriculum. The program can provide a valuable, advance look at the graduate school experience.

For more information, contact:

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**Undergraduate Research Program.** Sponsored by the University Honors Program, the Undergraduate Research Program is open to all interested undergraduates. Undergraduate research can begin as early as the freshman year. Advisors in the program office can help you clarify your research interests and identify and approach appropriate faculty members. A directory listing nearly 600 participating faculty members and their research interests — including many Graduate College of Marine Studies faculty — is available to assist you in locating the best position for you. Most students earn academic credit for their research assistance, but in some cases, usually during the summer, a stipend is available.

Special research opportunities are open to undergraduates participating in the University Honors Program or the Science and Engineering Scholars Program. The top 20% of sophomore science and engineering majors are invited to join the latter. Science Scholars may spend 10 weeks during the summer following their sophomore year conducting research under the guidance of a faculty member and receive a stipend for their work. For honors students, undergraduate research may culminate in the senior thesis required for an Honors Degree or Degree with Distinction. Faculty from the College of Marine Studies frequently have served as thesis advisors.

For more information, contact:  
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Web: [www.udel.edu/UR](http://www.udel.edu/UR)

**Marine Policy Internship.** Qualified undergraduates may serve as interns in the Center for the Study of Marine Policy at CMS and work on a range of research and policy analysis activities with graduate students, faculty, and national and international agencies. The center conducts an active research program at international, national, and regional scales; provides policy advice to governmental and non-governmental entities; and organizes conferences, publications, international exchanges, and a visitors program. Major emphases include implementation of the Earth Summit agreements related to the oceans and coasts, the theory and practice of integrated coastal management, the management of coastal ecosystem health, and marine biotechnology. Center activities are carried out by the director, Biliana Cicin-Sain, in association with other UD faculty, scholars at other universities, international associates, practitioners in the field, postdoctoral fellows, and research assistants.

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**NSF Marine Sciences Summer Internship.** Each summer, with support from the National Science Foundation (NSF), CMS awards internships to approximately 10 science, engineering, and mathematics undergraduates from around the country, giving them the opportunity to conduct 10 weeks of guided research at the CMS research station in Lewes. Interns work on a research project in chemical, physical, or biological oceanography, marine biology, marine geology, or marine biochemistry; participate in a research cruise aboard the research vessel *Cape Henlopen*; and present their results in oral and written reports at the end of the summer. They also attend weekly seminars for which they receive one credit. Student support, provided by grants from the NSF Research Experiences for Undergraduates Office, includes a \$3,300 stipend, dormitory fee, tuition for the one-credit course, and travel assistance.

Applicants must be citizens or permanent residents of the United States and its possessions and must be enrolled in a degree program leading to a bachelor's degree. Students between their junior and senior years receive preference. The deadline for applications is usually March 1, with student selection and notification made by April of each year.

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