GRADUATE PROGRAM IN

THE UNIVERSITY OF MAINE

SCHOOL OF MARINE SCIENCES

Program of Study

The University of Maine's School of Marine Sciences (SMS) is one of the nation's largest marine research and education programs. SMS offers both graduate and undergraduate degrees; its faculty and students conduct basic and applied research on a wide variety of topics, and perform public service activities related to scientific policy for marine resource and coastal zone management. More than 50 faculties are affiliated with SMS, including full-time, part-time, and cooperating appointments. By its very nature, SMS is an interdisciplinary unit. Areas of expertise and research include physical, biological and chemical oceanography; aquaculture; marine biology; marine geology; marine resource development and policy; seafloor ecology; fish biology; fish pathology; fisheries science; seaweed biology; maritime studies; and ocean engineering. The School of Marine Sciences offers the following graduate degrees:

- M.S. and Ph.D. degrees in Oceanography;
- M.S. and Ph.D. degrees in Marine Biology;
- M.S. and Ph.D. degrees in Marine Bio-Resources *(administered jointly with Food Science and Human Nutrition)*;
- M.S. degree in Marine Policy; and
- Dual M.S. degree in Marine Policy and either Oceanography or Marine Biology.

The School of Marine Sciences offers core and advanced courses in all degree areas. Various associated departments also provide most specialized courses of study in the sub-disciplines of marine science.

Research Facilities

In addition to laboratories and academic space on the University of Maine's Orono campus, our facilities also include SCUBA support, research vessels, and wet lab space at the Darling Marine Center. The LOBSTER INSTITUTE is a cooperative program of research and education with the lobster industry at the University of Maine. Information generated through the Institute about the American lobster (Homarus americanus) is intended to help conserve and enhance the resource, thereby ensuring the continuance of a strong and healthy industry in the state and the region. The Darling Marine Center is the marine laboratory of the University of Maine. Located on the Damariscotta River estuary in mid-coast Maine, the Center functions year around as an international research and educational facility for marine faculty and students. Educational opportunities exist at all degree levels, with special courses during May Term and summer. The School interacts regularly with scientists at other marine research institutions within the region. Examples include Maine Maritime Academy, the Mount Desert Island Biological Laboratory, Bigelow Laboratory for Ocean Sciences, the Maine Department of Marine Resources and the Huntsman Marine Science Center in St. Andrews, New Brunswick.

Applying

Entering students should hold an undergraduate degree in a basic science, should have had mathematics through calculus, and at least one year of geology, chemistry, physics, and biology. A working knowledge of statistics is helpful. Besides the required core courses of SMS 501 - Biological Oceanography, SMS 520 - Chemical Oceanography, SMS 541 - Physical Oceanography and SMS 560 - Marine Geology, the graduate student must complete six additional credits at the 500 level or higher in Oceanography and satisfy the credit requirements set by the Graduate School. Other requirements include registration for Oceanography Seminar and participation in an oceanic research cruise.

Correspondence

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Graduate Faculty

Peter A. Jumars, Ph.D. (Scripps Institution of Oceanography, 1974), Professor and Director of the School of Marine Sciences. Area: Benthic Biological Oceanography, Organism-Environment Interactions at the Level of Individuals, Deposit Feeding. (Oceanography, Marine Biology)
James Acheson, Ph.D. (Rochester, 1970), Professor. Area: Cultural Anthropology. (Marine Policy)
Emmanuel Boss, Ph.D. (Washington, 1996), Professor. Area: Particle Dynamics, Optical Oceanography. (Oceanography)
Susan Brawley, Ph.D. (California, 1978), Professor. Area: Algal Physiology, Development and Ecology. (Marine Biology, Oceanography)
Fei Chai, Ph.D. (Duke University, 1995), Professor. Area: Ecosystem Modeling; Tropical Oceanography. (Oceanography)
Yong Chen, Ph.D. (Toronto, 1995), Professor. Area: Fisheries Population Dynamics and fisheries stock assessment and management. (Marine Biology, Marine Policy)
Laurie Connell, Ph.D. (North Carolina, 1988), Associate Research Professor. Area: Molecular Ecology. (Marine Biology)
Kevin Eckelbarger, Ph.D. (Northeastern, 1974), Director and Professor, Darling Marine Center. Area: Invertebrate Biology. (Marine Biology)
William Ellis, Ph.D. (Univ. of Rhode Island, 1992), Associate Director and Associate Professor. Area: Marine and Atmospheric Chemistry. (Oceanography)
Teresa Johnson, Ph.D. (Rutgers University, 2007), Assistant Professor. Area: Marine Policy
Lee Karp-Boss, Ph.D. (Washington, 1998), Research Associate Professor. Area: Biological Oceanography. (Oceanography)
Joseph Kelley, Ph.D. (Lehigh, 1980), Professor. Area: Coastal Geology, Coastal Zone Management. (Oceanography, Marine Policy)
Linda J. Kling, Ph.D. (Maryland, 1980), Associate Professor. Area: Fish Aquaculture, Fish Nutrition and Feeding. (Aquaculture)
Irv Kornfield, Ph.D. (Stony Brook, 1974), Professor. Area: Population Biology, Ecology and Systematics. (Marine Biology, Oceanography, Aquaculture)
Sara Lindsay, Ph.D. (South Carolina, 1994), Associate Research Professor. Area: Sensory Biology and Ecology of Marine Invertebrates, Benthic Ecology. (Marine Biology, Oceanography)
Lawrence M. Mayer, Ph.D. (Dartmouth, 1976), Professor. Area: Marine Biogeochemistry. (Oceanography)
James D. McCleave, Ph.D. (Montana State, 1967), Professor. Area: Migratory and Transport Mechanisms of Fishes, Fisheries Oceanography, Eel Biology. Associate Director, School of Marine Sciences. (Oceanography, Marine Biology)
Henry Perkins, Ph.D. (MIT and WHOI, 1970), Research Professor. Area: Physical Oceanography.
Mary Jane Perry, Ph.D. (Scripps Institution of Oceanography/California, San Diego, 1974), Professor. Area: Phytoplankton Physiology and Ecology, Primary Productivity, Bio-optics. (Oceanography, Marine Biology)
Andrew J. Pershing, Ph.D. (Cornell Univ., 2001), Associate Research Professor. Area: Ecology and Environmental Biology.
Neal R. Pettigrew, Ph.D. (Woods Hole Oceanographic Institution/M.I.T., 1981), Professor. Area: Near-shore, Estuarine and Continental Shelf Circulation. (Ocean-ography)
Paul Rawson, Ph.D. (South Carolina, 1996), Associate Professor. Area: Quantitative Genetics, Evolutionary Biology. (Marine Biology, Aquaculture)
Warren Riess, Ph.D. (New Hampshire, 1987), Associate Research Professor. Area: History; Underwater Archeology. (Marine Policy)
John Riley, Ph.D. (Cornell Univ., 1971), Professor. Area: Aquacultural Engineering.
Jeffrey A. Runge, Ph.D. (Univ. of Washington, 1981), Research Professor. Area: Biological and Fisheries Oceanography.
Malcolm Shick, Ph.D. (Texas, 1974), Professor. Area: Marine Invertebrate Physiology. (Marine Biology)
Bruce Sidell, Ph.D. (Illinois, 1975), Professor. Area: Biochemistry and Physiology of Fishes. (Marine Biology, Aquaculture)
Robert S. Steneck, Ph.D. (Johns Hopkins, 1982), Professor. Area: Benthic Marine Ecology, Lobsters, and Plant-Herbivore Interactions. (Oceanography, Marine Policy, and Marine Biology)
Andrew Thomas, Ph.D. (British Columbia, 1988), Professor and Associate Director of the School of Marine Sciences. Area: Plankton Biology, Biological/Physical Interactions, Satellite Oceanography. (Oceanography, Marine Biology)
David W. Townsend, Ph.D. (Maine, 1981), Professor. Area: Biological Oceanography of Shelf Seas. (Oceanography, Marine Biology)
Robert L. Vadas, Ph.D. (Washington, 1968), Professor. Area: Marine Ecology, Algal Ecology. (Marine Biology, Aquaculture)
Rebecca Van Beneden, Ph.D. (Johns Hopkins, 1983), Professor. Area: Marine Molecular Biology and Environmental Toxicology. (Marine Biology)
Richard A. Wahle, Ph.D. (Maine, 1990), Research Associate Professor. Area: Zoology, Fisheries Ecology, Lobster Biology and Ecology.
Mark Wells, Ph.D. (Maine, 1989), Professor. Area: Metal-Plankton Interactions, ocean optics, and harmful algal blooms. (Oceanography)
James Wilson, Ph.D. (Wisconsin, 1971), Professor. Area: Economics and Fisheries Management. (Marine Policy, Aquaculture)
Huijie Xue, Ph.D. (Princeton University, 1991), Professor. Area: Numerical Modeling of Coastal and Oceanic Circulation. (Oceanography)
Gayle Zydlewski, Ph.D. (Univ. of Maine, 1996), Research Assistant Professor. Area: Fish Physiology, Behavior, and Population Dynamics