School of Marine Science/Virginia Institute of Marine Science

PROFESSORS: **Wells** (Dean)**, Allen, Anderson, Bauer, Bronk, Burreson, Canuel, Chu, Diaz, Dickhut, Duffy, DuPaul, Friedrichs, Graves, Hale, Hershner, Hoenig, Kaattari, Kirkley, Kuehl, Lipcius, Luckenbach, Maa, Mann, Milliman, Moore, Newman, Olney, Orth, Perry, Reece, Schaffner, Shields, Smith, Taylor** and **Vogelbein.** ASSOCIATE PROFESSORS: **Brubaker, Fabrizio, Harris, Hobbs, Kator, Latour, McNinch, Patterson, Steinberg, Tang, Van Veld**, and **Wang.** ASSISTANT PROFESSORS: **Beck, Brush, Hilton,** and **Sutton.**

Facilities

School of Marine Science students participate in graduate studies at an active, year round research facility with approximately 450 scientists, support technicians and staff. The 35-acre main campus of the School of Marine Science/Virginia Institute of Marine Science (SMS/VIMS) is located in Gloucester Point at the mouth of the York River, a major tributary and natural passageway to the Chesapeake Bay and Atlantic Ocean. Various service centers and special programs at the SMS/VIMS complement and enhance the student's experience. A second campus, the Eastern Shore Field Laboratory, is located in Wachapreague, Virginia, about 2 hours from the Gloucester Point campus. The ESL offers access to coastal lagoons, salt marshes, barrier islands and the coastal ocean. Both campuses are ideally situated to complement and enhance student's marine studies and research experiences.

Graduate Study Programs

Research at SMS/VIMS emphasizes the study of marine environments ranging from watersheds to tributaries, estuaries, and the open ocean, but with special emphasis on coastal systems. The Master of Science and Doctor of Philosophy degrees are offered in Marine Science with specializations available in biological oceanography (marine biology), environmental and aquatic animal health, physical sciences (physical, chemical and geological areas), and marine fisheries science. Marine/environmental policy is available through a joint program with the main campus. Subspecializations may be undertaken within any of the above areas. Interdisciplinary studies are encouraged in all of the respective specialization areas.

SMS graduate students have a unique opportunity not only to perform cutting edge research but also to apply research to solution of real-world problems. SMS/VIMS has a distinguished 60-year history of conducting rigorous basic and applied science in estuaries and oceans worldwide. In addition, advisory service to the state and nation has been a central part of the VIMS mission since its inception, and the Institute is a world leader in integrating science, graduate education, and advisory service.

Undergraduate Opportunities

Though the courses offered by the School are primarily for graduate students, advanced undergraduates (juniors and seniors) may participate. For instance, biology, chemistry, geology, and physics majors may enroll in suitable 500- level courses with the permission of the instructor. Undergraduates majoring in chemistry, geology, physics, or biology may work on a marine problem in his or her field of specialization. Consent of the chair of the student's major department is required to take problems courses in marine science.

As in most marine institutions, field research activities are accelerated in the summer. An opportunity exists, for example, for qualified rising junior and seniors to experience the intellectual stimulations and challenges of marine research through the School's Research and Experience for Undergraduates (REU) program, which runs from June through early August. During that period, interns live in a William and Mary dormitory and conduct research at the Gloucester Point campus. Information on applying for the REU program or other summer opportunities at SMS/VIMS is available at the following web address: http://www.vims.edu/education/interns.html.http

Undergraduate students can take MSCI 501-550 level courses with the permission of the instructor. The interested student is referred to the School of Marine Science catalog, available on our web site, http://www.vims.edu/sms/catalogs.html. In addition, the following courses are offered at the advanced undergraduate level.

330. Introduction to Oceanography.

Spring, odd years (3) Patterson, Bauer.

Description of physical, chemical, biological and geological processes operating in the world ocean. The interdisciplinary nature of oceanography is emphasized, providing an integrated view of factors, which control ocean history, circulation, chemistry, and biological productivity.

497. Problems in Marine Science.

Fall, Spring and Summer (1-4) Staff.

Supervised projects selected to suit the need of the upper level undergraduate student. Projects are chosen in consultation with the student's supervising professor and the instructor. Credit hours depend upon the difficulty of the project and must be arranged with the instructor in advance of registration.

498. Special Topics in Marine Science.

Fall, Spring and Summer (1-3) Staff.

This is the avenue through which subjects not covered in other formal courses are offered. These courses are offered on an occasional basis as demand warrants. Subjects will be announced prior to registration. Hours to be arranged.

Preparatory Studies

Students who are seriously interested in marine science as a profession, should consult with the Dean of Graduate Studies as early in their college careers as possible regarding an academic program to be followed. In general, all science is becoming more quantitative. Regardless of one's field of major, a solid background in mathematics through differential equations, a year of statistics, physics, and chemistry is highly recommended. Students interested in biological oceanography or marine fisheries science should plan to take, in addition to the quantitative courses listed above, organic chemistry, biochemistry and a suite of contemporary biology courses. The prospective chemical, geological or physical oceanographer should have an undergraduate major in chemistry, physics, meteorology, geology, engineering or mathematics. It is assumed that any one of these physical science degrees includes the quantitative courses discussed above, but particularly helpful are courses in fluid mechanics, time series analysis and thermodynamics.

Graduate Program Information

For graduate admission and degree requirements and a full description of courses in marine science, write for a graduate catalog to Dean of Graduate Studies, School of Marine Science, Gloucester Point, Virginia 23062, or review the electronic catalog at http://www.vims.edu/sms/catalogs.html.