

Applied Ocean Science

OFFICE: 22 Old Scripps Bldg., Scripps Institution of Oceanography

ASSOCIATED FACULTY

Professors

Laurence Armi, Ph.D., *SIO; IGPP*
Michael J. Buckingham, Ph.D., *SIO; MPL*
LeRoy M. Dorman, Ph.D., *SIO; GRD*
Carl H. Gibson, Ph.D., *MAE; SIO*
Robert T. Guza, Ph.D., *SIO; IOD*
John A. Hildebrand, Ph.D., *SIO; GRD; MPL; ECE*
William S. Hodgkiss, Ph.D., *SIO; MPL; ECE*
William A. Kuperman, Ph.D., *SIO; MPL*
Juan C. Lasheras, Ph.D., *MAE*
Paul F. Linden, Ph.D., *MAE*
W. Kendall Melville, Ph.D., *SIO; MPL*
Robert Pinkel, Ph.D., *SIO; MPL*
Sutanu Sarkar, Ph.D., *MAE*
Richard C.J. Somerville, Ph.D., *SIO; CRD*
Dariusz Stramski, Ph.D., *SIO; MPL*
Bradley T. Werner, Ph.D., *SIO; IGPP*
Clinton D. Winant, Ph.D., *SIO; IOD*

Professors Emeritus

Hugh Bradner, Ph.D., *MAE; IGPP*
Douglas L. Inman, Ph.D., *SIO; IOD*
George G. Shor, Jr., Ph.D., *SIO; MPL*
Fred N. Spiess, Ph.D., *SIO; MPL*
Kenneth M. Watson, Ph.D., *SIO; MPL*

Associate Professors

Colm P. Caulfield, Ph.D., *MAE*
Sarah T. Gille, Ph.D., *SIO; MAE*
Stefan Llewellyn-Smith, Ph.D., *MAE*
Keiko K. Nomura, Ph.D., *MAE*

Lecturers

Grant B. Deane, Ph.D., *SIO; MPL*
Jules S. Jaffe, Ph.D., *SIO; MPL*

Associated Research Groups

Marine Physical Laboratory, *MPL*
Institute of Geophysics and Planetary Physics, *IGPP*
Geosciences Research Division, *GRD*
Integrative Oceanography Division, *IOD*
Climate Research Division, *CRD*

The Graduate Program

Applied Ocean Science (AOS) is an interdepartmental Ph.D. program with a focus on the interface between ocean exploration and technology. It is administered by an interdepartmental group composed of members of the faculties of cooperating departments: the Graduate Department of the Scripps Institution of Oceanography (SIO), the Department of Mechanical and Aerospace Engineering (MAE), the Department of Structural Engineering (SE), and the Department of Electrical and Computer Engineering (ECE).

This interdepartmental curriculum combines the resources of these departments to produce oceanographers who are knowledgeable about modern engineering and instrumentation, as well as marine oriented engineering scientists who are familiar with the oceans. Since physical, chemical, geological, and biological aspects of the oceans and all forms of engineering may be involved, the curriculum provides maximum flexibility in meeting the needs of each individual student.

Candidates for admission should apply directly to one of the departments participating in the Applied Ocean Science program, listing Applied Ocean Science as an area of specialization. The choice of department should be based on the individual student's planned area of major emphasis. Applicants will be expected to meet the admission requirements of the department to which they have applied.

The program is primarily directed toward the Ph.D. degree. However, both the candidate of philosophy and master of science degree (either Plan I, thesis, or Plan II, comprehensive examination) also will be offered under special circumstances. Students applying for a terminal master's program should be aware of any special requirements for the department to which they apply.

The degrees completed under this program in the Department of SIO will carry the title "Oceanography." Those degrees completed in the other cooperating departments will have the parenthetical title "(Applied Ocean Science)" appended to the appropriate authorized title.

COURSES

All students enrolled in the program are required to take or demonstrate proficiency in the following core courses or their equivalent:

SIO 210 (Physical Oceanography)

SIO 240 (Marine Geology)

SIO 260 (Marine Chemistry)

SIO 280 (Biological Oceanography)

MAE 294A-B-C (Methods in Applied Mechanics) or

Math. 210A-B-C (Mathematical Methods in Physics and Engineering) or

SIO 203A-B-C (Methods of Applied Analysis)

The students are expected to enroll in the Applied Ocean Science Seminar (SIO 208) throughout their period of residency. This seminar will make use of outside speakers, faculty members, and students in presenting various topics on applied ocean science and related fields. It provides a central forum in which all AOS students can participate. In addition to these basic requirements, the student will be subject to whatever additional requirements are prescribed by his or her department.

Course work occupies much of the first one and one-half to two years of graduate study. During this period there are numerous opportunities for students to investigate the research programs of the various research groups on the campus, and cultivate association with professors and research groups which can provide support and guidance for thesis research in their selected field of specialization. In consultation with an adviser, students will plan a curricular path of courses which will adequately prepare them in their field of specialization. The courses may be selected from the entire catalog of courses available on the UCSD campus or where appropriate from other UC campuses and other universities.