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# Oceanography

Administered by the  
Department of Geological Sciences

**OFFICE: Geology/Mathematics/Computer Science 237**  
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San Diego State University provides preparation for ocean-oriented careers by offering marine-related coursework and oceanographic experience within regular degree programs in the Departments of Biology, Chemistry and Biochemistry, Economics, Civil, Construction, and Environmental Engineering, Geography, Geological Sciences, Mechanical Engineering, and Physics. Master's degrees with specialization in marine problems may also be earned in these departments. The Ph.D. degree is offered in biology, chemistry, and ecology, jointly with the University of California. Degrees in general oceanography or marine studies are not offered by the university. The Coastal and Marine Institute coordinates work in the area of marine studies and provides special supporting services to the faculty, staff and students, including student advising, assistance in research and publication, operation of the university's marine laboratory at San Diego Bay, and a boat operations program.

Courses in general oceanography are offered by faculty from the Departments of Biology and Geological Sciences. Advanced coursework and research in geological and physical oceanography are conducted in the Geological Sciences Department. An option in marine geology is offered as part of the undergraduate major in geological sciences. Advanced courses and research in biological oceanography, marine biology, marine botany, and marine zoology are conducted in the Department of Biology. Similar marine-related coursework and research are offered in the Departments of Economics and Geography and in the College of Engineering. Students who require advising in these areas should inquire at one of the departments listed above or the Coastal and Marine Institute. (See section of this catalog on Colleges, College of Sciences Research Centers and Institutes.)

## Oceanography Minor

Offered for undergraduate science students by the Department of Geological Sciences, the minor in oceanography consists of a minimum of 16 upper division units to include Biology 515 or 517; Geological Sciences 540, 545; and six additional units selected with the approval of the adviser. Additional prerequisite courses are required.

The oceanography minor is intended for students with extensive background in the sciences. Oceanography 320 is not applicable toward the oceanography minor.

Courses in the minor may not be counted toward the major, but may be used to satisfy preparation for the major and general education requirements, if applicable. A minimum of six upper division units must be completed in residence at San Diego State University.

## COURSES (OCEAN)

*Refer to Curricula and Courses and University Policies sections of this catalog for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.*

### LOWER DIVISION COURSE

#### **OCEAN 100. The Ocean Planet (4) [GE]**

Three lectures and three hours of laboratory.

Physical, chemical, geological, and biological foundations of the global ocean system, with emphasis on science as a process and its role in environmental issues from global climate change to local pollution.

### UPPER DIVISION COURSES (Intended for Undergraduates)

#### **OCEAN 320. The Oceans (3) [GE]**

Prerequisites: One introductory college course in a life science and one in a physical science, and completion of the General Education requirement in Foundations II.A., Natural Sciences and Quantitative Reasoning.

The ocean system, its influence on life, climate, the earth, and humankind.

#### **OCEAN 496. Experimental Topics (1-4)**

Selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.

#### **For additional courses in Marine Studies see:**

Biology 305. Scientific Scuba Diving  
Biology 306. Scientific Scuba Diving for Certified Divers  
Biology 515. Marine Invertebrate Biology  
Biology 517. Marine Ecology  
Economics 454. Economics of the Ocean  
Geography 504. Coastal and Submarine Physiography  
Geography 588. Intermediate Remote Sensing of Environment  
Geological Sciences 540. Marine Geology  
Geological Sciences 545. Descriptive Physical Oceanography