

Oceanography


LOWER DIVISION


OCN 109. General Oceanography (3). Extent of the oceans; chemical nature of sea water; causes/effects of currents, tides, and waves; animal and plant life in the sea; features of the ocean floor. [Coreq: OCN 109L. Weekly: 3 hrs lect, 3 hrs lab. B-LD.]

OCN 109L. General Oceanography Laboratory (1). Introductory laboratory activities to develop understanding of fundamental concepts from geological, chemical, physical, and biological oceanography and the inter-relationship between those concepts. [Prereq: OCN 109 (C). B-LD.]

OCN 260. Sampling Techniques & Field Studies (1) Introductory course for majors. Biological, chemical, geological, and physical oceanographic methods of sampling and analysis. Shipboard procedures and navigation. [Prereq: OCN 109 (if taken prior to fall 2015) or OCN 109 and OCN 109L.]

UPPER DIVISION

 **OCN 301. Marine Ecosystems — Human Impact** (3). Relationships and interaction between humans and marine life. Living organisms: in history and legend, as food, and as industrial resource. Problems and aesthetic aspects of marine organisms. [Prereq: OCN 109 (if taken prior to fall 2015) or OCN 109 and OCN 109L. Weekly: 2 hrs lect, 1 hr disc. B-UD.]

 **OCN 304. Resources of the Sea** (3). Nonliving resources of the ocean floor and water; distribution, origin, and exploitation of minerals; energy production from the ocean; environmental and political problems of ocean exploitation. [Weekly: 2 hrs lect, 1 hr disc. B-UD.]

OCN 310. Biological Oceanography (4). Physical, chemical, and biological factors characterizing the marine environment, including factors controlling plant and animal populations. Methods of sampling identification and analysis. [Prereq: BIOL 105 and either OCN 109 (if taken prior to fall 2015) or OCN 109 and OCN 109L. Weekly: 2 hrs lect, 6 hrs lab.]

OCN 320. Physical Oceanography (4). Physical properties and processes in seas: theory of distribution of variables; current determination; waves and tides. [Prereq: (OCN 109 (if taken prior to fall 2015) or OCN 109 and OCN 109L) and (MATH 110 or MATH 215) and (PHYX 107 (C) or PHYX 210 (C) or PHYX 211 (C)). Weekly: 3 hrs lect, 3 hrs lab.]


OCN 330. Chemical Oceanography (4). Composition of seawater. Distribution and cycling of important major and minor chemical species throughout the oceans. Marine analytical chemistry. [Prereq: (OCN 109 (if taken prior to fall 2015) or OCN 109 and OCN 109L) and CHEM 110, or IA. Weekly: 2 hrs lect, 6 hrs lab.]

OCN 340. Geological Oceanography (4). Classification/origin of major topographic features on ocean floor. First order plate tectonic theory. Recent marine sediments and sedimentary proc-

esses. [Prereq: (OCN 109 (if taken prior to fall 2015) or OCN 109 and OCN 109L), GEOL 109, MATH 101T or MATH 102; or IA. Weekly: 3 hrs lect, 3 hrs lab.]

OCN 370. Library Research & Report Writing Seminar (2). Access oceanographic literature and write reports. [Weekly: 1 hr lect, 3 hrs lab.]

OCN 410. Zooplankton Ecology (3). Identification, distribution, abundance, adaptations, and life histories of animals in the plankton. Techniques in field/lab studies. [Prereq: (OCN 109 (if taken prior to fall 2015) or OCN 109 and OCN 109L), and (OCN 310 or ZOOL 314); or IA. Weekly: 1 hr lect, 6 hrs lab.]

 **OCN 420. Oceans & Climate** (3). Examines the role that oceans play in mediating global climate. Detailed exploration of ocean carbon cycle, consequences of climate change on ocean ecosystems, ocean-related climate feedback loops, and predictions of oceans of the future. [Prereq: CHEM 107 or CHEM 109, MATH 105 or MATH 109, (OCN 109 (if taken prior to fall 2015) or OCN 109 and OCN 109L), PHYX 107 or PHYX 109.]

OCN 485. Undergraduate Seminar (1). Study literature to prepare oral scientific reports. [Prereq: senior standing and at least one of the following: OCN 310, OCN 320, OCN 330, OCN 340, or IA.]

OCN 495. Field Cruise I (3). Develop a research proposal. Conduct research on extended cruise. Use oceanographic techniques and theory on-board ship. [Prereq: oceanography major with junior standing or greater. Rep twice.]

OCN 496. Field Cruise II (2). Process oceanographic samples and analyze research data. Prepare a final cruise report. [Prereq: OCN 495.]

OCN 499. Directed Study (1-2). Original research on assigned topic. Lab work, field work, or literature surveys. [Prereq: senior oceanography major and IA. Rep.]