

Oceanography


LOWER DIVISION


OCN 109. General Oceanography (3) **FS**. 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. GE.]

OCN 109L. General Oceanography Laboratory (1) **FS**. 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). GE.]

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) **S**. 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. GE.]

 **OCN 304. Resources of the Sea** (3) **F**. 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. GE.]

OCN 310. Biological Oceanography (4) **F**. 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) **S**. 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 205) and (PHYX 110 (C) or PHYX 107 (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 processes. [Prereq: (OCN 109 (if taken prior to fall

2015) or OCN 109 and OCN 109L), GEOL 109, MATH 114 or MATH 115; or IA. Weekly: 3 hrs lect, 3 hrs lab.]

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

OCN 410. Zooplankton Ecology (3) **F**. 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) **F**. 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) **S**. Develop a research proposal. Conduct research on extended cruise. Use oceanographic techniques and theory onboard ship. [Prereq: oceanography major with junior standing or greater. Rep twice.]

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

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