

Marine Science Course Descriptions

MAR 210. **The Oceans.** 3 hrs. Introduction to geology of ocean basins; sea water chemistry; currents, waves, and tides; coastal processes; diverse ecosystems such as deep sea vents and coral reefs.

MAR 300. **Marine Science I.** 3 hrs. Prerequisites: college algebra, 8 hours of chemistry and 8 hours biological sciences. An introduction to biological, chemical, geological, and physical marine sciences.

MAR 300L. **Marine Science I Laboratory.** 2 hrs. A laboratory for MAR 300.

MAR 301. **Marine Science II.** 3 hrs. Prerequisites: 8 hours of biological sciences. An introduction to marine biology.

MAR 301L. **Marine Science II Laboratory.** 2 hrs. A laboratory for MAR 301.

MAR 310. **Field Methods in Marine Science.** 3 hrs. Prerequisites: CHE 107, GHY 101, PHY 202. Sampling, recording, and interview techniques; reconnaissance and traverse in coastal environments; use of maps and imagery.

MAR 366. **Ocean Acoustics.** 3 hrs. Prerequisite: MAT 169 and PHY 202. An introduction to the principles of the generation, transmission, and reception of acoustic waves in the ocean.

MAR 366L. **Ocean Acoustics Laboratory.** 1 hr. A laboratory course designed to accompany MAR 366 Ocean Acoustics.

MAR 367. **Waves and Tides.** 3 hrs. Prerequisites: MAT 169 and PHY 202. Introduction to wind-generated waves; tide generating forces; observation of water levels, and numerical simulation of tides.

MAR 411. **Remote Sensing of the Ocean.** 3 hrs. Prerequisites: BSC 111 and PHY 202. Introduction to remote sensing in the marine sciences, including electromagnetic, acoustic, and seismic methods.

MAR 412. **Introduction to Hydrography.** 3 hrs. Introduction to nautical charting surveys, surveys in support of port management and coastal engineering, and offshore industrial surveys.

MAR 413. **Management of Oceanographic Data.** 3 hrs. Introduction to oceanographic data acquisition and control, data capture, and data management.

MAR 414. **Marine GIS.** 3 hrs. Introduction to the use of hardware, software, and digital data in a marine geographic information system to collect, store, check, integrate, analyze, and display marine information.

Mar 415. **Marine Metadata.** 2 hrs. An introduction to the content standards for digital marine geospatial metadata; the structure of metadata records; reading, writing and validating metadata records.

MAR 416. **Nautical Science.** 2 hrs. Introduction to navigation including rules of the road, nautical charts, and navigational publications. Overview of safety and seamanship, including safe practice and ship behavior.

MAR 417. **Ocean Policy and Management.** 3 hrs. The examination of marine science and ocean policy issues, including coastal zone management, Law of the Sea and other national and international policies.

MAR 431. **Basic Marine Science Instrumentation.** 3 hrs. Introduction to the principal instruments, devices, and systems used to measure pressure, temperature, conductivity, and speed of sound in the ocean.

MAR 489. **Marine Science Seminar.** 1 hr. Current topics in Marine Science explored via student discussion and presentation. May be repeated for credit.

MAR 497. **Senior Practicum.** 2 hrs. Exercises and experiences to evaluate and develop or improve selected key professional skills through writing intensive activities.