Course Description and Learning Outcomes

Why study Marine Science?

The ocean covers much of Earth’s surface. It regulates both the life and climate of the planet through its dominant role in the biosphere and by storing and releasing heat and gasses. The ocean is also a source of minerals, energy and food that are rich resources for humans. Many of the questions facing society rely on an understanding of oceanography and the interconnections between the marine aspects of geology, chemistry, physics and biology that make up Marine Science.

What research is done in Marine Science at The University of Auckland?

The University of Auckland’s new Institute of Marine Science brings together the many marine scientists at the University who are based in a range of departments and academic units. Much of the marine science research is undertaken from the University’s Leigh Marine Laboratory, adjacent to the Leigh Marine Reserve. The laboratory includes a range of marine science equipment, including the research vessel Hawere, and a number of resident academic and technical staff. There is also considerable marine research undertaken in laboratories on the city campus. Examples of research in marine topics include DNA sequencing of marine organisms, analysis of marine sediment core samples, wave flumes and computer simulations of fluid flow.

Purpose and structure of Marine 202

This course will introduce you to a wide range of marine topics in physics, geology, chemistry and biology and many of the people involved in marine science at The University of Auckland. You have the unique opportunity to hear lectures from scientists who do research in the topics they are presenting.

Learning outcomes will cover a selection of the following:

By the end of the course students should:

- Be able to describe the main features of the ocean circulation, temperature and salinity and list the main processes that create these patterns
- Be able to describe how global patterns of marine biodiversity map to environmental variables
- Be aware of the history and methods of exploration of biodiversity in the offshore and deep-sea environments
- Be familiar with the environmental context of marine aquaculture
- Gain knowledge of issues in the conservation of marine biodiversity, including fisheries
- Understand the basic structure and functioning of estuarine and rocky reef ecosystems
- Gain experience with field sampling and data collection in the marine environment.

Prerequisites: The equivalent of tertiary level 1st year Geography, Geology, Earth Science, Environmental Science, Ecology, Biology, Archaeology or Anthropology

Application Deadline: 10 January 2014