

Subject overview

Understanding the marine environment requires a basic knowledge of biological, physical, geological, and chemical processes and how they interact. Increasingly, it also encompasses an understanding of the way marine resources can be utilised, and sustainably managed. Consequently, the investigation and understanding of the ocean requires an interdisciplinary perspective of the ocean as an integrated system. In this subject, we introduce the student to the study of the oceans using an integrated, cross-disciplinary approach.

Learning Outcomes

By the completion of this subject, students will be able to:

- Describe the ocean in terms of its physical and chemical components
- Examine the ocean's currents, waves and tides
- Analyse marine ecosystems, their evolution and interdependency
- Identify marine resources, their limitations and man's interaction on their supply

Assessment overview

- Participation 10% of total assessment
- Reading quizzes 20% of total assessment
- Mid term exam 35% of total assessment
- Final Exam 35% of total assessment

Subject modules

- **Marine Geosphere** - Topics include plate tectonics and evolution of ocean basins, physical and chemical characteristics of sea water, sedimentation, productivity and marine ecosystems, biogeochemical cycles
- **Marine Hydrosphere** - Introduces large scale physical oceanography including what drives the large scale oceanic circulation, geostrophic and Ekman dynamics, waves and tides
- **Marine Biosphere** - An introduction to marine life and the interplay found in marine communities. Topics include primary producers and how terrestrial and marine primary production differ, diversity of marine invertebrates and vertebrates, and a focus on the ecology and chemical ecology of major marine ecosystems such as estuaries, coasts, and oceans, benthic and pelagic communities.
- **Marine Resources and Conservation** - An overview of current issues and knowledge relating to marine resources including socio-legal concerns, resource utilization, environmental quality, and the impact of marine trades.

Required readings

- Garrison, T. (2005). *Oceanography: An Invitation to marine science* (5th Ed.). Brooks/Cole.

Questions?

If you have any questions about any of the subject summaries, please contact us.