ENV 131 - OCEANOGRAPHY

Course Description

This course explores the origins, structure, and evolution of ocean basins and their role in global climate dynamics. It shall include an investigation of the physical properties that govern waves, currents, tides, air-sea interactions as well as the physical and chemical properties of seawater. It also explores plant and animal life within the oceans including impacts of human activities on the marine environment. Group 1 lab course.

Credit Hours

4

Contact Hours

5

Lecture Hours

3

Required Prerequisites

MTH 100

Corequisites

ENV 131L

Recommended Prerequisites or Skills Competencies

ENG 111; MTH 111, MTH 120 or MTH 131

General Education Outcomes supported by this course

Quantitative Reasoning

Course Learning Outcomes

Knowledge:

- Identify the major contributors to our understanding of the oceans.
- Describe the role oceans have played in human history.
- Describe the major features of the ocean basin.
- Identify common rocks and sediments found in marine environments.
- Explain the chemical and physical properties of seawater.
- Explain the occurrence of ocean/atmospheric circulation, currents, waves, and tides.
- Explain how oceans interact with coastal environments.

Application:

- Relate major ocean features to tectonic processes.
- Analyze and interpret nautical charts and bathymetry maps.
- Analyze water samples and water masses to determine the temperature, salinity, and density of seawater.
- Measure currents and wave properties.
- Prepare a beach profile for shoreline monitoring.

Integration:

- Integrate concepts in oceanography with processes and patterns observable in climate, weather, and geography.
- Articulate how temperature, salinity and density of seawater influence the circulation and stratification of seawater.

Human Dimension:

- Come to see themselves as responsible, informed consumers of the marine ecosystem.
- Discuss how human interactions effect coasts.

Caring - Civic Learning:

- Explain the importance of effective management of biological and mineral resources within the oceans.
- Describe the role the ocean has in regulating global climates.
- Describe how human interactions may influence climate patterns.

Learning How to Learn:

- Explore research topics related to oceanography.
- Reflect on their role as stewards of the marine ecosystem.