

Prepared by Department of Natural Sciences & Life Fitness

Date of Departmental Approval: 2/5/07

Date approved by Curriculum and Programs: October 17, 2007

Effective: Fall 2007

1. **Course Number:** ENV135
Course Title: Coastal Zone Management Laws and Regulations
2. **Description:** This introductory course covers the issues and regulations related to the coastal environment and its resources. The course uses an interdisciplinary approach that combines the scientific issues with their economic and social impact. Topics covered include nitrogen loading, fisheries management, aquaculture, wastewater impact, marine sanctuaries, public access, renewable energy projects, coastal flooding and erosion, and sustainable development. Current research will be examined, and several guest speakers will present.
3. **Student Learning Outcomes: (instructional objectives, intellectual skills):**
Upon successful completion of this course, students are able to do the following:
 - Prepare and present a coastal zone management plan that includes an analysis of current and proposed regulations.
 - Assess the environmental issues of a local estuary, such as Waquoit Bay or Buzzards Bay.
 - Differentiate fishing methods and their impact on fish populations and other forms of benthic life.
 - Identify several government agencies responsible for coastal resources and their different roles in protecting the coastline.
 - Write a critique of several guest speakers to the class.
 - Discuss the numerous issues surrounding the development of aquaculture.
 - List several questions that a manager would examine prior to reaching a decision on a coastal issue.
 - Demonstrate how baseline data and monitoring are essential to a coastal study.
 - Recognize the multiple purposes of marine sanctuaries.
 - Discuss how communities in high hazard areas can prepare for storm events.
 - Explain how land use practices affect coastal systems.
 - Identify the critical management issues associated with offshore development.
 - List proposals for the protection of endangered and threatened species.
 - Explain how human uses of the coast can be balanced with environmental protection measures.
 - Consider the environmental impact of tourism, including the establishment of economic zones.
4. **Credits:** 3 credits
5. **Satisfies General Education Requirement:** No
6. **Prerequisite(s):** ENV118 and ENV125
7. **Semester(s) Offered:** Spring
8. **Suggested General Guidelines for Evaluation:** Tests, Research Paper, Weekly Critiques, Written Assignments
9. **General Topical Outline (Optional):**
 - A. Introduction
 - i. Coastal Facts and Figures
 - ii. Coastal Zone Management Act of 1972
 - iii. Importance of the Coastal Zone
 - iv. Biogenic and Nonbiogenic Resources
 - v. General Management Issues
 - vi. Feasibility Studies
 - B. Coastal Processes

- i. Erosion
- ii. Flooding
- iii. Sustainable Development
- iv. Dune Stability and Protection
- v. Coastal Storm Mitigation
- vi. Economic Zones
- vii. Public Access

C. Coastal Wetland Protection

- i. Categories and Delineation
- ii. Marine Sanctuaries – Stellwagen Bank
- iii. Regional Planning and Integrated Management

D. Resource Management Issues:

- i. Commercial and Recreational Fisheries
- ii. Aquaculture
- iii. Fishing Methods
- iv. Water Quality:
 - 1. Runoff and Nitrogen Loading
 - 2. Oil
 - 3. Marine Debris
 - 4. Baseline data and monitoring
 - 5. Boston Harbor Project
- v. Waquoit Bay
- vi. Buzzards Bay
- vii. Sandy Neck Beach
- viii. Cape Cod National Seashore
- ix. Offshore Energy
- x. Marine Mammals
- xi. Endangered Species and Marine Biodiversity

E. Management Agencies

- i. Cape Cod Commission
- ii. Conservation Commissions – Wetlands Protection Act
- iii. CZM
- iv. NOAA
- v. National Marine Fisheries
- vi. National Estuarine Research Reserves
- vii. Other