

Course Outline and Syllabus

COASTAL AND OCEAN MANAGEMENT

Spring 2010

Marine Studies Consortium

See the Marine Studies Consortium handbook online at:
<http://www.brandeis.edu/marinstudies/handbook.html>

Instructors:

Richard Delaney
Provincetown Center for Coastal Studies
115 Bradford Street
Provincetown, MA 02657
508-487-3622, ext. 111
delaney@cape.com

Jennifer Bender Ferre Ph.D.
Executive Director
Stellwagen Alive
PO Box 300130
Boston, MA. 02130
617 522-1838

COASTAL AND OCEAN ISSUES AND MANAGEMENT

PURPOSE

This course will examine major trends and issues that are impacting the world's coastal and ocean resources. Scientific, economic, social and political aspects of each issue will be discussed and case studies will be used to illustrate the challenge of linking good scientific data with regulatory and management decisions. Topics include offshore renewable energy facilities, marine aquaculture, coastal development, climate change and coastal hazards, coastal pollution impacts.

COURSE OBJECTIVES

This course will give students an understanding of water resources management and protection as a public policy problem. Students will learn:

- how to define the problems
- what data and technical expertise are needed
- how to understand the political and institutional context of water resources protection and management
- how to develop and implement tools to achieve policy objectives

QUESTIONS AND ISSUES TO BE ADDRESSED

- How to structure management techniques based on a scientific understanding of resource values and functions.
- Protecting and managing uses:
 - How do marine resources function? (natural ecosystems)
 - How can human needs be met in an environmentally sustainable way?
 - How can conflicting natural and human needs be accommodated (multiple uses)?
 - How to understand and respond to changing circumstances and needs.

STUDENTS' RESPONSIBILITIES

Students will be expected to:

- Complete **three assignments** during the semester (see details below):
 1. a mid-term exam
 2. an oral presentation
 3. a final written project
- Complete each week's **readings** prior to the class session (package of readings to be purchased for cost of copying from the instructors)
- **Participate** in class discussions and exercises, and
- Be **creative** and **have fun!**

GRADING

Students' grades for the semester will be based on the following breakdown:

- 33% for mid-term written assignment
- 33% for the oral presentation
- 33% for the final project

STUDENT ASSIGNMENTS

Each student must prepare and ***one written assignment, one class oral presentation and a final project***. Each of these should demonstrate an understanding of a marine resources issue (rather than a recitation of facts), and an ability to communicate that information. Ideas should be carefully organized and concisely presented.

1. Written Assignment Guidelines

Students are strongly encouraged to structure the written assignment in a format other than traditional academic term papers. Students are encouraged to choose from the following menu of format options, or suggest one of your own. Each format option provides an opportunity to use a different communication skill. Choose an option which interests you and will help you develop useful skills in your professional or academic life.

Menu of Format Options for the Written Assignment

- testimony for a public hearing (legislative, regulatory agency, local government)
- issue or policy paper (white paper) from an advocacy group
- environmental impact statement for a development project
- press conference or press release from an agency or environmental group
- article for a planning, scientific, or legal journal
- newspaper or magazine article
- article for an engineering or natural science textbook
- agency or organization newsletter
- visual presentation (graphics, drawings)
- video presentation or documentary piece
- short story or magazine article
- *other format* you would like to suggest (with approved of the instructors)

Length: Written assignments should be approximately **5-10 double-spaced pages** for undergraduate students (15 pages for graduate students).

2. Class Presentation Guidelines

Choose a different topic than your written assignment, and prepare a presentation to be given to the class. Presentation visual aids are encouraged; you may prepare a Powerpoint presentation, transparency graphics for overhead projection, a slide show, posters and/or maps, or any other visuals appropriate for your topic. Class presentations should be planned for **20 to 30 minutes**, followed by questions and class discussion

3. Final Project

The final project is a **structured exercise** that requires you to synthesize what you have learned throughout the semester and apply this knowledge to a particular issue of your choice.

It is NOT a standard research paper. Please follow these guidelines carefully:

Drawing on knowledge gained from the readings, class discussions, and presentations, **identify an unresolved problem or a gap in water resources policy, science, or management**, then propose an approach to solving the problem or filling the gap.

Part A: Describe the problem or gap in detail, including:

1. Statement of the problem or gap
2. Description of the context (what is and is not known about the problem)
3. Description the value (why is it important to fill the gap)

Part B: Describe an approach to solving the problem/filling the gap:

1. Give a summary of the solution
2. Describe the elements of the solution in detail (who does what?)
3. Describe a strategy for implementing the solution (how?)

Length: Final project should be approximately 10 double-spaced pages.

Due date: The final project is due on **April 30th**, the last class session. It should be submitted to the instructors in class on that day. If a student has a excused absence on that day, he or she may submit the project by email to the instructors.

POLICY ON INCOMPLETE GRADES

Students are eligible to receive a grade of incomplete only if circumstances beyond the student's control prevent the student from completing required course work. To receive an Incomplete Grade, the instructor, student, Consortium Board Member at the student's home school (if the student is from a member school) and a Consortium staff member must all agree that such circumstances exist. Agreement is reached when all parties listed above have signed an **MSC Incomplete Grade Contract** (form available from the Marine Studies Consortium). The Contract must include a description of the circumstances surrounding the request for an incomplete grade, a list of all the work to be made up and the time by which it will be completed. The student must submit the signed **Incomplete Grade Contract** to the instructor by the last class meeting.

Week	Topic and Readings
Wk. 1	<p>Introduction and overview of the course. Definition and characterization of the coasts and oceans. The value and use of resources. The need for management. Overview of national jurisdictions and authorities. Preview of issues and topics.</p> <p>Reading assignments: “Troubled Waters”, Economist Jan 2009; “Fate of the Oceans” Julia Whitty, Mother Jones March 1, 2006 Most Important Fish in the Sea: Menhaden and America, H. Bruce Franklin (to be read by class #6</p>
Wk. 2	<p>State of the world’s Oceans: Trends and Issues. Discussion “Troubled Waters” article and identification of major issues to be addressed globally and in the class.</p> <p>The US Coastal Zone Management Framework / Ecosystem-based Management Models -Institutional framework: jurisdiction and responsibilities of federal, state, regional and local governments; nongovernmental organizations; and the public.</p> <p>Reading assignment: The Coastal Zone Management Act (16 U.S.C. 1451-1464) Coastal Environment, Toward Integrated Coastal and Marine Sanctuary Management, Gary Klee, 1999, Ch 1 Integrated Coastal and Ocean Management, Cicin-Sain and Knecht: Chapters 1</p>
Wk. 3 JF	<p>Marine Protected Areas (MPA) Issues and strategies for involvement with the conservation and protection of specially designated ocean areas. National Marine Sanctuary Program; Endangered Species Act (1973); Marine Protection, Research and Sanctuaries Act (1972)</p> <p>Stellwagen Bank National Marine Sanctuary (case study) Process of nomination, development of management plans, implementation.</p> <p>Reading assignment: Stellwagen Bank National Marine Sanctuary Draft Management Plan – Special Edition Review website: http://stellwagen.noaa.gov</p>
Wk. 4	<p>Coastal pollution: role of science and technology History and definition of marine water pollution, sources and effects, and evolving techniques to address pollution. Clean Water Act; National Environmental Policy Act</p> <p>Boston Harbor Clean-up (case study)</p> <p>Reading Assignments: The Coastal Environment: Toward Integrated Coastal and Marine Sanctuary Management, Gary A. Klee, 1999, Chapter 5; Mass. Water Resources Authority, Boston Harbor Annual Report, Boston Harbor’s Murky Political Waters, Environment. 1992</p>
Week 5	<p>Coastal hazards and urban ports Focus on inappropriate development scenarios along the coast in hazard prone areas. Mass Wetlands Protection Act, National Flood Insurance Reform Act (1994); Coastal Barrier Improvement Act (1990)</p>

	<p>Chatham Barrier Beach breach (case study)</p> <p>Waterfront Development: The role of seaports and the changing urban waterfront; Harbor management planning;</p> <p>South Boston Seaport District and Waterfront (case study)</p> <p><u>Reading assignments:</u></p> <p>Coastal Wetlands Act (from Mass. Sec. 309 report) Excerpts from Ch.1, Urban Ports and Harbor Management, 1988 (pp. 3-21)</p>
Wk. 6 JF	<p>Mid-Term Written Assignment Due</p> <p>Global fisheries and aquaculture Causes, status, and international responses; Impacts on NE coastal communities</p> <p><u>Reading assignments:</u> Most Important Fish in the Sea: Menhaden and America, H. Bruce Franklin,</p>
Wk. 7	<p>Coastal Zone Management Issues: Land-Sea Linkages. Discussion of the physical, economic and societal connections between land based activities and marine waters including land use and development patterns; private property vs. public rights; public trust doctrine;</p> <p>Massachusetts Ocean Act and Plans. Update on progress of current ocean planning activities in Mass.</p> <p><u>Reading Assignments:</u> Once There Were Greenfields, Kaid et.als., ch. 1 and 2 Smart Growth articles Draft Mass Ocean Plan</p> <p>Students Presentations:</p>
Wk. 8	<p>Spring Break – no class</p>
Wk. 9	<p>Offshore Energy: fossil fuels or renewable sources Overview and comparison of several off-shore ocean activities; Impacts on coastal areas; Case study: George’s Bank - fish vs. fuel; Case study: Nantucket Sound wind park.</p> <p><u>Reading assignment:</u> Cape Wind and Alliance to Protect Nantucket Sound websites Georges Bank article, Hughes</p> <p>Student Presentations:</p>
Wk. 10	<p>International Coastal Zone Management / Coastal Megacities Examples of coastal management programs and strategies from several developed and developing nations; Role of international and multi-national organizations.</p>

	<p>Reading assignment: UNESCO, Jakarta Case Study; Regional Policy Plan for Barnstable County, Cape Cod Commission, selections.</p> <p><u>Reading assignment:</u> The International Proliferation of integrated coastal zone management efforts. Ocean and Coastal Management, 1993.</p> <p>Student Presentations:</p>
Wk. 11	<p>Coastal Tourism: benefits and impacts Recent trends and developments with coastal tourism; Social, economic and environmental impacts; Techniques for sustainable tourism;</p> <p><u>Reading assignment:</u> Proceedings of the 1996 World Congress on Coastal and Marine Tourism, June 1996, Honolulu, Hawaii, Miller and Auyong, editors. Introduction and pages 25-38, 55-60, 96-102.</p> <p>Student Presentations:</p>
Wk. 12	<p>Marine Mammals: Conservation and Protection Focus on state, federal and international programs to protect biodiversity and endangered species.</p> <p><u>Reading Assignment:</u></p> <p>Student Presentations:</p>
Wk. 13 JF	<p>Climate Change Impacts on Coasts and Oceans Focus on most recent findings of IPCC and potential coastal and ocean implications.</p> <p><u>Reading Assignment:</u> IPCC Executive Summaries and updates</p> <p>Student Presentations:</p>
Wk.14	<p>Course synthesis: Review of major themes, future issues and next steps.</p> <p>Research Paper Due</p>