Professor: Daniel Suman

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Office Hours: TTh 1-3 or by appointment in South Grosvenor 126.

Classroom: S/A 114

Meeting Times: TTh 4:30 – 5:45 p.m.

Credits: 3

Course Description: This course will examine the principles, goals, and strategies of Integrated Coastal Management (ICM). We will develop a framework for formulation and assessment of coastal zone policy with special consideration of the U.S. Coastal Zone Management Act and Coastal Management in Florida. In the latter part of the semester we will analyze issues and conflicts in coastal zone management (CZM), such as: zoning and planning, coastal and beach protection, ecosystem protection (mangroves and coral reefs), coastal pollution from land-based sources, tourism impacts, and oil and gas exploitation. The major class project will be a group examination of a current South Florida coastal development case: the continuing saga of Virginia Key (shoreline protection along the Rickenbacker Causeway, the Miami Marine Stadium, Virginia Key Park, Jimbos, and Bear Cut shoreline protection). We will also take three field trips to a coastal restoration site (Key Biscayne), a beach nourishment site and coastal restoration area (Virginia Key Park), and the Miami River revitalization area.

Required Books and Materials:

1. Beatley, An Introduction of Coastal Zone Management (Beatley)
2. Cicin-Sain & Knecht, Integrated Coastal and Ocean Management (1998) [C&K]
4. Other Selected Readings posted on Blackboard [B]
Suggested Books and Materials:

1. Kay & Alder, Coastal Planning & Management (1999)

2. Internet resources

   Coastal Resources Center:  
   http://www.crc.uri.edu/index.php?actid=69

   Netcoast:  
   http://www.netcoast.nl

   iocoast:  
   http://www.coastalmanagement.com/default.aspx

   NOAA websites:  
   http://www.csc.noaa.gov
   http://www.nos.noaa.gov/ocrm
   http://coastalmanagement.noaa.gov/programs/coast_div.html
   http://www.cop.noaa.gov
   http://www.globaloceans.org

   SeaWeb  
   http://seaweb.org

Evaluation:

You are expected to have completed the assigned readings before class. These will serve as the basis for class discussion. Written evaluation will include two take-home exercises, a simulation exercise, and a contribution to the group project on Virginia Key. The grade breakdown is as follows:

   Exercise #1 - 20%
   Exercise #2 - 20%
   Simulation Exercise - 20%
   Group Exercise - 30%
   Participation - 10%

Schedule & Table of Contents:

Please complete the readings before the class date in the following schedule. Meaningful class discussion will depend on your efforts and advance preparation. We will have to reschedule some class meetings because of my research travel.
Field Trip 1 – Virginia Key Beaches (January)
Field Trip 2 – Restoration Project – Cape Florida (February)
Field Trip 3 – Miami River (April)

GENERAL CONCEPTS & PRINCIPLES OF ICM

Class 1 – Introduction to Coastal Areas
Beaitley – Chapters 1 & 2
Woodroffe, Coasts: Form, Process and Evolution, Chapter 1 (B)

Class 2 – Problems and Challenges in the Coastal Zone
C&K, Chapter 1 (B)
Beaitley – Chapter 3
Kay & Alder, Coastal Planning and Management, pp. 18-46 (B)

Class 3 – Definition of ICM
C&K, Chapter 2 (B)

Classes 4 & 5 – Institutional Considerations in ICM
C & K, Chapters 5 & 6 (B)

Classes 6 & 7 – Implementation and Evaluation of an ICM Program
C&K, Chapter 7, 8 & 9 (B)
Indicators [B]

Exercise #1 – February 11

INTERNATIONAL DEVELOPMENTS IN ICM

Classes 8 & 9 – C&K, Chapter 3 & 4 (B)
Panama ICM Experiences, Suman from OCM (B)
NRC, Capacity Building for ICM (B)

U.S. COASTAL ZONE MANAGEMENT PROGRAM

Classes 10 & 11
Beaitley, Chapter 5
Coastal Zone Management Act of 1972, selections [B]
Web Site Pages: NOAA Office of Ocean & Coastal Resources Management [B]
Consistency Review [B]
COP, Chapter 9 – “Managing Coasts & their Watersheds” (B)
Heinz Center, The Hidden Costs of Coastal Hazards, pp. 10-20 (B)

STATE COASTAL MANAGEMENT & TOOLS

Classes 12 & 13
Florida Governor's Ocean Committee, Looking Seaward: Development of a State Ocean Policy for Florida (1997), Chapter 2 [B]


Beatley, Chapters 6 & 7

LOCAL COASTAL MANAGEMENT & TOOLS

Classes 14 & 15
Beatley, Chapter 8


Exercise #2 – March 11

SIMULATION EXERCISE

Class 16 & 17 – Simulation Exercise “Damani Beach”

MANAGEMENT OF BEACHES & COASTAL HAZARDS

Classes 18 – 20

Principles [B]
Bush et al. (2004), Living with Florida’s Atlantic Beaches, pp. 49-66 & 67-99 [B]
Cambers, Coping with Beach Erosion [B]
COP, Chapter 10 – “Guarding People and Property against Natural Hazards”
COP, Chapter 12 – “Managing Sediments and Shorelines”
NRC, *Mitigating Shore Erosion Along Sheltered Coasts* [B]
Heinz Center, *The Hidden Costs of Coastal Management*, pp. 139-166.

**COASTAL ECOSYSTEM PROTECTION & RESTORATION**

Classes 21 – 22

NMSP web site [B]
Cummiskey, *The Cape Cod Land Bank* [B]
COP, Chapter 11 – “Conserving and Restoring Coastal Habitats”
Doyle and Drew, *Large-Scale Ecosystem Restoration: Five Case Studies from the United States* [B]

**PORTS DEVELOPMENT AND URBAN WATERFRONTS**

Classes 23 – 24

Principles [B]
Miami River Commission [B]
Waste Reduction at Sea [B]
Clean Marina Program [B]
Kibel, *Rivertown: Rethinking Urban Rivers*, Chapters 3 & 7 [B]

**WATER QUALITY MANAGEMENT IN THE COASTAL ZONE**

Classes 25 & 26

COP, Chapter 14 – “Addressing Coastal Water Pollution”
NRC, *Clean Coastal Waters* [B]

Class 27 & 28 – **SUMMARY & VIRGINIA KEY PRESENTATIONS**

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