ENVS 17
Marine Policy
Fall/2013
Class location: TBA
Class Meeting time(s):
MWF 10-11:05 am; X-hour, Th 12:00-12:50

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Office Hours: Monday and Wednesday, 11:05-12 pm or by appointment
X-hours: Only if needed

Course Description

People use the oceans for transportation, recreation, food, mineral wealth, waste disposal, military defense, and many other important things. This course explores the most significant human-ocean interactions known today from two perspectives: science and policy. From the scientific literature, students will learn about issues ranging from the physical effects of sea level rise to the biological impacts of pollution events like the recent BP oil spill to the bioeconomic repercussions of overfishing. For each of the problems that are revealed by science, we will also critically evaluate relevant policy solutions to understand how institutional design can (or can't) enhance human interactions with the oceans.

Course Goals

- Identify ecosystem services and other benefits that humans derive from the oceans
- Recognize the major impacts of human activities on the oceans
- Understand how multiple impacts interact to amplify problems in the world's oceans
- Evaluate domestic and international policies related to the oceans
- Analyze the political and economic links between human-oceans interactions and oceans policies

Teaching & Learning

This course is an introduction to oceans issues and policy and is designed to accommodate students with a wide range of academic backgrounds. Each class will focus on a general set of issues, usually tied to a specific ecosystem or biophysical process. Students will first study the processes that shape the coupled human and natural systems associated with a particular topic. This requires learning about many different aspects of each topic, including oceanographic, biological, social, economic, and political elements. Once they understand the topic, students will learn about potential solutions to topic-related problems. These can range from technological fixes to social institutions to government regulations. Readings and homework will give students some understanding of basic concepts or specific cases which will serve as a foundation for broader lectures/discussions in class.

Expectations

Exams: There will be two exams for this course. Each will consist of a short answer section (about 20 questions) and a long answer section (pick 3 of 5 questions). Exams are not cumulative except insofar as information learned in the first half of the term is important for understanding material covered in the second half.

Readings: There is one textbook covering oceanography and marine biology for the course. Assigned sections of this book compliment readings from the policy and social science literature. See the schedule for all reading assignments. Policy readings can be found using the first author's name under the Blackboard Library Reserves. It is important that students read all assigned materials for the course. There is a lot of ground to cover and I will not rehash readings during class, though I am happy to answer student's questions about the readings.

Documentaries: Policy can be heavily tied to public perceptions of marine problems, so many conservationists and other interest groups work to make the public more aware of the issues that they think are important. In order to both provide a more visceral understanding of the material covered and to see how different groups represent the issues, students are asked to watch one documentary per week. Assigned documentaries are listed under the x-hour slot in the schedule but can be streamed via the Blackboard Library Reserves any time before class on Friday.

Homework: One essay per week is required (maximum 400 words). Each essay should link the reading assignments for a particular day with a current or historical event. Events can be drawn from newspapers, magazines, or peer reviewed journal sources. The primary goal here is to synthesize the information learned in the readings through application to a specific issue. Essays should be posted on the Blackboard Discussion Board by 9 am on the day of the linked reading assignment. For example, if linking to readings assigned for Monday, September 16th, then the essay should be posted on the discussion board by 9 am that same day. Note that there are not reading assignments on every day of class so please plan ahead. Each essay must cover a different example; it's first come, first serve, so the earlier you post your essay the more leeway you'll have in choosing an illustration. Essays are limited to no more than 400 words, must be well written, and should include appropriate citations/references (references are not included in the word count). Essays are required every week but each student will get 2 freebie essays—that is, I will drop the lowest 2 essay grades for each student.

Text and Resources

Required:
American Museum of Natural History. 2006. *Ocean: The World's Last Wilderness Revealed*. New York: DK, 512 pp.

Other readings are available through the Library Reserves page on Blackboard.

Grading

Class participation	10%
Homework	20%
Midterm	35%
Final	35%

Academic Honor

http://www.dartmouth.edu/~reg/regulations/undergrad/acad-honor.html

Student Needs

Students with disabilities enrolled in this course and who may need disability-related classroom accommodations are encouraged to make an appointment to see me before the end of the second week of the term. All discussions will remain confidential, although the Student Accessibility Services office may be consulted to discuss appropriate implementation of any accommodation requested.

Student Accessibility Services (http://www.dartmouth.edu/~accessibility/facstaff/)

Academic Skills Center (http://www.dartmouth.edu/~acskills/)

The Academic Skills Center is open to the entire Dartmouth Community. Here are some common reasons why you might visit the ASC:

- You're getting B's but you want to get A's
- You don't feel comfortable talking in class
- You're attending class regularly but you feel like you're missing important points
- You feel like you're a slow reader
- You're spending hours studying for foreign language but still not “getting it”
- You feel like you don't have enough time to get everything done
- You're not sure how to take notes
- You want to sign up for a tutor or study group
- You're not sure if you should get tested for a learning disability

The Research Center for Writing, and Information Technology (RWiT)
(http://www.dartmouth.edu/~rwit/)

The Student Center for Research, Writing, and Information Technology (RWiT) is a place where you can meet with an undergraduate tutor to discuss a paper, research project, or multi-media assignment. The RWit tutors are trained to help you at any phase of your process. Whether you are brainstorming or planning, drafting or structuring, tweaking or polishing, the RWiT tutors can provide feedback that will help you to create final products of which you can be proud.

Schedule

		Issues	Ocean readings (textbook)	Policy readings (blackboard)
16-Sep	Intro	Background	geology 40-51	Juda and Burroughs 1990
18-Sep	Special collections: Meet at Rauner Library (Webster Hall)			
19-Sep	doc1	Oceans: Episode 6		
20-Sep	Coastal	Development	hurricanes, tides 70-85; coasts 86-113; 141	Marshall et al. 2011
23-Sep	Coastal	Pollution I	water 30-39; bacteria to protists 230-237	Park et al. 2009
25-Sep	Coastal	Invasive species	life 204-221; cnidarians 262-266;	Thresher & Kuris 2004
26-Sep	doc2	Oceans: Episode 1		
27-Sep	Coastal	Commercial fishing I	mollusks to arthropods 278-305	Acheson 1997
30-Sep	FIELD TRIP: SEA Semester Research Vessel, Boston Harbor. ALL DAY!			Zettler et al. 2013
2-Oct	Coastal	Aquaculture	shallows 138-151; life 294; 348	NOAA policy
3-Oct	doc3	Strange Days: Dangerous Catch		
4-Oct	Netlogo Fishery: Meet at computer lab TBA			
7-Oct	Coastal	Recreation	life 421; maps 474-475; 478-479	Remoundou 2009
9-Oct	Coastal	Coral reefs (multi)	reefs 152-163; 211; life 260-261; 266-277; 308-314; 358-364; 370-371	Hughes et al. 2007
10-Oct	doc4	Oceans: Episode 5		
11-Oct		Debate: Commercial vs. recreational		
14-Oct	Coastal	Mangroves (multi)	mangroves 130-137; life 254; 381	Farley et al. 2010
16-Oct	Midterm			
17-Oct	doc5	Strange Days: Dirty Secrets		
18-Oct	NOAA stakeholder comment			
21-Oct	Marine	Pollution II	currents 58; open 166-181	Stemmler & Lammel 2009
23-Oct	Marine	Commercial fishing II	life 342;346-347; 350; 357-371; 353; 355; 370	Steelman & Wallace 2001
24-Oct	doc6	Blue Planet: Open Ocean		
25-Oct	Mercury: Guest lecture by Celia Chen, ecology			Chen et al. 2013
28-Oct	Marine	Commercial fishing III	pelagic 164-165; 215; life 324-337; 369; 382-384; 390; 403	
30-Oct	Marine	Ecosystem shifts	history 226-229;	Crowder et al 2008
31-Oct	doc7	Blue plant: Polar Seas		
1-Nov	Netlogo Fishery Management: Meet at computer lab TBA			
4-Nov	Marine	Charismatic megafauna	reptiles 372-381; mammals 404-423	Joyner & Tyler 2000
6-Nov	Marine	Climate change	climate 52-73	Helm 2008
7-Nov	doc8	Oceans: episode 2		
8-Nov	Ocean Conveyor Activity			
11-Nov	Marine	Southern ocean (multi)	penguins 386-389; maps 482-487	Fabra & Gascon 2008
13-Nov	Marine	Arctic ocean (multi)	polar 190-103; map 428-431	Wegge 2011
14-Nov	doc9	Blue Planet: The Abysss		
15-Nov	Debate: Dolphin/tuna			
18-Nov	Marine	The Abyss	abyss 171-173; 182-189; life 222-225; 349; 353	Armas-Pfirter 2009
22-Nov	Final	Scheduled at 8 am, location TBA		