EEOS 226 **Introduction to Oceanography** **Spring 2010**

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Course Description: **Introduction to Oceanography**
Course meets Tuesdays and Thursdays (3 hours a week), with no lab component. This course satisfies the general education requirements. Although there are no prerequisites, a basic science background is helpful. This course introduces the student to the scientific study of the oceans by exploring basic principles from marine science sub-disciplines: geological, physical, chemical, and biological oceanography, as well as stewardship between humans and oceans.

Teaching Goals & Objectives: The students will be introduced to four key aspects of the oceanography: geological, physical, chemical, and biological. The link between them is "the life in the ocean" – students will learn about different forms of life in the ocean, and interconnectedness between living and nonliving aspects within the ocean ecosystem. What? Why? Where? When? How?
In addition, students will learn the basic interactions and relationship between humans and oceans, the effects of anthropogenic activities on ocean life, and the connections between ocean and human health. The prerequisite to be engaged by and to enjoy this course is to think critically and to be curious.

Text Book: How the Ocean Works – Intro to Oceanography, by Mark Denny, 2008

HOWEVER, YOU MAY USE ANY OTHER TEXT BOOK TITLED "INTRO TO OCEANOGRAPHY" PUBLISHED IN THE LAST TWO YEARS;

Attendance Policy: Attendance is mandatory and will be monitored. Attendance will be considered when deciding borderline grades. **Any excused absence requires a neatly written or typed explanation of why you will miss or have missed and must have supporting documentation** (Dr. excuse, tow bill, etc.). It is your responsibility to submit the documentation during office hours and discuss the missed test, class or assignment with me when you return to class and before the end of the semester – no exceptions.

Grade Evaluation and Policies: Your final grade will be determined from the following:

Attendance/participation 5%; 12 Homeworks 35%; 2 Exams 60%

Mid term and final exams will be graded as follows: one week at-home preparation (25%) plus in-class individual questions (85%). The test content will focus largely on the lecture notes, reading assignments and any sections recommended directly from the textbook. Your homeworks will prepare you for the exams as well.

Homework will be assigned once a week. We expect you to provide in-depth answers in your own words, with listed **references** of your information resources. Homework must be delivered on time, and **no cut and paste texts** from any source will be accepted!

Your final letter grade will be based on the following percentile ranges:

92 - 100 = A **81 - 91 = B** **70 - 80 = C** (56 - 69 = D 55 or less = F)

Beepers and cell phones: Are disturbing to the class as a whole. Both are required to be turned off during all classes- no exceptions. If your phone and/or beeper go off during class you will be expected to leave the classroom for the remainder of the lecture. The same will be requested for any student engaging in verbal communication not related to classroom discussions.

Course Success Statement: To be successful in this course, you are expected to attend class regularly, prepare for class by reading assigned work prior to class meetings, completing and submitting take-home assignments by the scheduled deadlines, and asking questions in/out of class. Please use email only for brief correspondence, such as to request a time to meet or to notify me of an unavoidable absence due to sickness.

TWO FIELD TRIPS ARE PLANNED FOR THIS COURSE:

1. Two hour BOAT CRUISE of Boston Harbor will be scheduled in the last week of April
2. Field trip to the near by coastal beach for the beach transect exercise will be scheduled in the class time and during the low tide in Spring;

Tentative Course Outline: The instructor reserves the right to modify the schedule when appropriate;
Lectures, reading texts, homework and assignments are available at the course web site:
http://sites.google.com/site/eeos226introtooceanography/

INTRODUCTION TO OCEANOGRAPHY

Geological Oceanography

Tu Jan 26	Intro & History of Oceanography/ Quiz -Survey	
Th Jan 28	Origin of Earth & Oceans	HW1
Tu Feb 2	Plate Tectonics – Theory & Evidence	
Th Feb 4	Plate Tectonics – Mechanism & Hydrothermal Systems	HW2
Tu Feb 9	Geologic History of the Oceans	
Th Feb 11	Continental margins and hot spots	HW3
Tu Feb 16	Ocean floor	
Th Feb 18	Sediments	HW4

Chemical Oceanography

Tu Feb 23	Global Ocean Chemistry overview	
Th Feb 25	Properties of water, salinity	HW5
Tu Mar 2	Ocean processes – organic matter, nutrients	
Th Mar 4	Ocean processes - CO2	HW6
Tu Mar 9	Gases in seawater	
Th Mar 11	Ocean Acidification	Midterm Exam
Mar 13-21	**SPRING BREAK**	

Physical Oceanography

Tu Mar 23	Light & sound in the sea	
Th Mar 25	Ocean circulation	HW7
Tu Mar 30	Currents	
Th April 1	Waves & Tides	HW8/Tides

Tu Apr 6	Gulf Stream; El Nino	
Th Apr 8	Coastline, coastal processes and marginal seas	HW9
Tu Apr 13	Coastal ecosystems	
Th Apr 15	Shorelines and coastal changes	HW10
Tu Apr 20	Oceans & Climate	

Biological Oceanography

Th Apr 22	Ecosystems/ Biodiversity	HW11
Tu Apr 27	Primary production	
Th Apr 29	Food chains, food webs and trophic levels	HW12
Tu May 4	Global Ocean Issues and Solutions	
Th May 6	Ocean Conservation	
Tu May 11	LAST CLASS – Reviews	
May 12-21	STUDY PERIOD	
May 18	FINAL EXAM	

For matters regarding academic dishonesty and misconduct, please refer to the UMASS Boston Code of Student Conduct:
www.umb.edu/student_affairs/programs/judicial/csc.html
www.cpcs.umb.edu/support/studentsupport/red_book/policies_academic_dishonesty.html

If you have a disability and feel you will need accommodations in order to complete course requirements, please contact the Ross Center for Disability Services (Campus Center 2nd floor, Room 2010, at 617-287-7430.

THANK YOU!