

51-259 **Oceanography**
Bloomsburg University – Spring, 2013

Professor: Dr. Cynthia Venn, HSC-B39, 389-4141; cvenn@bloomu.edu

Text: Moran (ed.), Ocean Studies, Introduction to Oceanography, 3rd Edition

Location and Time of Class: Section 01 MW 2:00-3:15 HSC-B36
Section 02 MW 3:30-4:45 HSC-B36

Objectives of the Course:

Oceanography is a course in the Geosciences. It is NOT a course all about marine life. It IS a course where you will learn about the environment in which marine organisms live. I will talk about certain marine organisms in discussing the physical characteristics of the ocean, and may bring in the occasional dead marine critter or critter part for you to see, but the main point of the class is for you to understand the geological, chemical and physical workings of the ocean. Specifically, at the end of the course, it is my goal for you to know and understand the following:

1. Important land and ocean physiographic features, and how to locate them on a map.
2. Historical figures who have been instrumental in ocean discoveries.
3. Technological developments important in increasing our understanding of oceans.
4. Structure of the earth, and how we use gravity and seismic studies to learn about it.
5. Plate Tectonics Theory and the role of plate tectonics in shaping the ocean basins.
6. Physiographic features of the ocean floor and how they form.
7. Materials on the ocean floor, including rocks and sediments, and how they get there.
8. Physical properties of seawater – density, freezing point, surface tension, hydrostatic pressure, and effects of temperature and salt content on those properties
9. Behavior of light and sound in seawater.
10. Sea Ice and icebergs – effects of climate change on sea ice and land ice.
11. Chemical composition of seawater and its relationship to biology and geology.
12. Atmospheric circulation and how it affects ocean circulation.
13. Ocean circulation – surface currents and deep currents and their causes.
14. Waves and tides and their effects on the shoreline.
15. The factors that can affect sea level rise and fall.

Grading Policy:

1. **EXAMS:** There are 2 exams during the regular semester, which will be held during the times marked on the syllabus. Schedule yourself now to take these exams at the times indicated. However, if you **HAVE** to miss an exam due to illness or emergency, you **MUST** let me know **BEFORE** the exam, and I will need a written, signed doctor's excuse or verification of an emergency for you to take the makeup. **If you do not follow that procedure, the exam will be a 0. All makeup exams are essay exams – no exceptions.**

The final exam is **cumulative** (over all the material), and will be given at the exam time published in the schedule of classes and noted at the end of the syllabus.

Grades will be determined as follows:

2 exams (@100 pts)	200 pts
Final exam (cumulative)	100 pts
Homework/In Class Work	100 pts
Online Quizzes (10 @ 5 pts)	<u>50 pts</u>
	450 pts

I do not give grades out over the phone or by email. If you want to talk to me about your grade, the best thing to do is to come and see me. It is not legal for me to give your grade to anyone else without your written permission. I will post them on BOLT.

SAVE ALL OF YOUR GRADED ASSIGNMENTS, QUIZZES AND EXAMS UNTIL YOU HAVE RECEIVED YOUR GRADE FOR THE COURSE. IF THERE IS SOME DISCREPANCY AND I HAVE AN INCORRECT GRADE RECORDED, I CANNOT FIX IT UNLESS YOU BRING ME THE ASSIGNMENT TO SHOW ME THE CORRECT GRADE.

2. **Homework/In Class Work:** These will consist of both take-home assignments and in-class assignments. There is a 25% per day penalty for late homework, and NO CREDIT is given for homework turned in after the assignments have been graded and returned. If you miss an in-class assignment because you are ill, you may make it up at a later time, but it is your responsibility to contact me to arrange a time to make it up. The assignments will build on one another, so it is important that you make it up as soon as possible after you miss the class.
 3. **Quizzes:** There will be 10 online quizzes during the semester. These will be open book and open notes (but not open people) and are intended to keep you up on the readings and the material.
 4. Letter grades will be assigned on the plus/minus system. I do not curve grades. What you earn is what you get. **There will be no individual extra credit assignments for improving grades at the end of the term.** There **will** be opportunities announced **during** the term for the entire class to earn some extra points – take advantage of them when they occur.
 5. **Field Trip:** There **may** be an optional field trip to the shore, assuming there is sufficient interest and the timing works out. If so, I strongly encourage you to go. I will give notices to any students who need them due a class conflict. You should let me know ahead of time if you need a notice. There will be a cost associated with the trip.
 6. **Attendance:** Many, but not all, of the lecture topics are covered in the reading. I will be adding material as we go along and there will be in-class activities and class handouts. It is **your responsibility** to know **anything** I say in class (including rescheduling of quizzes or assignments, extra credit opportunities, etc.) and for having any handouts or assignments I pass out in class. For these reasons, it is very important that you attend all classes. If you must miss a class, you should get the notes from a classmate and any handouts/assignments from me or BOLT **BEFORE** the next class. **RIGHT NOW**, write the name and contact information for 3 classmates so you can get the assignments/notes in case you must miss class. I will **try** to post assignments/announcements on BOLT after I hand them out (assuming no technical difficulties).
-
7. **Office Hrs:** M 10:30-12:00; 5:00-6:00 PM; T 4:30-6:00 PM; W 9:00-10:00 AM; or by arrangement. If my office hours don't work for you, then contact me to arrange another time to meet me. I encourage you to talk to me AS SOON AS you have questions on the lectures or other material throughout the term. Each week you should look over your notes and ASK ME QUESTIONS about anything you don't understand. You are paying my salary – you might as well get the most out of it. The secret to doing well in this class is keeping up with the material.
 8. If you feel you need even more help to improve your academic performance in this or any of your courses, please consider requesting a tutor in University Tutorial Services (UTS). UTS offers peer tutoring at no charge to Bloomsburg University students. The UTS office is located in Warren Student Services Center, Room 13.

Course Outline Spring 2012 (Tentative, but probable)

Date	Topic	Reading (Ch:pages)
Jan. 28	Introduction, Origin of the Oceans	1: 1-14; 29-32; 13: 398-410
30	Maps and Navigation; Map Exercise (Handout)	1: 16-21; 5: 148-149
Feb 4	Structure of the Earth	2
6	Bathymetry; Continental Margins	2; 10: 296-299
11	Plate Tectonics & Sea Floor Spreading	2
13	Features of the Deep Sea Floor	2
18	Video (The Deep) – In-class Exercise	
20	Video (The Crystal Ocean) – In-class Exercise	
25	Physical Prop. of Seawater	3: 63-71, 77-79
22	Pressure, Sound and Light in the Ocean	3: 79, 81-82; 1: 18-21
27	Ice in the Ocean	3: 79-80; 10: 312-313
Mar. 4	Seawater Chemistry – Salinity; Chemical Resources	3: 72-74
6	Seawater Chemistry: Gases; Ocean pH	3: 74-77
11	Nutrients and Trace Elements; Productivity	Handout 9: 253-271 10: 314-315
13	EXAM 1 - on material covered through 3/6	
18	Spring Break – NO CLASS	
20	Spring Break – NO CLASS	
25	Sediments	4
27	Sediments	4
Apr. 1	Speaker: Climate Change and Sea Ice (tentative date)	
3	Atmospheric Circulation	5
8	Atmospheric Circulation, Storms; ENSO	5
10	Wind and Ekman Transport	6
15	Geostrophic Circulation and Surface Currents	6
17	Thermohaline Circulation	6
22	Waves	7: 183-191
24	Waves	7: 183-191; 199-204
29	Tides	7: 191-199
May 1	EXAM 2 (on material covered through 4/11)	
6	Beaches and Coasts	8
8	Beaches and Coasts	8

FINAL EXAM (CUMULATIVE)**01 section Tues., May 14, 8-10 AM****02 section Mon., May 13, 1:00-3:00 PM****Happy Summer!!!!**