

Syllabus for: Ocean-10 - Introduction to Oceanography	
Introduction to Oceanography	
Semester & Year:	Spring 2013
Course ID and Section Number:	OCEAN-10 E2384
Number of Credits/Units:	3
Day/Time:	TTH 10:05AM - 11:30AM
Location:	Physical Science 111
Instructor's Name:	Danny O'Shea
Contact Information:	Office location and hours: PS 111 T Th 9-10 a.m. or by appointment Phone: 707.476.4210 x 4823 Email:danny-oshea@redwoods.edu
Course Description (catalog description as described in course outline):	
An introduction to the world ocean including marine geology, plate tectonics, oceanic circulation, fundamental physical and chemical properties of seawater, atmospheric-oceanic relationships, marine environments, and productivity.	
Student Learning Outcomes (as described in course outline) :	
<ol style="list-style-type: none"> 1. Make reasonable interpretations of oceanographic data. 2. Apply the scientific method to the critical evaluation of data and concepts. 3. Identify the underlying concepts and physical and chemical processes of oceanography in a variety of different areas. 4. Recognize and discuss the relationships between physical and chemical environmental factors and the organisms and populations characteristic of an area. 5. Identify and the primary forces responsible for oceanic circulation. 6. Discuss the relationships between oceanic processes and local and global climate and weather. 7. Use their understanding of oceanographic principles to interpret and discuss the processes affecting coastal areas. 8. Explain plate tectonics and discuss multiple lines of scientific evidence that support this theory. 9. Describe in writing the processes involved in the formation of sediments in the ocean and identify the principal source materials for each of the basic types of marine sediments. 	
Special accommodations: College of the Redwoods complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written accommodation request at least one week before the first test so that necessary arrangements can be made. No last-minute arrangements or post-test adjustments will be made. If you have a disability or believe you might benefit from disability related services and may need accommodations, please see me or contact Disabled Students Programs and Services. Students may make requests for alternative media by contacting DSPS.	
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Oceanography 10 E- 2384	Spring 2013	TTh 10:05 a.m. – 11:30 a.m.
Introduction to Oceanography	Danny O'Shea	Room PS 111
Office: Physical Science 122	e-mail: danny-oshea@redwoods.edu	
Office Hours: T 9:00 –10:00 a.m.	phone: 476-4210 ext. 4823 (message only)	

Course Description: This Earth Science course is an introduction to the oceans including marine geology, plate tectonics, and the physical and chemical properties of seawater, oceanic-atmospheric circulation, marine environments, and biological productivity. The goal of this course is to understand the biogeochemical relationships of the Earth's Ocean. This 3-unit course meets Tuesday and Thursday in Room PS111 on the CR main Eureka campus at 10:05 a.m. The course will follow the syllabus outlined below, however, material will shift to accommodate events or discoveries that occur during the semester.

Syllabus

<u>Week</u>	<u>Day-Month</u>	<u>Topic</u>	<u>Reading</u>	<u>Activities</u>	<u>Online Quiz</u>
1	15 - Jan 17 - Jan	Introduction Origins	1	1) Charts, Latitude Longitude & Time	1
2	22 - Jan 24 - Jan	Plate Tectonics	2	2) Plate Boundaries & Marine Geology	2
3	29 - Jan 31 - Jan	Seafloor Sediments Review	3	3) Mantle Plumes & the Hawai'ian Hot Spot	Research Outline Due
4	5 - Feb 7 - Feb	1st Exam Water & Salts	1 – 3 4	Exam # 1 4) Seawater Chemistry	3
5	12 - Feb 14 - Feb	Chemical/Physical Properties of seawater	4	5) Pressure, pH & CO ₂	4
6	19 - Feb 21 - Feb	Atmospheric Circulation	5	6) Coriolis Effect	5
7	26 - Feb 28 - Feb	Ocean Circulation	6	7) Ocean Circulation	
8	5 - Mar 7 - Mar	Research Paper Due 2nd Exam	4 - 6	Review Exam # 2	Research Paper Due
9	12 - Mar 14 - Mar	Spring Break		No Classes	
10	19 - Mar 21 - Mar	Ocean Waves	7	8) Ocean Wave Prediction	6
11	26 - Mar 28 - Mar	Tides	8	9) Ocean Tides	7
12	2 - Apr 4 - Apr	Deltas & Coastlines	12		8
13	9 - Apr 11 - Apr	3rd Exam Life in the Ocean	6 -12 7	Exam # 3 10) Life in the Ocean	9
14	16 - Apr 18 - Apr	Phytoplankton	8		10
15	23 - Apr 25 - Apr	Zooplankton Marine Fishes	9 11		
16	30 – Apr 2 - May	Student Presentations Student Presentations	10	Student Presentations Student Presentations	Notebooks Due Question Due
17	9 - May	Final Exam	1 - 12	Final Exam	

Textbooks are available in the CR Bookstore, local used bookstores, or online and must be read before coming to class. Any recent edition of an Introductory Oceanography textbook will suffice,

however, you will need to cross reference the chapter from the syllabus and outline available on the myCR website (www.redwoods.edu).

Taken with the laboratory, Oceanography 11, this course is transferable to CSU and UC schools as a science class with a laboratory.

My office hours are Tuesday 9:00 p.m. – 10:00 a.m., or by appointment. The best way to contact me is via e-mail at: danny-oshea@redwoods.edu. You can also leave a message on my voice mail at (707) 476-4210 extension 4823. If you leave a phone message, leave the time and date you called and a brief message.

Course Learning Outcomes:

- 1) Be able to make reasonable interpretations of scientific data.
- 2) Apply the scientific method to the critical evaluation of data and concepts.
- 3) Identify the underlying concepts and principles of oceanography, apply and interpret them in a variety of marine environments.
- 4) Discuss the relationships between physical and chemical environmental factors and the organisms and populations characteristic of an area.
- 5) Demonstrate the skills necessary to utilize basic instruments, tools, and tests used in oceanography.
- 6) Discuss the strengths and weaknesses of various data collection techniques, and evaluate the relative merits of specific techniques in different environmental situations.
- 7) Follow written and oral laboratory instructions.

Grading:

Your performance on: the three midterm, and cumulative final exams, individual research presentation and paper; in-class activities, homework assignments, readings, and class participation determine the grade you receive. There are 1000 points available and grades are assigned by the percentage of total points as follows:

1000-940=A 939-900=A- 899-870=B+ 869-830=B 829-800=B-
799-770=C+ 769-730=C 729-700=C- 699-670=D+ 669-600=D
<599=F

Grading Summary:

	Points
> 3 Midterms and 1 Final:	400
> Course Notes and Illustrations	180
> Research outline, and project	120
> Activities	100
> Online Quiz	100
> Presentation	100
Total Points:	1,000

Mid-Term/Final Exams

The 3 midterms and final are worth 100 points each. The exams are a mix of multiple choice, true/false, short answer, and essay questions based on the lectures, activities, homework, and course reading. The final is cumulative and will concentrate on physical, chemical, and geological topics relevant to the biological topics covered during the last several weeks of the course. Each student is required to submit a multiple-choice question for the final exam based on the information presented by the student during the last two weeks of class.

Course Notes and Illustrations

Each lecture will include several illustrations that relate to the specific topic being discussed for that day. Credit is given for careful reproduction of the illustrations including any notes, labels, and graphs. You will turn in your notebook toward the end of the semester along with your activities and homework that has been completed through the semester.

Reading

A course outline is available on line so that you can review topics covered in the classroom.

These chapters can also be used to reference other texts and articles.

Activities

Each week we will focus on a specific topic, and use some of the class time to develop these themes. You may need to spend some time out of class completing the activities. There are 10 activities throughout the course, each worth 10 points.

On-Line Quiz

Each week a multiple choice on-line quiz will be posted on myCR. These quiz questions will also appear on the midterm exams. Note that the questions may be slightly different, so read exam the questions carefully. Each on-line quiz is worth 10 points.

Research Project

Each student is required to submit a 5-7 page research paper with two images on a topic of interest to you. The paper is to be submitted online via the myCR web site. Your information should come from your own observations, scientific articles on the subject, library and internet research.

>>>>>>>*Projects submitted without references will not receive a grade***<<<<<<<<<**

A research project on a topic of interest to you that is related to Oceanography is required from each student. For full credit your research must include:

- 1) **References** (Bibliography, Works Cited, etc.)
- 2) 5-7 pages of original (not copied and pasted) **text**;
- 3) At least one **chart** with a figure number (e.g. Figure 1) and description of the location of interest;
- 4) At least one **image, drawing or graph** complete with a figure number and description;
- 5) A minimum of three references, not including your textbook. One of your reference must be from the science journal "Science" available in the library or online through myCR under the "Library Resource" link in the Course Tools box.

We will briefly review some basic writing techniques during the course.

A **General outline** with specific research topics for your project is due Sept 13 (20 pts)

The **Final draft** is due by October 18, early submissions are encouraged. Projects are to be turned in online as a .pdf. I will post your research project on the MyCR website so other in the class students will have the chance to learn from your research. I will enable the Turnitin service so you will be able to see your similarity (to online sources) index.

>>>>>>>*Projects submitted without references will not receive a grade***<<<<<<<<<**

Student Presentations

Your research paper will culminate in a brief presentation to the class sometime during the last two weeks of the course. You may do an individual presentation, or a small group (no more than 3 students) presentation. Each member of a group must deliver a portion of the presentation. Your presentation may be on the same topic as your research paper, however, for group presenters, I do not want four copies of the same paper (i.e. write your own paper!). You will have access to the same media used in class: computer, video, slide and overhead projectors. Individuals will have 5-7 minutes, and groups 10-12 minutes for their presentations. All students are requested to email one multiple choice question, based on the your presentation, which will appear on the final. The final exam will be based in part on questions from the student presentations.

Attendance/Participation

Participation is very important and absence will reflect negatively on your performance and final grade. Showing up late is very disruptive so please come to class on time. Likewise, if you need to leave the class early, please let me know before the class starts. Eating, drinking, texting, and chatting are social activities, and are best done outside the class. Thank-you.

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