| Syllabus for: 2014F-OCEAN-10-E5913-OShea | | |
|--|--|--|
| Semester & Year: | Fall 2014 | |
| Course ID and Section Number: | OCEAN-10-E5913 | |
| Number of Credits/Units: | 3 | |
| Day/Time: | T Th / 10:05am-11:30am | |
| Location: | HU 125 | |
| Instructor's Name: | O'Shea | |
| Contact Information: | Office location and hours: HU 125A T Th 1:05 pm – 2:05pm | |
| | Phone (707) 476-4210 x 4823 | |
| | Email:danny-oshea@redwoods.edu | |

Course Description (catalog description as described in course outline):

An introduction to the Earth's ocean including marine environments, geology, plate tectonics, fundamental chemical and physical properties of seawater, atmospheric-ocean ic relationships, oceanic circulation, coastal environments and biological productivity.

Student Learning Outcomes (as described in course outline):

- 1) Use the formal methodology of the scientific method as an inquiry-based tool to critically evaluate oceanic phenomena.
- 2) Describe how energy is transferred between different elements of the Earth's geologic, oceanic, atmospheric, and biological systems.
- 3) Apply oceanographic principles to describe how coastal materials and landscapes change over time.
- 4) Apply concepts of physics and chemistry to quantitatively explain variations in the characteristics of the oceanic environment.

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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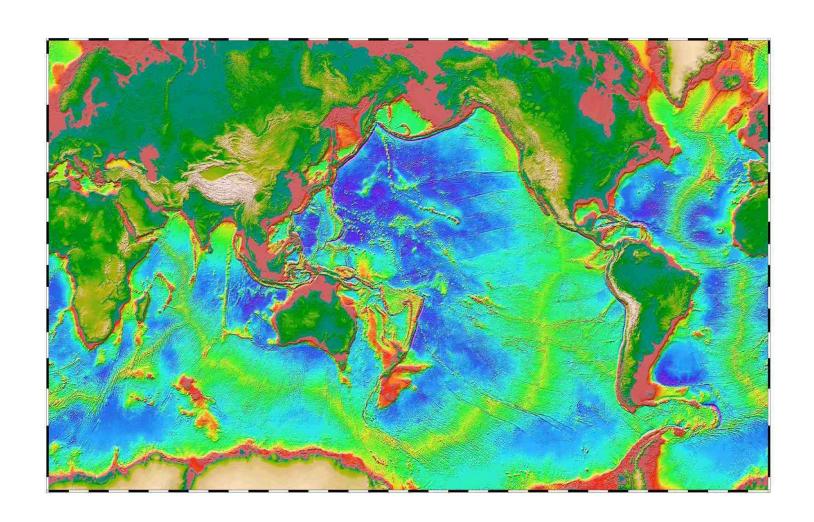
The student code of conduct is available on the College of the Redwoods website at: http://redwoods.edu/District/Board/New/Chapter5/AP%205500%20Conduct%20Code%20final%2002-07-2012.pdf

Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the college catalog and on the College of the Redwoods homepage.

College of the Redwoods is committed to equal opportunity in employment, admission to the college, and in the conduct of all of its programs and activities.

Introduction to Oceanography

Oceanography 10 – E 5913 College of the Redwoods Fall 2014



Syllabus Instructor Danny O'Shea

Oceanography 10 / E-5913 Fall 2014 TTh 10:05 a.m. – 11:30 a.m. Introduction to Oceanography Danny O'Shea Room HU 125

Office HU 125A e-mail: danny-oshea@redwoods.edu

Course Description: This Earth Science course is an introduction to the oceans includes the study of marine geology, plate tectonics, and the physical and chemical properties of seawater, oceanic-atmospheric circulation, marine environments, and biological productivity and ecology. 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 HU125 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

| Week | Day-Month | <u>Topic</u> | Course Notes | In-Class Activities | Online Quiz |
|------|----------------------|--|-----------------|--|-------------------------|
| 1 | 26 - Aug 28 - Aug | Origins Exploration | 1 | 1) Charts, Latitude Longitude & Time | 1 |
| 2 | 2 - Sep 4 - Sep | Plate Tectonics Ocean Basins | 2 3 | 2) Plate Boundaries & Marine Geology | 2 |
| 3 | 9 - Sep 11 - Sep | Seafloor Sediments Review | 4 | 3) Mantle Plumes & the Hawai'ian Hot Spot | Research Outline Due |
| 4 | 16 - Sep 18 - Sep | 1 st Exam Water & Salts | 1 - 4 5 | 4) Seawater Chemistry | 3 |
| 5 | 23 - Sep 25 - Sep | Seawater Chemistry Physical Properties | 5 | 5) Pressure, pH & CO ₂ | |
| 6 | 30 - Sep 2 - Oct | Atmospheric Circulation | 6 | 6) Coriolis Effect | 4 |
| 7 | 7 - Oct 9 - Oct | Ocean Circulation | 7 | 7) Ocean Circulation | 5 |
| 8 | 14 - Oct 16 - Oct | Research Paper Due 2 nd Exam | 5 - 7 | Review | 6 |
| 9 | 21 - Oct 23 - Oct | Ocean Waves | 8 9 | 8) Ocean Wave Prediction | Research Pape Due |
| 10 | 28 - Oct 30 - Oct | Tides Deltas | 10 | 9) Ocean Tides | 7 |
| 11 | 4 - Nov 6 - Nov | Coastlines 3 rd Exam | 6 -10 | Review | 8 |
| 12 | 11 - Nov 13 - Nov | Life in the Ocean Plankton | 11 12 | 10) Life in the Ocean | 9 |
| 13 | 18 - Nov 20 - Nov | Marine Animals Biological Oceanography | 13 14 | | 10 |
| 14 | 25 - Nov 27 - Nov | Ocean Ecology Thanksgiving Break | 15 | No Class | |
| 15 | 2 - Dec 4 - Dec | Marine Resources Marine Pollution | 15 | | Notebooks Due |
| 16 | 11 - Dec | Final Exam | 1 - 16 | Final Exam | |

Reading

You will need an Introductory Oceanography textbook to successful complete the Ocean-10 course. New textbooks are very expensive, so I have set up this course so that any recent (published since c.a. 2004) edition of an Intro Oceanography textbook will suffice. You will need to read the chapter(s) to be discussed **BEFORE** you come to class. This will make the lectures more interesting, and improve your learning experience. A course outline is posted on myCR so that you can review topics covered in the classroom. I strongly encourage you to investigate other sources of information, such as, news feeds, journal articles, and other media.

Textbooks may be available at local bookstores, online and are required as a background reading to improve your general understanding of the material. Any recent edition of a 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). **Read the chapters before you come to class**.

Taken with the laboratory, Oceanography-11, this is course is transferable to CSU and UC schools as a science class with a laboratory. Ocean-11 is offered in the Spring semester only.

My office is located in the adjacent prep room, HU125A, and my office hours are Tuesday 1:00 p.m., or by appointment. The best way to contact me is via e-mail at: danny-oshea@redwoods.edu

Course Learning Outcomes:

- 1) Use the formal methodology of the scientific method as an inquiry-based tool to critically evaluate oceanic phenomena.
- 2) Describe how energy is transferred between different elements of the Earth's geologic, oceanic, atmospheric, and biological systems.
- 3) Apply oceanographic principles to describe how coastal materials and landscapes change over time.
- 4) Apply concepts of physics and chemistry to quantitatively explain variations in the characteristics of the oceanic environment.

Grading:

Your performance on: the three midterm, and cumulative final exams, research paper; in-class activities, online quizzes, 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 | 150 | |
| > | Research outline and report | 150 | |
| > | Activities | 150 | |
| > | Online Quiz | 100 | |
| > | Participation | 50 | |
| | Total Points: | 1,000 | |

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 includes notes and several illustrations that relate to the specific topic being discussed for that day. Credit is given for careful recording of the notes and illustrations including any labels and graphs, questions. A complete notebook is worth **180 points.** You will turn in your notebook the last Tuesday of classes.

Activities

Each week we will focus on a specific topic, and use some of the class time to develop these concepts. You may need to spend some time out of class completing the activities. There are 10 activities throughout the course, each worth **15 points** for a total of **150 points**.

On-Line Quiz

Each week a multiple-choice, on-line quiz will be posted on myCR. Variations of the 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** for a total of **100 points**.

Research Project

Each student is required to submit a **2,500** to **3,000-word** research paper with **2 images with description** 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. An outline is due the third week of the semester and is to be turned in online. No late work accepted.

>>>>>***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) **2,500-3,000 words**, original (not copied and pasted) **text** (this is about 5-7 pages);
- 2) **2 images:** at least one **map** with a **figure number** (e.g. Figure 1) and **brief description** of the location of interest; and at least one **image**, **drawing** or **graph** complete with a **figure number** and **brief description**.
- 3) **References** (Bibliography, Works Cited, etc.); 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 early in the course.

A General outline with specific research topics for your project is due September 11 (20 pts)

The <u>Final draft</u> is due by October 23, 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 Turniitin service so you will be able to see your similarity (to online sources) index.

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

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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