

Cañada College
Official Course Outline

1. **COURSE ID:** OCEN 100 **TITLE:** Oceanography
Semester Units/Hours: 3.0 units; a minimum of 48.0 lecture hours/semester
Method of Grading: Grade Option (Letter Grade or P/NP)
Recommended Preparation:
Eligibility for READ 836 and ENGL 836; or ENGL 847 or ESL 400.

2. **COURSE DESIGNATION:**
Degree Credit
Transfer credit: CSU; UC
AA/AS Degree Requirements:
Cañada GE Area B: SCIENTIFIC INQUIRY AND QUANTITATIVE REASONING: B1: Physical Science
CSU GE:
CSU GE Area B: SCIENTIFIC INQUIRY AND QUANTITATIVE REASONING: B1 - Physical Science
IGETC:
IGETC Area 5: PHYSICAL AND BIOLOGICAL SCIENCES: A: Physical Science

3. **COURSE DESCRIPTIONS:**
Catalog Description:
Chemical and biological history of the oceans, currents, waves, tides and coastal processes are studied in this course. Origin and evolution of the oceans and ocean basins with emphasis on recent discoveries in continental drift and sea floor spreading are included.
Schedule of Classes Description
Chemical and biological history of the oceans, currents, waves, tides and coastal processes are studied in this course. Origin and evolution of the oceans and ocean basins with emphasis on recent discoveries in continental drift and sea floor spreading are included.

4. **STUDENT LEARNING OUTCOME(S) (SLO'S):**
Upon successful completion of this course, a student will meet the following outcomes:
 - A. Student will demonstrate an understanding the chemistry and physics of seawater.
 - B. Student will demonstrate an understanding of marine geology including plate tectonics, marine sediments, and the structure of the seafloor
 - C. Student will demonstrate an understanding of evolution
 - D. Students will demonstrate a knowledge the features found along coasts and the forces forming these features
 - E. Student will demonstrate a knowledge of the formation of the universe, solar system, and early Earth history
 - F. Student will demonstrate an understanding of the tides, including their generation, the forces controlling which type of tides occur, and how to read a tide table
 - G. Student will demonstrate an understanding of the formation and behavior of various types of ocean waves
 - H. Student will demonstrate an understanding of the formation of surface and deep ocean currents. Student will be able to name and distinguish between the types of currents
 - I. Student will demonstrate an understanding of the flow of energy through ecosystems, including the use of food webs and trophic pyramids
 - J. Student will demonstrate a knowledge of common marine organisms
 - K. Student will demonstrate a knowledge of the general pattern of winds at the Earth's surface and why they form.
 - L. Student will be able to identify the two main types of storms and understand how each forms and behaves

5. **SPECIFIC INSTRUCTIONAL OBJECTIVES:**
Upon successful completion of this course, a student will be able to:
 - A. Analyze the origin and evolution of ocean basins and oceans.
 - B. Demonstrate use of the scientific method involving conceptual, quantitative and analytical techniques.
 - C. Describe and explain plate tectonics.
 - D. Describe the chemistry and physics of seawater.
 - E. Describe the weather and the formation and effect of waves and currents.
 - F. Depict the diversity of marine life and the specialized adaptations of marine life which allow them to

survive in the oceans.

- G. Identify environmental impacts and describe the ways that humans have disturbed the delicate food chains in the sea by overfishing and the unregulated slaughter of whales.
- H. Analyze and interpret charts and maps.

6. COURSE CONTENT:

Lecture Content:

1. Introduction to geological oceanography including the origin of ocean basins and continents, volcanism and sedimentation in the sea.
2. overview of biological oceanography including whale, shark, and fish studies plus evolution of life in the sea.
3. Ocean processes and structures, evolution of the continents and ocean basins, chemistry, and physics of the oceans and coastal processes.
4. Scientific evaluation of oceanic processes using the scientific method.
5. Bathymetric charts.

Lab Content:

-

TBA Hours Content:

-

7. REPRESENTATIVE METHODS OF INSTRUCTION:

Typical methods of instruction may include:

- A. Other (Specify): Online

8. REPRESENTATIVE ASSIGNMENTS

Representative assignments in this course may include, but are not limited to the following:

Writing Assignments:

research paper on scientific experiences in field activity

Reading Assignments:

- A. Assigned reading from the textbook
- B. links to outside reading to supplement textbook

Other Outside Assignments:

None.

To be Arranged Assignments (if applicable):

Not applicable.

9. REPRESENTATIVE METHODS OF EVALUATION

Representative methods of evaluation may include:

- A. Student Performance: Essay and multiple choice exams, Map and chart interpretation exams.

10. REPRESENTATIVE TEXT(S):

Possible textbooks include:

- A. Garrison, Tom. *Oceanography*, 6th ed. California: Thompson Publications, 2007

Origination Date: August 2008

Curriculum Committee Approval Date: September 2008

Effective Term: Fall 2009

Course Originator: Kim Kirchoff-Stein