

# SCIENCE OF THE SEA - LABORATORY

OCN 201 L

SPRING, 2015

*Experiments, computer exercises and field trips demonstrating the geological, physical, chemical and biological principles of earth and ocean sciences.*

1 credit hour; no prerequisites; co-requisite in OCN 201; no recommended special preparation; basic reading and computer skills required; partially satisfies natural science requirement for Assoc. in Arts degree in the community college and for the Bach. of Arts degree at the university; laboratory exercises require adherence to proper and safe procedures and techniques where equipment and chemicals are involved; field trips may involve wading or swimming in ponds and the ocean, or small boats, thus also requiring some physical prowess for these conditions and an awareness of appropriate safety concerns; concurrent registration in the Marine Option Program is highly recommended — see below.

Dr. Floyd W. McCoy

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\* a message is recorded here, changed weekly, concerning field trips, assignments, etc.

**Consultation Hours:**

Mon. & Tues. 2:00-4:30; Th. 2:00 – 3:30.  
Other times by appointment.

(best to look for me first in the laboratory (room 117A), then in my office.)

**Textbook:** None

**Class Location:** Hale 'Imiloa room 117, Oceanography Lab., unless otherwise noted on the schedule or announced.

**Activities Outside of Class:**

Assignments may require completion outside of class, particularly those processing data from fieldwork.

Extra credit may be earned through self-guided field trips with submission of appropriate report(s) – for information on these see < [http://www.soest.hawaii.edu/oceanography/courses\\_html/OCN201/](http://www.soest.hawaii.edu/oceanography/courses_html/OCN201/) >, and follow instructions noted there.

Extra credit may be obtained via documented attendance at Marine Option Program (MOP) talks on any UH campus, by visiting either of the UH oceanographic ships, or attending lectures/seminars in the Departments of Oceanography/Geology & Geophysics/Zoology at UH Manoa.

**Ancillary Activities:**

- Numerous seminars, talks, symposia and exhibits occur throughout the university system and at various museums, you are particularly encouraged and welcomed to these. Whenever possible, these will be announced in class.

- The Marine Option Program (MOP) is a certificate program at most campuses of the university that encourages direct participation in the science, sociology, art, management, engineering and literature of the oceans. MOP participation is essential to a career in oceanography within Hawaii. MOP is an especially viable and active program at WCC; as a university-wide program, you may easily transfer MOP credits, projects, contacts and friendships to any campus following graduation from WCC. Announcements concerning MOP events and programs are made in class and/or posted on bulletin boards in the MOP office, Hale 'Imiloa, room 118.

- Supplementary, non-required reading is in the library, both on reserve and on open shelves; these include magazines and books; you are encouraged to peruse this literature.

**Mode of Instruction:** Lectures, field trips, and exercises both in the laboratory and in the field that expand upon, and update, the information presented in lecture. Special emphasis is placed upon understanding and using oceanographic instrumentation both in the laboratory and in the field, thus realizing the limitations of data collected by that equipment. Focus for the latter will be on specific field sites where acquisition of data could add knowledge and have impact upon scientific, cultural and political decisions. Portions of field and laboratory work may be applicable for skill-projects with the Marine Option Program.

**Course Objectives:** To provide experience and familiarity with various field and laboratory techniques or methodologies that are used in oceanography. Additional objectives are to provide an understanding and appreciation of the equipment involved in the science, to recognize and measure oceanographic processes in the field, as well as to visit oceanographic facilities. From this will come an appreciation and familiarity for the application and limitations of both equipment and data. This course also adds to classroom lectures in Ocn 201, by providing exercises and projects in all aspects of the oceanographic sciences, with emphasis on the interrelationships between geological, chemical, physical and biological oceanography (Zoo 200, Marine Biology, provides additional emphasis on biological oceanography). Basic to these objectives is knowledge of the scientific method and how science is done. All objectives should allow better criteria for decisions about careers in the oceanographic sciences.

**Field and Laboratory Conditions:** Fieldwork may be from boats, in the water swimming or wading, or on beaches. It could be hot and sunny, or chilly and rainy. Offshore work by boat or swimming will be constrained to good weather and safe conditions. Expect fieldwork to often consume the entire class time. Work both in the laboratory and field will involve chemicals and mechanical equipment. Safety is paramount - you must understand the conditions under which exercises may be done by reading the attached “Activities”, and the responsibilities that accompany this activity by reading the attached “Responsibilities of Students in the Laboratory” and “Responsibilities of Students in the Field”. By participating in this course, you acknowledge that you have read and accept these conditions and responsibilities. Standard legal waiver forms must be signed and submitted to the instructor prior to your participation in the course. Class will meet in Hale Imiloa room 117 (Oceanography Laboratory) unless otherwise announced; laboratory work will also be in this room as well as in room 117A (Geology /Oceanography Storeroom & Preparation Lab.).

**Examination Policies and Schedule:** A final examination, a practicum, given during the last laboratory session will be a written exercise involving maps that involve an understanding of oceanographic processes both offshore (open ocean) and nearshore (littoral). Weekly or topical assignments will be submitted for grading at announced deadlines. Participation is critical. Accordingly, attendance is mandatory; completion of assignments is mandatory. Team coordination on exercises and reports will occur as announced in class.

**Examination/Grading schedule:**

Attendance:	15 points
Laboratory/Fieldwork assignments:	70 points
Final exam./practicum:	15 points
Total points: 100	
Extra/special credit:	see above.

**Grading scheme:** numerical grades calculated from an average of all test scores, with the midterm = 35%, the final = 45%, and short essays = 20% of the total grade; total possible numerical grade = 100; letter grades assigned with:

A = 90 - 100	B = 80 - 89
C = 70 - 79	D = 60 - 69
F = < 60	CR/NC = credit/no credit
N = course not completed due to unforeseen difficulties; this grade assigned rarely	
I = incomplete due to unusual circumstances and assigned only with permission of the instructor; no credit given until this grade is changed to an A-D letter grade - it is your responsibility to make this change.	

A schedule of labs and lab locations will be distributed during the first lab, which will be held on campus, in Hale Imiloa room 117, the Oceanography Laboratory. This will be a tentative schedule – updates and modifications to the schedule will be available by calling 236.9115 and listening to the message recorded there (messages will be updated every week). Because this lab involves complex, and sometimes difficult, arrangements, scheduling is complex and frequently altered. Laboratory sessions through the semester will be held both on campus and in the field, the latter sometimes in mud, shallow water, and on boats – be prepared.