

Geol 31: Physical Oceanography (Section 2439)

instructor: Cara Thompson, Ph.D.
meeting time: T/Th 9:30-10:50 am
lecture room: DH 205

email: thompson_cara@smc.edu
office phone: (310) 434-4877
office hours: 8:00-9:00 am T/Th in HSS 386

Course Summary

This course provides the student with an understanding of the physical and geological aspects of oceanography. Lecture topics include the origin of oceans, plate tectonics, sea floor topography, waves, beaches, estuaries, lagoons, and lakes. Completion of this course will give students a greater understanding of the hydrologic cycle especially as it pertains to oceanic processes, marine life, and Earth's climate.

Student Learning Outcomes

1. Students will learn how the oceans and the ocean basins formed, the topography of the sea floor, and the sediments found on the sea floor.
2. Students will also gain an understanding of the Earth's coastal shorelines by developing the skills necessary to identify beach erosional and depositional features, coastal sand dunes, and lagoons. In addition, students will recognize the interaction of waves and tides on the shoreline, and how the chemical and physical properties of seawater cause ocean currents.

Required Reading Material: *Essentials of Oceanography* 11th edition by Trujillo & Thurman, Prentice Hall

Tentative Schedule (subject to change):

DATE	CHAPTER
Sept 1	1. Introduction
Sept 3	
Sept 8	
Sept 10	2. Plate Tectonics
Sept 15	NO CLASS
Sept 17	
Sept 22	3. Marine Provinces
Sept 24	
Sept 29	
EXAM 1 (Ch 1-3)	
Oct 1	4. Marine Sediments
Oct 6	
Oct 8	
Oct 13	5. Water & Seawater
Oct 15	6. Air-Sea Interaction
Oct 20	

DATE	CHAPTER
Oct 22	EXAM 2 (Ch 4-6)
Oct 27	7. Ocean Circulation; 8. Waves
Oct 29	
Nov 3	8. Waves & Water Dynamics (continued); 9. Tides
Nov 5	
Nov 10	9. Tides (continued); 10. The Coast
Nov 12	
Nov 17	EXAM 3 (Ch 7-10)
Nov 19	Ocean Circulation (Unit 1) & Ocean Acidification (Unit 2)
Nov 24	
Nov 26	NO CLASS
Dec 1	Marine Life (Ch 12), Marine Habitats & Ecosystems (Units 3 & 4)
Dec 3	
Dec 8	Ocean Protection & Sustainability (Units 5 & 6)
Dec 10	

Tentative date for field trip: Nov 14th

FINAL EXAM: Thursday, Dec 17th, 8-11 am in DH 205

Grading: A (89.5-100); B (79.5-89.4); C (69.5-79.4); D (59.5-69.4); F (0-59.4)

1. Exams – 40% (Exams 1-3 + Final Exam: 10% each)
2. Ocean Sustainability Module (Units 1-6) – 25%
3. Homework – 15%
4. In-class exercises – 10% (must be in class to participate)
5. In-class quizzes – 10% (weekly pop quizzes, lowest quiz grade dropped)

Extra credit: Extra credit is offered on exams (5 points for each exam) and for attending and participating in the field trip. An alternate exercise (10 page paper) is offered if you cannot make the field trip.

Quizzes: Expect a quiz every week. You must be on time to take quizzes, no exceptions.

Exams: Three midterm exams and one final exam (not comprehensive) consisting of multiple choice & short answer questions. Bring a scantron (#882-E) and #2 pencil for each exam (available at the SMC bookstore). Dictionaries are not permitted. You must take exams on the dates specified in the syllabus. The final exam must be taken on the scheduled day (**there will be no make-up final exam**). Make-up midterm exams will be given in extreme, verifiable cases – in other words, official, signed (not by a parent or legal guardian) documentation must be provided. Be on time for exams – One point will be subtracted from your exam grade for each minute you are late.

Homework: Homework and classroom assignments are announced in class and on eCompanion. It is your responsibility to keep track of assignments and due dates – check eCompanion if you miss class! Late assignments will be docked 10% of the total points available PER DAY late (except with verifiable excused absences, in which a new due date will be established). Do not use red or purple pen to complete assignments.

Attendance: Roll will be taken at the beginning of each class period. **You will be dropped if you miss the first day of class OR after 4 unexcused absences.** PLEASE NOTE: It is your responsibility to drop this course if you so desire. All students still enrolled in the course at the end of the semester will receive a grade. If you stop attending class and do not drop, you'll receive a zero for all missed exams & assignments.

Communication: I use eCompanion to post lecture slides and assignments and to send email announcements. You should get into the habit of checking the course site and your email several times a week. To access eCompanion:

1. Go to SMC's web page (<http://www.smc.edu/>)
2. Click on SMC Online, and then click on eCompanion to access the login page.
3. Login using your student ID number and password to login.
4. Select Geology 31 to access the course homepage.

Special Needs: Contact me if you have disabilities, either permanent or temporary, that might affect your ability to participate in class or outside work. Instructional methods, classroom materials, or testing formats may be altered to provide more equitable participation on the part of each student. Disabled Student Services is located in 101 Admissions Complex; phone (310) 434-4265; hours M – F, 8am – 5 pm.

Code of Academic Conduct: SMC's Academic Code of Conduct can be found in the online college catalog. **Students caught cheating will be given a verbal and written warning. If cheating continues, the student will be given a failing grade of "0" for the assignment.**

Class Conduct: All cell phone, iPods, and other electronic devices should be turned to silent during class to minimize distractions and interruptions. Class participation, including questions and discussion is encouraged. Please treat all others in a respectful manner appropriate for a university setting.