

OCEA 112 - INTRODUCTORY OCEANOGRAPHY (LECTURE) - CLASS# 5803

3 Lecture Hours; 3 Units; Letter Grade; Student may petition for Credit/No Credit

MEETING TIMES: January 25 through May 26 – Mon/Wed 12:30 am – 1:45 pm – Room H224

INSTRUCTOR: Robert Ray Rector

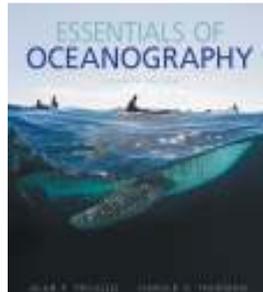
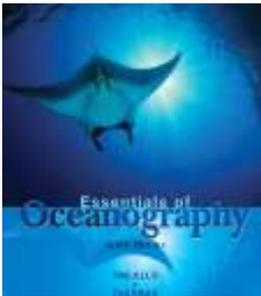
CONTACT: E-mail – oceanprof@seascisurf.com Phone: 760-942-9201

OFFICE HOURS: To be arranged by appointment

CLASSROOM WEB SITE: <http://www.seascisurf.com/> Click the “Cuyamaca Ocea112 M/W” link

REQUIRED TEXT:

Essentials of Oceanography, 10th or 11th Edition; Authors: Trujillo & Thurman



Publisher: Prentice Hall

ISBN-10: 032166812X

ISBN-13: 9780321668127

or

ISBN-10: 0321814053

ISBN-13: 9780321814050

Paperback

COURSE DESCRIPTION: This course explores the major processes and features of the world's oceans. Topics include the origin and history of the ocean basins, atmospheric circulation and weather, ocean circulation, and the dynamics of waves, tides, and coastlines. The course also reviews marine life (including plankton, nekton, benthos, and marine mammals), explores the oceans as a resource for people, and considers human impacts on marine environments.

STUDENT LEARNING OUTCOMES: Upon completion of this course, students should be able to:

1. Explain the theory of plate tectonics and relate it to the formation of major sea floor features.
2. Reconstruct the circulation patterns of atmosphere and ocean circulation systems, and analyze their interrelationships.
3. Describe the major principles involved in the formation and behavior of waves and tides, and evaluate their effects on coastal processes.
4. Summarize the major physical properties of the oceans and evaluate how each one affects marine communities and marine life.
5. Summarize the major types of marine pollution, including global warming, and evaluate how each one affects marine communities and marine life.

CLASS ENROLLMENT NOTES: It is the student's responsibility to add, drop, or withdraw from classes before the deadlines stated in the class schedule. Petitions to add, drop, or withdraw after the deadline will not be approved without written proof of circumstances beyond the student's control, which made her/him unable to meet the deadline. Lack of money to pay fees is not considered an extenuating circumstance. Students anticipating difficulty in paying fees before the deadline should check with the Financial Aid Office about sources of funds or other alternatives for which they may be eligible. If you decide to withdraw from this course, you are reminded to do so before the 8th of February (last day to withdraw without a "W" with a refund) or 22nd of April (last day to withdraw with a "W") deadlines. If you stop coming to class, and fail to withdraw by the 4/22 deadline, then a final grade must be assigned to you.

ACCOMMODATION OF DISABILITY: A student with a verified disability may be entitled to appropriate academic accommodations, including the assistance of a note-taker in the classroom, and/or extended time for

taking exams. Students with disabilities who may need academic accommodations should notify their professor immediately. For further information, please contact the Disabled Students Program and Services Office.

INSTRUCTOR'S ATTENDANCE POLICY: Attendance is critical to teaching and learning in this class. You will most likely fall behind in acquiring course content, vocabulary, concepts, and skills if you do not attend class regularly. I realize that situations can arise that are beyond your control, which could interfere with attending this class. The instructor has the right to drop a student from this course for excessive absences (exceeding 20% of the course meetings). Attendance is taken every class meeting by means of a sign-up sheet that will be passed around at the beginning of each class. Note that it is the student's responsibility to sign it in order to receive attendance credit for that class meeting. It will be up to you for staying up with reading assignments, homework, projects, and exams. Make sure and consult the schedule, text, class notes, classroom website, and fellow classmates about the material that was missed during absences. There is no make-up or rescheduling of quizzes or exams unless the student provides proof of some compelling reason for the make-up. It is the student's responsibility to contact me personally to forewarn me of any problem in either, attending the regular-scheduled exams and quizzes, or making assignment due dates. Business, pleasure, or being generally ill, are not compelling reasons. Horribly sick or having a death in the family is good reason.

TARDINESS and LEAVING CLASS EARLY: Being late to a class once or twice is understandable; however, it should not become a habit. Constant tardiness will not be tolerated. Students will be given a warning and if he or she continues to be tardy, then each additional tardy (past the initial first two) will be counted as half an absence. If you do arrive to class late, then please use the interior entry door to enter the classroom. Leaving class early once or twice during the semester is understandable, but it should be done so not as to be discourteous and disruptive to class. If you continue to leave class early - prior to the instructor's finishing of the lecture - more than twice during the semester, it will count as half an absence. If you do arrive to class early, then please use the interior entry door to exit the classroom.

CLASSROOM BEHAVIOR AND STUDENT CODE OF CONDUCT: Students are expected to respect and obey standards of student conduct while in class and on campus. Charges of misconduct and disciplinary sanctions may be imposed upon students who violate these standards of conduct or provisions of college regulations. As your instructor, I have the following expectations of your behavior in this class:

- 1) Promote a positive learning environment by exhibiting mutual respect and consideration of the feelings, ideas, and contributions of others.
- 2) Demonstrate a genuine desire to learn, interact, and improve academically.
- 3) Demonstrate respect for furniture, tools, equipment, and supplies in the classroom.
- 4) Clean up after yourself.
- 5) No eating or drinking in class – water is OK.
- 6) All cell phones, pagers, and audio players must remain turned off, or in silent mode.
- 7) This class will be conducted in accordance with the college code of student conduct and basic standards of academic honesty. Cheating, plagiarism, or other forms of academic dishonesty are totally unacceptable and will not be tolerated. Violations of standards of academic honesty will be reported to the school dean for appropriate action. See the full version of the instructor's plagiarism policy at <http://www.seascisurf.com/plagiarism.pdf> located at the "Cuyamaca Ocea112 M/W" link on the professor's website.

GRADING/EVALUATION:

- I. Four (4) true/false, multiple-choice, essay exams (includes final) @ 100 points each. No make-ups.
- II. Term Project – Approximately 150 points (**Note:** Late term project assignments are not accepted - **no exceptions - period**)
- III. Total possible points = Approximately 550
- IV. Extra credit is offered (**Note:** You can earn a maximum of 30 points of extra credit)
- V. **Grading Scale:**
100% – 90% = A
89% -- 80% = B
79% -- 70% = C
69% -- 55% = D
< 55% = F

Extra Credit Deadline: All extra credit must be turned in by **Monday, May 16th** for credit. Late extra credit work will not be accepted - **no exceptions** - period.

CONFLICT RESOLUTION: If you feel that you have valid grounds to challenge a grade, you must first attempt to resolve your problem informally with me, your instructor. If the grade challenge cannot be resolved, you must file a petition for grade challenge with the Dean of Physical Sciences who will work with the Department Chair to help resolve the issue. If resolution does not occur, your next step is to file an appeal with the Vice President of Instruction. The Grade Challenge Procedure may be found in the college catalogue.

REQUIRED OCEANOGRAPHIC RESEARCH TERM PROJECT:

The research project consists of four required (mandatory) assignments done over the course of the semester:

- 1) Submit an **Ocean Research Topic Form** for your research project – **Assignment due date: 2/10**
- 2) Prepare/assemble/submit a written **Presentation Outline** of your research presentation (must include a bibliography) - 60 points – **Assignment due date: 4/27**
- 3) Give an 8-minute **Oral Presentation** in front of class – Present highlights of your research - 60 points – **Presentation days: 5/9, 5/11, 5/16 and 5/18**
- 4) Fill out **Presentation Evaluations** of your fellow students' presentations, including your own. Earn one point per completed evaluation (about 30 points). **Peer Evaluation days: 5/9, 5/1, 5/17 and 5/18**

Notes: A) Students need to print out the research project packet, which is found on the classroom website. **B)** Research and presentations may be conducted by a group of two, with following restrictions: 1) You must check with instructor first for the "OK"; 2) Each group member **must submit separate and original work** – (groups cannot submit single, nor (remotely) identical work); 3) Each member presents for 8 minutes.

EXTRA CREDIT

Extra credit activities are a great way to get more education (and points) out of this course; I encourage students to do extra credit. There are several ways to earn extra credit in this class:

- 1) Instructor- and student self-guided field trips
- 2) Supplementary research/writing assignments
- 3) Internet-based activities and assignments

Note: a) The instructor must first approve extra credit work; approval is based on several criteria.
b) Extra credit can be used to boost a student's grade points by a maximum of 30 points.
c) The **very last day to turn in extra credit work is on May 16th** – Late work will not be accepted.

VOLUNTARY WEEKEND FIELD TRIPS

Four weekend field trips are planned for the semester. Field trips earn extra credit and are totally voluntary!

- 1) **Weekend field trip: Saturday February 20 – Torrey Pines Beach, 10:00 am**
- 2) **Weekend field trip: Sunday March 13 – Blacks Beach, 10:00 am**
- 3) **Weekend field trip: Saturday April 2– Moonlight Beach, 10:00 am**
- 4) **Weekend field trip: Sunday April 17 – Birch Aquarium, 9:00 am**

Note: Check the professor's classroom web page for fieldtrip details

- Extra credit and/or excessive absence make-up will be awarded for participating on these trips.
- Experience gained on fieldtrips greatly helps in understanding the text and lecture material.
- Field trips are fun and a great way to better know your classmates and instructor.
- Earn up to 10 points per in-person fieldtrip. Earn up to 5 points per each virtual fieldtrip.

CLASSROOM WEBSITE RESOURCE

The instructor has set up a website specifically as an academic resource for his earth sciences students. This site is located at <http://www.seascisurf.com/> Clicking on the **Cuyamaca Ocea112 M/W** link will give you direct access to a wide variety of classroom information and oceanographic resources. Classroom information includes professor contacts, class syllabus and schedule, important dates/deadlines, classroom lecture notes, PowerPoint presentations, exam study guides, practice exams, research project guides and resources, and field trip information. It is strongly urged that you take utmost advantage of this site.

Cuyamaca Oceanography Mon-Wed Schedule – Spring 2016

Date	Class Meeting Lecture and Discussion Topics	Homework Textbook Reading and Online Video Viewing
Mon 1/25	Course Introduction Importance of Studying the Ocean Brief History of Marine Science	Syllabus Chapter 1 EV Videos 2 & 9
Wed 1/27	The Scientific Method Origin of Earth, Moon, Ocean, & Life Geologic Time and Age of the Earth Earth's Layered Physiology	Chapter 1 EV Video 1
Mon 2/1	Continental Drift Hypothesis Plate Tectonic Theory Seafloor Spreading and Subduction	Chapter 2 EV Video 3
Wed 2/3	Evidence for the Plate Tectonic Theory Last day to withdraw w/ refund and w/o a "W" is Feb 6th	Chapter 2 EV Video 4
Mon 2/8	Methods of Studying the Seafloor Continental Margin Seafloor Deep-Ocean Basin Seafloor	Chapter 3 EV Video 5
Wed 2/10	Marine Sediments Oceanographic Research topic due	Chapter 4 EV Video 6
Mon 2/15	Presidents Holiday	No Class/No Work
Wed 2/17	Physical and Chemical Properties of Seawater Review for Exam 1	Chapter 5 EV Videos 7 and 8 Exam 1 Study Guide Practice Exam 1
Sat 2/20 10 AM	Voluntary Weekend Fieldtrip - Torrey Pines Beach - Coastal Geology and Tectonics Theme	Online Fieldtrip guide
Mon 2/22	Exam 1 – (Chapters 1 through 4) (Bring a 100-answer scantron card and #2 pencil!)	Exam 1 Study Guide Practice Exam 1
Wed 2/24	Atmospheric Properties, Processes & Circulation Storm Systems, Weather Patterns and Climate	Chapter 6 EV Video 10
Mon 2/29	Ocean surface currents and Gyres	Chapter 7 EV Video 11
Wed 3/2	Ocean vertical currents, and Deep circulation	Chapter 7 EV Video 12
Mon 3/7	Water Waves – Causes and Dynamics	Ch Chapter 8

	Wind Waves - Origin and Behavior	EV Video 13+
Wed 3/9	Breaking Waves – Surfing Origin and nature of Tsunamis Review for Exam 2	Ch Chapter 8 EV Video 14 Exam 2 Study Guide Practice Exam 2
Sun 3/13 @ 10 AM	Voluntary Weekend Fieldtrip - Blacks Beach Waves and Currents Theme	Online Fieldtrip guide
Mon 3/14	Exam 2 – (Chapters 5 through 7) (Bring a 100-answer scantron card and #2 pencil!)	Exam 2 Study Guide Practice Exam 2
Wed 3/16	Origin and nature of Tides	Ch Chapter 9 EV Video 15
Mon 3/21	Spring Break	No Class/No Work
Wed 3/23	Spring Break	No Class/No Work
Mon 3/28	Coastlines, Beaches, and Shoreline Processes	Ch Chapter 10 EV Video 16
Wed 3/30	Human Influences on Coastal Environments	Ch Chapter 11 EV Video 17
Sat 4/2 @ 10 AM	Voluntary Weekend Fieldtrip - Moonlight Beach Coastal Processes Theme	Online Fieldtrip guide
Mon 4/4	Marine Life - Evolution & Classification Marine Life - Physical Factors and Habitats	Chapter 12 EV Videos 18 and 19
Wed 4/6	Primary bio-production Types of Phytoplankton and Seaweeds Marine Feeding Relationships Review for Exam 3	Ch Chapter 13 EV Video 20 Exam 3 Study Guide Practice Exam 3
Mon 4/11	Exam 3 – (Chapters 8 through 11) (Bring a 100-answer scantron card and #2 pencil!)	Exam 3 Study Guide Practice Exam 3
Wed 4/13	Marine Invertebrates and Fishes Marine Communities	Chapters 14 and 15 EV Videos 21 and 23 Exam 3 Study Guide
Sun 4/17 @ 9 AM	Voluntary Weekend Fieldtrip - Birch Aquarium Marine Life and Environmental Issues Theme	Online Fieldtrip guide
Mon 4/18	Marine Fishes and Mammals Marine Communities	Chapters 14 and 15 EV Videos 22 and 23
Wed 4/20	Marine Biological Resources– Marine Fisheries Last day to withdraw with a "W" is April 22nd	Chapters 4 and 13 EV Video 24

Mon 4/25	Marine Seafloor Resources – Physical and Energy	Chapter 4 EV Video 24
Wed 4/27	Environmental Concerns -- Coastal Pollution Oral presentation written outline due -	Chapter 11 EV Video 25 Teacher's References
Mon 5/2	Environmental Concerns -- Coastal Pollution	Chapter 11 EV Video 25 Teacher's References
Wed 5/4	Environmental Concerns – Global Warming / Climate Change	Chapter 16 EV Videos 25 and 26
Mon 5/9	Student Presentations -- See website for details	Prepare Presentation
Wed 5/11	Student Presentations -- See website for details	Prepare Presentation
Mon 5/16	Student Presentations -- See website for details	Prepare Presentation
Wed 5/18	Student Presentations -- See website for details Review for Final Exam	Final Study Guide Final Practice Exam
Mon 5/23	Final Exam - 12:00pm to 2:00pm (Chapters 12 through 15)	Final Study Guide Final Practice Exam

*** This is a tentative schedule and may be changed by the instructor at anytime during the semester. Students will be notified in a timely basis if changes are made.

Notes: