University of South Carolina
Carolina Core

MARINE SCIENCE 210L
OCEANS AND SOCIETY LABORATORY

BULLETIN INFORMATION
MSCI 210L - Oceans and Society Laboratory (1 credit hour)
Course Description:
Experiments and exercises which illustrate how specific components of marine environments are structured, function, and can be measured. Two laboratory hours per week. Not available for marine science major credit. Attendance on designated field trips may be required.
Corequisite: Prereq or coreq: MSCI 210
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SAMPLE COURSE OVERVIEW
Oceans and Society Laboratory (MSCI 210L) is designed as a companion laboratory for Oceans and Society. Each laboratory is scheduled for two hours. This course is designed to teach students basic oceanography principles, concepts and terms via hands on learning. Students are provided with an opportunity to explore the world of oceanography, marine biology, and conservation and to understand how society impacts the oceans and vice versa. Please note that the Oceans and Society lecture course (MSCI 210) must be taken either concurrently or is a pre-requisite to take this course.

ITEMIZED LEARNING OUTCOMES
Upon successful completion of Marine Science 210L, students will be able to:

1. Demonstrate understanding of the scientific method and know how to formulate hypothesis, set-up and conduct experiments, collect data, and explain the relevance of their results
2. Demonstrate understanding of basic laboratory safety procedures and how to use specialized scientific instrumentation
3. Identify the features of the ocean basins and relate the structures observed to the theories of their origin
4. Describe motions in the sea in terms of causes, interactions, and effects on land and climate
5. Identify key features and understand importance of marine organism groups such as plankton, the benthos, sharks, and mammals
6. Demonstrate understanding of the basic ecosystem structure of different marine environments such as coral reefs and relate the physical properties of oceanic environments to these ecosystems
7. Identify impacts of oil spills, resulting environmental degradation, and understand the problems associated with containment and alleviation Demonstrate understanding of ocean acidification and habitat degradation, evaluate the scientific evidence for both

natural and human-induced climate change and evaluate the impact of climate change on ocean systems and its relationship to society (e.g., tourism, community structure)

SAMPLE REQUIRED TEXTS/SUGGESTED READINGS/MATERIALS

1. Each Lab will be provided to you on BLACKBOARD prior to class. Handouts will be available in lab, but it is YOUR responsibility to ensure that you have read the lab prior to class.

SAMPLE ASSIGNMENTS AND/OR EXAM

This course includes the following means of evaluating student performance and comprehension of the material:

1. **Lab Quizzes and Reports:** Each laboratory begins with a 5 minute quiz designed to ensure that you have read the laboratory, have an initial understanding of the concepts to be learned, and know the procedures to be conducted during the class. Each lab consists of a testable set of hypotheses and objectives followed by a series of experiments. During each lab, you will be asked to collect and plot data, interpret the results, and answer specific questions that explore the collected data and relate it back to the initial concepts and hypotheses described at the beginning of class. Each lab will be worth 90 points and each quiz will be worth 10 points. All lab reports are to be handed in at the end of the lab session unless otherwise indicated by your IA. In some cases, take home lab reports will be assigned for more in depth analysis and discussion. These are to be turned into your IA at the beginning of the next scheduled lab.

SAMPLE COURSE OUTLINE WITH TIMELINE OF TOPICS, READINGS/ASSIGNMENTS, EXAMS/PROJECTS

Lab 1: Introduction and Lab Safety
Lab 2: Plate Tectonics
Lab 3: Thermohaline Circulation
Lab 4: Waves and Tides
Lab 5: Oil Spill
Lab 6: Plankton
Lab 7: Benthos
Lab 8: Coral Reefs
Lab 9: Diving Reflex
Lab 10: Sharks
Lab 11: Sea Turtles