

BIO 169 L- Marine Ecology

Course Overview and Requirements

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Overview: This course will cover major topics in marine biology and will concentrate on the coupling of physical and biological processes in the marine environment. We will also explore how climate interacts with the marine environment and recent changes that have occurred in our oceans due to anthropogenic influence. Beginning with physical and chemical processes in the ocean which influence the ecology and biology of marine organisms, next we will discuss major groups of marine taxa, from single-celled phytoplankton through marine invertebrates (zooplankton and intertidal organisms) and vertebrates (fish, birds, and mammals). The information about major taxonomic groups will be presented in an ecological context (how these organisms interact and are influenced by their environment and other organisms). Additionally, we will explore and discuss the structure and function of particular marine habitats. The lab portion of the class will focus on identification, distribution, and diversity of local southern California marine organisms and techniques used by fisheries biologists for assessing marine populations. In the lab, we will also investigate new tools, such as satellite imagery, that are currently being used by oceanographers for gathering information about the interactions between the atmosphere and oceans.

Textbooks:

Lecture: Marine Biology: An Ecological Approach, J.W. Nybakken, 5th Edition, Addison, Wesley, Longman, Inc. Publishers, copyright 2001

Lab: Marine Life of Southern California, Second Edition, by D.J. Reish, Kendall/Hunt Publishing Company, copyright 1995

Course Web CT: Bio 169L-Marine Ecology

Please enroll yourself by the end of next week (28 Jan)

Please post general messages to the bulletin board and I will answer

Please post e-mail to account in CT web page/I will check at least one time per day

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Exams:

Lecture: 3 Exams

Exam I	100 points
Exam II	100 points
Final	100 points

Final is focused on the last 1/3 of semester lecture/lab material but will incorporate concepts learned from entire semester

Exams will be a combination of multiple choice, short answer/essay, and one essay (1/2-3/4 page each).

Although most of the lectures and exam material will contain topics from the readings listed in the syllabus, you also will be responsible for supplementary materials and handouts presented in lecture. Additionally, you will be responsible for any topics covered in the lab that may be incorporated into exam questions.

Handout with example Exam questions-Will post to CT Web Page

Grading: Grades will be scaled relative to class performance. There will be no oral appeals for grade changes. If you believe a portion or portions of your exam have been graded unfairly, you must submit a written explanation within one week of receiving your grade for why you believe a particular question(s) should be regraded. Once the one week time period has elapsed, there will be no consideration for regrading exams.

Labs: The lab portion of the class is designed to help you learn about how marine research is conducted as well as give you some experience with sampling and experimental design, constructing and reading graphs, and performing basic statistics on data collected during labs and field trips. We will not meet every week and some weeks will extend beyond the scheduled time period (see attached lab syllabus schedule). There will be four mandatory field trips. These trips will take us to Catalina Island, Dana Point, and Newport. One will be a pelagic sampling boat trip off Dana Point, aboard the R/V Sea Explorer. The others will be afternoon field trips to Newport Back Bay in Orange County. We will also have a 3 day field trip to Catalina Island on the weekend of 4-6 April. Transportation for off-campus field trips by student carpooling. **It is important that you consult with the instructor as soon as possible if you have a conflict with any of the field trips.** You will be given **15 points** for all field trips except the Weekend Field Trip. The Weekend Field Trip is worth **25 points**. Thus, it is important that you attend ALL field trips in order to receive a passing grade in the course.

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Three lab write-ups due: Satellite Imagery/Weather lab report	50 points
Pelagic Trip lab report	100 points
Newport Back Bay report	100 points
Catalina Field Trip Summary	50 points

Field Trips (will contribute 10% to final grade) 15 (25) points/each

Handout of guidelines for writing an appropriate Lab Report

I expect lab reports to be turned in on time. If you have an extenuating circumstance and cannot turn in your report on time, you must contact me immediately. Procrastination and lack of planning on your part is not an extenuating circumstance and you will be penalized 5 points/day for overdue lab reports.

Paper Discussions: Each Monday, 1-2 people will be responsible for presenting a journal article and running a class discussion regarding the content of that article. In most cases, you will be allotted the entire class period for this discussion. The following format for the class discussion will be as follows:

- General introduction of topic** of paper and how it relates to concepts discussed in class (The Big picture Idea)
- A presentation of **objectives, questions, brief summary of methods, and longer presentation of results.**
- You should have overheads showing **graphs and tables of major results of paper**
- Come up with **2-3 thought-provoking ideas or questions** to ask of the class that will help generate a discussion.

You will be graded by your classmates on the effectiveness of your presentation
(20 points)

Class Attendance: You are strongly encouraged to attend lectures and labs because most of the material (90%) covered in class will be on the exam (the other 10% may come from reading assignments in textbook and/or handouts).