

# CABRILLO COLLEGE

## BIOLOGY 11B: Marine Biology, Fall 2009

**Instructor:** Nicole Crane  
**Office** Room 620  
**Phone** 479-5094  
**e-mail** [nicrane@cabrillo.edu](mailto:nicrane@cabrillo.edu)  
**website:** [www.cabrillo.edu/~ncrane](http://www.cabrillo.edu/~ncrane)

### Office hours, room 620

Monday 2:40 pm – 3:40 pm  
Wednesday 9:00 am – 9:30 am, 2:40 pm – 3:45 pm  
Friday 9:00 am – 9:30 am

**Class Hours** Lecture: F 9:30-12:35 (615)  
Lab: F 1:00–4:05 (618)

**Text:** Castro and Huber, ‘Marine Biology’, 7<sup>th</sup> Edition  
Chapters should be read *before* class in order to follow lectures well. In addition, some handouts will be assigned for reading.

**Units:** 4

**Class Format:** 3 hrs lecture/ 3 hrs lab per week

This Class will explore the oceans through a look at biology (primarily), geology, and physical and chemical oceanography. We will start with a basic overview of the physical and chemical components of the marine systems in order to understand what (in part) drives the *biology* of the ocean. We will focus our discussions and examples on the Monterey Bay, but will delve into global issues too. The latter part of the class will deal specifically with conservation and resource management issues, but since these affect every aspect of the marine environment, we will be dealing with them throughout the class. We will also talk about the technology and tools that enable researchers, resource managers, technicians, resource extractors, and recreational enthusiasts to explore and work in an ever increasing ocean arena. The labs are primarily field based, and we will spend a good deal of time in our National Marine Sanctuary (though unfortunately not under it...) to learn more about the Sanctuary, its habitats and inhabitants, resource utilization, and research efforts. Because of this, you need to come prepared to *go outdoors!*

DATE	LECTURE TOPIC	READING
9/4	Class Introduction and course summary History of exploration of the oceans Marine Science and the scientific method The Marine Environment: geography and geology The Marine Environment: geography and geology The Marine Environment: chemical and physical	Ch. 1 Ch. 1 Ch. 2 Ch.2 Ch.3
9/11	The Marine Environment: chemical and physical The Marine Environment: currents/El nino Ecological and biological concepts	Ch. 3 Ch. 3, Ch 15 (346-355) Ch. 4
9/18	Ecological and biological concepts Marine Ecology: an introduction	Ch. 4 Ch. 10
9/25	Marine Algae Marine Plankton and microbes	Ch 6 Ch.5, Ch15 (328-346)
10/2	<b>EXAM 1</b> Spineless wonders: Invertebrates	Ch. 7
10/9	Spineless wonders: Invertebrates	Ch. 7
10/16	Bones!: Fishes	Ch. 8
10/23	Bones!: Fishes Seabirds and Reptiles <b>** Organism assignment due</b>	Ch. 8 Ch.9
10/30	Seabirds and reptiles Pinnipeds and marine mammals	Ch. 9 Ch. 9
11/6	Pinnipeds and marine mammals	Ch.9
11/13	Cetaceans Introduction to habitats: open ocean	Ch 9 Ch 15
11/20	<b>EXAM 2</b> Open Ocean/Deep sea Temperate reefs and the intertidal	Ch. 15 &16 Ch. 11 & 13
<b>11/27</b>	<b>Thanksgiving Holiday!!</b>	
12/4	Watersheds & Soft bottom habitats Coral reefs	Ch. 12&13 Ch. 14
12/11	Ocean resources Human Impacts, marine research, conservation	Ch 17 Ch 18, 19

**CLASS FINAL: Friday Dec 18, 9:00 am**

## **'LIVING' LAB SCHEDULE**

The Pacific ocean was so named for her presumed passive nature. Those of us who have an intimate relationship with the Pacific know that in fact she was named that to appease her more tumultuous nature. The first thing any seashore lover must learn is great respect for the ocean and its power, in addition to its hidden wonders and unique beauty and mystery. We will become acquainted with many of the oceans environments, specifically in the Monterey Bay area. We will be visiting some of the local research stations, and will focus on some local research projects. Take full advantage of this, ask questions, open your mind, and most of all have a fun learning experience!

- 1) Never turn your back to the surf
- 2) Always be aware of wave sets, which can sneak up with unexpected force. Never presume that the calm water you are looking at (if it is calm) won't change with a set of waves.
- 3) Never go farther out to sea than the instructor
- 4) If you don't know what it is, don't touch it.
- 5) Always wear too many warm clothes (in layers). The seashore is ALWAYS colder than you think!

**TIPS:** Lab write-ups are worth 10 points each: TURN THEM IN! They add up

Dress Warmly for field trips

If you are not taking college transport, make sure you know *where* to go and *how* to get there.

Wear good rubber boots or shoes you don't mind getting wet.

## **Lab and Field Trip Schedule** \*\* NOTE: FT means Field Trip

9/4	Topics in Marine Biology
9/11	Harbor Floats (FT)
9/18	Beach Survey/Intertidal (FT)
9/25	Marine Algae
10/2	Plankton
10/9	Classification (invertebrates)
10/16	Fish (FT)
10/23	MBA (FT)
10/30	Seabirds (FT)
11/6	Marine Mammal Center (FT)
11/13	I-tidal (FT)
11/20	Marine mammals and cetaceans (bones!)
11/27	<b>Thanksgiving Holiday</b>
12/4	MBARI (FT)
12/11	Presentations

\*\* Great low tides sa /su afternoon! first weekend in November

## EVALUATION OF STUDENT PERFORMANCE

This class requires that students be motivated, on time, and work well in groups. Student participation in labs is essential, and is an important part of the class. Students will be graded on exams, lab write-ups, projects, and class participation.

Grades will be assigned *approximately* as follows:

A= 90-100%

B= 76-89%

C= 65-75%

D= 55-65%

F= less than 50%

Point breakdown:

Exams (2)	100 each
Final Exam	200
Labs	10 points each
Organism Project	50
Organism presentation	25

**Withdrawal:** If you wish to withdraw from the class, it is your responsibility to do so. If you do not meet the deadline you may receive a grade “F”

**Incomplete:** If you have not completed all requirements for the class, you may receive a grade of “I”. This grade will only be given upon a formal contract/agreement between you and I. FYI: I don’t do this very often...

## ATTENDANCE:

You are expected to attend all class periods. You are responsible for all material presented in the book, in the videos, and in lecture (even if your absence is legitimate). Repeated absence is grounds for you being *dropped* from the class.

If you cannot attend one of the exams, you must notify me **prior** to the exam and provide **proof** of a legitimate excuse. **Failure to do so will result if your getting a 0 on the exam** – something you do NOT want!

**Students needing accommodations** should inform the instructor ASAP. As required by the Americans with Disabilities Act (ADA), accommodations are provided to insure equal opportunity for students with verified disabilities. Veterans may qualify for accommodations. Wounded Warriors may have acquired injuries which through the ADA entitles the use of accommodations. To determine if you qualify or need assistance with an accommodation, please contact Disabled Student Services, Room 810 479-6379, or the Learning Skills Program, Room 1073, 479-6220.

*Feel free to contact me and/or come see me if you are having trouble or have questions!*