

Instructors	Room	Office Hours
Dr. Rana El-Sabaawi Mr. Aharon Fleury	Cunningham 066	Drop by

Objectives:

1. To develop an understanding of the science of ecology as it applies to marine ecosystems.
2. To develop an understanding of ecosystem function in a diverse array of marine ecosystems ranging from the tropics to the poles.
3. To explore major patterns of biodiversity (causes and effects) in the ocean.
4. To develop applied skills for studying marine ecology (intertidal field sampling in rocky and sandy beaches, image analysis of deep-sea ecosystems)

Text: *There is no textbook for this class. Primary journal articles and textbook chapters will be assigned as we go along. Unlike previous years, there is also no lab manual for 2016. Lab outlines will be available on coursespaces a few days before the lab. It is your responsibility to download and read the lab outlines before your lab sessions.*

<u>Prerequisites:</u>	Biol 215, 321, 330 or equivalents.	
<u>Course Grading:</u>	Midterm	20%
	Final Exam	40%
	Laboratory	40%

All assignments must be completed to receive credit for this course.

Lectures: T, W, F at 12:30 PM in CUN146

Laboratories: Mondays and Tuesdays 2:30-5:30 in Petch 109. Attendance is required.

Midterm and Exam: The Midterm is scheduled for **Monday Feb 15th** (in class). Final exam date and time (TBA).

Interesting websites:

http://life.bio.sunysb.edu/marinebio/mbweb.html	Jeff Levinton's site
http://www.pac.dfo-mpo.gc.ca/index-eng.html	Fisheries and Oceans Canada
http://www.venus.uvic.ca	VENUS Project
http://www.oceannetworks.ca/	
http://www.coml.org/	

REFERENCE TEXTS ON RESERVE

Levinton, J.S. 2009. Marine Biology.
Connell, S.D. & B.M. Gillanders. 2007. Marine Ecology
Bertness, M.D., S.D. Gaines & M.E. Hay. 2001. Marine Community Ecology.
Barnes, R. S. K. & R. N. Hughes, 1999. An Introduction to Marine Ecology.
Carefoot, T., 1977. Pacific Seashores.
Duxbury & Duxbury 1997. Introduction to the World's Oceans.
Lalli, C. M. & T. R. Parsons. 1993. Biological Oceanography: An Introduction.
Newell, R. C. 1979. Biology of Intertidal Animals.
Valiela, I. 1995. Marine Ecological Processes.

Lecture outline:

Week	Topic	Notes
4-Jan	Introduction	
11-Jan	Shore ecosystems: the rocky intertidal	
18-Jan	Shore ecosystems: the rocky intertidal	
25-Jan	Shore ecosystems: the sandy shores	
1-Feb	Coastal ecosystems: kelp ecosystems	
8-Feb	Reading break	Reading break no lectures
15-Feb	Coastal ecosystems: seagrass meadows	Midterm on Monday Feb 15th (in class)
22-Feb	Mangroves	
1-Mar	Coral reefs	
8-Mar	Deep sea ecosystems	
15-Mar	Hydrothermal vents and whale falls	
22-Mar	Polar ecosystems	No class on March 25 th (Good Friday)
29-Mar	Marine Biodiversity and perspectives	April 1st is the last day of class

Lab schedule and mark breakdown:

Week	Lab topic	Due dates and mark breakdown
4-Jan	Introduction to Biology 319 lab and to basic statistical analysis	Assignment due in lab (1%)
11-Jan	The effect of trawling on marine communities (plus field trip prep)	
18-Jan	No lab (Pat Bay and Clover Point Field trip week)	Field trips on Wed Jan 20th and Friday Jan 22nd
25-Jan	Pat Bay/Clover Point data analysis 1	Trawling lab report due (in lecture)(2%)
1-Feb	Pat Bay/Clover Point data analysis 2	Field trip notes due in lab (2%)
8-Feb	Reading break (No labs)	
15-Feb	Field analysis and writing help lab	
		Pat Bay/Clover point report due (in lecture) (15%)
22-Feb	ONC (Biodiversity of benthic communities) lab	ONC assignment due in the lab (1%)
1-Mar	Hypoxia community effects lab	Hypoxia assignment due in the lab (2%)
8-Mar	No lab (Muir creek field)	Muir creek field trip on Sat 12 th March
15-Mar	Muir creek data share	
22-Mar	Muir creek report help	Muir creek field notes due in lab (2%)
29-Mar	Easter Monday (no lab)	Muir Creek report due April 01st in lecture (15%)

Schedule for field trips (Please refer to lab materials posted on coursespaces for more details about the field trips):

- Pat Bay Mudflats:
 - Wed Jan 20th. Meet there at ~ 7:30 PM
 - Bad weather alternate: Thursday Jan 21st (8:00 PM).
- Clover point intertidal:
 - Friday Jan 22nd at ~ 7:30 PM
 - Bad weather alternate: Sat 23rd (8:30 PM)
- Muir Creek rocky shore:
 - Sat March 12th. Meet there at 10:30 AM.
 - Bad weather alternate: Sunday March 13th (11:30 AM)

Important:

You are required to attend 2 out of the 3 field trips. Sign up sheets will be available in the lab on Monday/Tuesday Jan 11th and 12th. Failure to show up after you sign up for the trip will result in a 0 mark for field trip notes and report components except in cases of documented emergency.

You are responsible for arranging for your own transport to the field sites. If you are able to drive and have a car please consider car-pooling with students who do not have access to transport.

I highly recommend trying to attend all 3 field trips. The vast majority of past 319 students pick the field trips as their absolute favorite parts of this course.

More information about the field trips will be posted on coursespaces over the next two weeks.