

BIOL 2325 – MARINE BIOLOGY – FALL 2012

Time: Tuesday & Friday, 9:50-11:30 am

Room: Forsyth 236

Instructor: Dr. Cascade Sorte, c.sorte@neu.edu

Lab Instructor: Chris Newton, newton.c@husky.neu.edu

Office Hours: Tuesday & Friday, 9:00-9:50 in the classroom *and after class by appointment*

Course Description: This course covers biological aspects of ocean ecosystems and the physical processes that regulate them. Topics include: the distributions, abundances, and interactions of marine organisms; interactions between organisms and fluxes of energy and matter in marine ecosystems; and aspects of physiology related to marine species distributions, abundances, and roles.

Goals

1. Develop an understanding of the processes underlying patterns observed in marine systems
2. Be able to interpret and evaluate the results and presentation of scientific research
3. Clearly communicate scientific information

Class Participation: It's very important – to your individual and our group success – that everyone

- (1) attends class (see policy below),
- (2) does the reading (keeping notes of questions and comments),
- (3) regularly contributes questions and ideas during class discussions, and
- (4) encourages and considers everyone else's questions and ideas.

Readings

“Marine Biology” by Jeffrey S. Levinton, 3rd edition (*available in campus bookstore*)

“The Sea Around Us” by Rachel Carson (*available with text, online, or in the library*)

Additional readings will be posted on Blackboard.

Grading:

45%	Exams (4 total; 15% per 3 best scores)
10%	Quizzes (5% each)
5%	Participation in Paper & “The Sea Around Us” Discussions
40%	Lab Grade

Grading Scale: A = 93-100, A- = 90-92, B+ = 87-89, B = 83-86, B- = 80-82, C+ = 77-79, C = 73-76, C- = 70-72, D = 60-69, F <60. *Grades round up, so that 92.5+ = A.*

Quizzes: Short (20 minute) quizzes will be given in class during 2 class periods (see schedule, below) and will be a mix of question formats such as true/false, fill-in-the-blank, and short essays. Quizzes will assess understanding of the readings and information discussed in class and will serve as practice for the exams.

Practice for the quizzes, themselves, will be provided by regular “pre-lecture quizzes”. When you arrive at class, you'll have the opportunity to quiz yourself by attempting the questions on the projected Powerpoint slide. These daily, self-graded quizzes are a way for you to gauge your understanding and preparation for the graded quizzes and exams.

Exams: There will be 4 exams: 3 during in mid-semester and 1 during the final exam period. The exams will include questions of similar format and difficulty to the quizzes except that each exam will include 1-2 essay questions requiring greater depth than time allows on the quizzes. Exams will focus on recent topics but are also cumulative in the sense that the course topics are designed to build on each other.

There will be a review session before each exam, and students are encouraged to email the instructor with questions to be addressed during the review. Your best 3 exam scores will count towards your grade.

Class Attendance Policy: Attendance is not required or monitored *per se*; rather, each student is responsible for their participation in the course. Typically, there is a strong positive relationship between attendance, performance (grade), and enjoyment of the course. Because of this, and because the instructor can only help students learn to the degree that they are *present* and *engaged*, students are encouraged to attend class whenever possible.

All quizzes and exams must be taken at the designated time. The course grading is set-up to accommodate an absence from 1 exam without impact to your grade because the lowest exam grade will be dropped. Students should contact the instructor ASAP (via email or in person during office hours) to discuss making up work for planned absences (due to religious observance) or unexpected, documented absences (due to sickness requiring a medical visit or emergencies).

Students are responsible for adhering to Northeastern University policies on class attendance (beyond the policies listed above), requesting disability services, and plagiarism.

Schedule

Day	Date	Topic	Readings
Fri	7-Sep	Sounding the deep	Ch. 1
Tue	11-Sep	The oceanic environment	Ch. 2
Fri	14-Sep	Ecological and evolutionary processes I	Ch. 3
Tue	18-Sep	Quiz 1 & Ecological and evolutionary processes II	Ch. 3
Fri	21-Sep	The chemical & physical environment	Ch. 4
Tue	25-Sep	Life in a fluid medium & Exam review	Ch. 5
Fri	28-Sep	Exam 1	
Tue	2-Oct	Reproduction, dispersal & migration	Ch. 6
Fri	5-Oct	Plankton	Ch. 7
Tue	9-Oct	Marine Biology in Context: Ecological impacts of algal blooms - <i>Chris Newton</i>	Paper TBA
Fri	12-Oct	Quiz 2 & Nekton	Ch. 8
Tue	16-Oct	Drivers of plankton abundance	Ch. 9
Fri	19-Oct	Productivity & food webs & Exam review	Ch. 10
Tue	23-Oct	Exam 2	
Fri	26-Oct	Benthic invertebrate diversity	Ch. 11
Tue	30-Oct	Benthic primary producers & "marine costume party" - <i>Matt Bracken</i>	Ch. 12
Fri	2-Nov	Benthic life habitats	Ch. 13
Tue	6-Nov	Life in intertidal habitats	Ch. 14
Fri	9-Nov	Shallow subtidal habitats	Ch. 15
Tue	13-Nov	Deep-water habitats & Exam review	Ch. 16
Fri	16-Nov	Exam 3	
Tue	20-Nov	Marine Biology in Context: Diversity in the deep sea - <i>Rob Jennings</i> (UMass-Boston)	Paper TBA
Fri	23-Nov	No class	
Tue	27-Nov	Human impacts & marine conservation I	Ch. 17
Fri	30-Nov	Human impacts & marine conservation II	TBA
Tue	4-Dec	Synthesis & Final exam review	TBA
TBA		Final Exam	