Biology 3245 – Marine Ecology

Fall 2015
Lecture: MWF 10:00-10:50, 332 BioLife
Lab Section 1: W 1:20-3:50, 233 BioLife
Lab Section 2: T 12:30-3:00, 233 BioLife

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Required Text: Jeffrey Levinton (2009) Marine Biology: Function, Biodiversity, and Ecology. 3rd Edition. Oxford University Press.

Course Description: Marine Ecology is an upper-level Biology course focused on the variety of organisms and ecosystems that make up the marine environment. The course will proceed through the different marine ecosystems, from the shoreline to the open ocean and from the surface to the bottom of the ocean. We will discuss the species of microbes, plants, and animals that inhabit these environments and how they interact to form the various communities present in the ocean.

In addition to the material in the text book, there will be a series of student-led, weekly discussions of recent journal articles that highlight the latest research on the organisms and habitats that we are discussing in the lecture. Students will present a paper in groups of four, where each student chooses the Introduction, Materials & Methods, Results, or Discussion section as their component of the presentation. Each student will have 10 minutes to present and there will be 10 minutes for questions at the end. The students who are not presenting that week will be responsible for reading the paper and submitting a single question about the paper through the Blackboard Discussion Board prior to class.

To compliment the lecture discussions, there will be a series of laboratories and recitations. The laboratories will provide the students with hands-on experience with the identification of different types of marine organisms and experimental work in Marine Ecology. Following the experimental laboratories, there will be a recitation session where the teaching assistant will provide instruction on the analysis of the data collected, including an introduction to some statistical techniques, and guidance on the writing of lab reports.

Course Goals: To acquire a basic understanding of the different organisms and habitat of the world's oceans. To understand how these organisms and habitats are studied and to acquire hands-on experience with some of these techniques. To be introduced to the primary literature in the field of Marine Ecology and develop a sense for how to evaluate scientific publications.

Approach to Teaching: I am very much a lecture oriented instructor. If you come to class, pay attention, and (most importantly) TAKE NOTES IN CLASS, you will do well. I will not force-feed you the answers to the exams, and much of what I discuss in class is not carefully laid out in the textbook. You are all upper level undergraduates, so you should be able to handle complex concepts in place of rote memorization. The text is a good place for background information and should be read prior to class, but you cannot rely on it alone. In addition, the only way to receive credit for having completed the Friday reading assignments is to ask questions about the papers that day. The best, easiest, and really the only approach to doing well in this class includes coming to class, taking notes, and participating in the discussions.

Blackboard: All course announcements, lab assignments, reading discussions, and grades will be posted online using Blackboard. I will also post the upcoming lecture notes on Blackboard before each class. These notes will not be complete, and much of the material discussed in class will not be present in these files – this is not a substitute for attending lecture, reading the book, and taking careful notes. Updates to this syllabus will be posted; please periodically check Blackboard.

Grades: The lecture grade and the laboratory grade are combined to determine your final grade for the course. The letter grade will correspond, roughly, to a percentage scale with >930 points=A, 900-930=A-, 870-899=B+, 830-869=B and so on. All of your grades will be posted on BB so you can keep a running tab of your class average.

Grades will be determined as follows:
Midterm Exams: 150 points each. There will be two, non-cumulative, mid-term exams worth a total of 300 points.
Final Exam: 200 points. There will be a comprehensive final exam covering the entire course, including material from our class discussions. This will be roughly divided so that 50% of the material comes from the first two exams, and 50% will be material covered since the 2nd exam.
Friday Journal Articles: 130 points. Students will work in groups to present one of the journal articles during the course of the semester (80 points) and will submit a question on each of the other journal articles throughout the semester (5 points each for 50 points).
Class participation: 50 points. This will cover all of the discussions during lecture and Friday journal presentations over the course of the semester, as well as attendance and participation in the labs. As I will try to present most of the course material in a discussion format, it is important that all students in the class arrive having read the material in the textbooks and reading assignments, as well as bringing in outside ideas to discuss.
Laboratory Exercises: 20 points each. There are 5 exercises for a total of 100 points.
Laboratory reports: 50 points each. There are 2 reports for a total of 100 points.
Lab presentation: 40 points.
Lab Final: 80 points. There will be a comprehensive exam on all of the material covered during the laboratory portion of the class.

Makeup Exam Policy: In the case of severe illness, sports competitions or other excused absences, you will be excused and will be given an opportunity to makeup the exam. You must have a note from your physician, a coach, or whoever is appropriate for explaining a legitimate absence. These should be arranged in advance, or (in the case of illness) I must be notified by the time of the exam. If you are not excused by the time of the exam, you will receive a zero.

I do not allow laptops or phones to be used during class. These are at best incredibly distracting, and at worst a very easy way to cheat. You may say you just want to take notes on them, but we both know you won't have your email turned off… You will be asked to leave and will not receive points for the day if you have them on during lecture. Please bring something to write on – a 2-sided, black and white printed copy of the powerpoint slides with lines for notes is recommended, but a simple notebook works just as well.

Honesty and Civility: You must abide by Temple's Code of Conduct (see http://www.temple.edu/assistance/udc/coc.htm), which prohibits:
1. Academic dishonesty and impropriety, including plagiarism and academic cheating.
2. Interfering or attempting to interfere with or disrupting the conduct of classes or any other normal or regular activities of the University.

Do not try to cheat; avoid all appearance of cheating. This goes for plagiarism as well: do not copy anyone else's writing from any source. For the lab reports, the use of direct quotes, even if they are properly cited, is also strongly discouraged. We have a "zero tolerance" policy. The Temple Honor code provides disciplinary action for cheating and plagiarism that may include expulsion from the University.

The following guidelines will minimize disruption of your fellow students during lectures (after the Chronicle of Higher Education March 27, 1998, p. A12):
Please do not disrupt lectures with conversation. Mindless chatter during class is distracting to other students and to the instructor. Please ask questions or make comments if you didn't follow something. It helps the instructor set a pace that is appropriate for students who are listening. Avoid entering lectures late. If you are late, enter as quietly as possible. Assignments or in-class work missed due to tardiness are counted as zeros and cannot be dropped.

Attendance: If you miss a class meeting for any reason, you will be held responsible for all material covered and announcements made in your absence. Attending EVERY class enhances your undergraduate experience and gives you the most value for your tuition dollar.

Disabilities: Any student who needs accommodation because of a disability should contact us privately to discuss the specific situation as soon as possible. The Office of Disability Resources and Services (215-204-1280) in Ritter Annex 100 can coordinate reasonable accommodations for students with documented disabilities. Students who are eligible for extra time on exams need to talk with their TA well in advance of the exam to make arrangements for extended time.

Bio 3245 Schedule – subject to change (please consult Blackboard for updates)

date	lecture topic	reading assignment	lab
24-Aug	Introduction to the Course		no lab this week
26-Aug	Marine Habitats	p 13-22	
28-Aug	Introduction to Scientific Papers		
31-Aug	Benthic Life Habits	p 279-306	intro to lab:
2-Sep		p 321-349	microscope, taxonomic key
4-Sep		Paper Discussion	
7-Sep	Intertidal Ecology	p 355-382	invert taxonomy
9-Sep			
11-Sep		Paper discussion #1	
14-Sep	Marshes, Mangroves, Estuaries	p 309-319	algae/plant taxonomy
16-Sep		p 385-407	
18-Sep		Paper discussion #2	
21-Sep			snail distribution lab
23-Sep	review		
25-Sep	**EXAM #1**		
28-Sep	Subtidal Habitats	p 413-432	trophic cascade lab
30-Sep			
1-Oct		Paper discussion #3	
5-Oct	Coral Reefs	p 432-455	recitation - trophic cascade
7-Oct			
9-Oct		Paper discussion #4	
12-Oct	Plankton Abundance	p 167-184	plankton tow IDs
14-Oct		p 225-253	
16-Oct		Paper discussion #5	
19-Oct	Productivity and Food Webs	p 258-268	irradience lab
21-Oct			
23-Oct		Paper discussion #6	
26-Oct			irradience lab recitation
28-Oct	review		
30-Oct	**EXAM #2**		
2-Nov	Open Ocean	p 187-219	Lophelia and GIS part 1
4-Nov			
6-Nov		Paper discussion #7	
9-Nov	Shelf to the Deep Sea	p 463-477	Lophelia and GIS part 2
11-Nov			
13-Nov		Paper discussion #8	
16-Nov	Specialzied Deep-Sea Habitats	p 477-487	Lab review
18-Nov			
20-Nov		Paper discussion #9	
23-Nov	no class - Thanksgiving		no lab this week
25-Nov	no class - Thanksgiving		
27-Nov	no class - Thanksgiving		
30-Nov	Climate Change and Conservation		lab final
2-Dec		Paper discussion #10	
4-Dec	Review		
7-Dec	**FINAL EXAM**		