

BIO/GEO 353 - Marine Ecology - Spring 2012 – Syllabus and Course Description

Note: The course web site is NOT on Blackboard. The URL is: <http://life.bio.sunysb.edu/marinebio/bio353> For general information, consult the university [academic calendar for spring](#).

All downloadable exercises and assignments will be obtained from this URL. There will be no paper handed out in class after this syllabus.

Please note: The powerpoint notes are not complete course notes and you **cannot** study only from them to pass the course. In many cases the powerpoints are only in outline structure. Photos are also missing in the downloads.

CLASS MEETS IN ROOM 079 EARTH AND SPACE SCIENCES BUILDING, MWF 10:40-11:35 A.M.

Instructor - Jeffrey Levinton, rm 680 Life Sciences Lab. (phone 28602; email levinton@life.bio.sunysb.edu), Office Hrs: M 2:30-4:00, phone or email anytime for appt. or Do drop in!)

Teaching Assistant – Patrick Lyons, rm 608 Life Sciences. email plyons@life.bio.sunysb.edu, Office Hrs: (Tuesdays 10 AM-12 Noon, email anytime for appt. or drop in.)

BIO 353 COURSE SCHEDULE

Downloading ppt lectures: The transparencies were prepared in Microsoft PowerPoint and you will be downloading pdf file versions. If you click the links on the syllabus document (e.g., "Ch. 1, 2" in the week of Jan. 31) the pdf file will start to automatically download and will probably open up on your computer.

Required textbook: Levinton, J. 2009. Marine Biology: Function, Biodiversity, Ecology, 3rd edition, Oxford University Press, New York. Available at Stony Brook University Bookstore

Lecture Schedule and Text Assignments

Week of:

23 Jan Introduction: The Ocean, Topography, Sea Floor ([Ch. 1](#), [Ch. 2a](#), [Ch. 2b](#))

30 Feb The Ocean (Cont'd) Circulation, Coastal Processes (Ch. 2) [How Coriolis Effect works going east and west](#)

6 Feb Ecological Principles ([Ch. 3a](#), [Ch. 3b](#)) [**GRAPHICS AND DATA INTERPRETATION EXERCISE, DUE Friday Feb. 10 in class**]

13 Feb Physiological Responses to Marine Environments ([Ch. 4](#))

20 Feb Life in a Fluid Medium ([Ch. 5](#))

27 Feb Reproductive Strategies, Dispersal, and Migration ([Ch. 6a](#), [Ch. 6b](#)) [**EXAM I on March 2, covers Chs 1-5**]

5 Mar Life in Open Water ([Ch. 7](#) and [Ch. 8](#)) [**RESEARCH LITERATURE EXERCISE, DUE MON. MAR. 5 in class**]

12 Mar Critical Factors in Plankton Abundance ([Ch. 9](#))

19 Mar Productivity in the Sea ([Ch. 10](#)) [PAPER I DUE MARCH 23, 5 P.M.]

26 Mar Marine Benthic Life Habits ([Ch. 13a](#), [Ch. 13b](#))

2 Apr SPRING BREAK!! YAY!! Apr 2-8

9 Apr The Tidelands and Estuaries ([Ch. 14](#))

[EXAM II on FRIDAY, 13 APR. Covers Ch. 6-13]

16 Apr Sea Grass Beds, Kelp Forests, Coral Reefs ([Ch.15](#))

23 Apr From the Continental Shelf to the Deep Sea, Patterns in Marine Diversity ([Ch. 16, Ch. 17](#)); Chapter 16: read pp. 466-491; Chapter 17: read pp. 492-508

30 Apr Food From the Sea ([Ch. 18](#)), Pollution (Ch. 19) [PAPER II DUE THURSDAY MAY 3, 5 P.M]

8-15 May FINALS WEEK [EXAM III, covers Ch. 14-19] **Final Exam is Wednesday, May 9, 11:30 A.M.-12:30 P.M.**

REQUIRED FIELD TRIP Apr 28 (meet 9 AM), OR Apr 29 (meet 10 AM)

BIO/GEO 353 - MARINE ECOLOGY -SPRING 2012
DESCRIPTION OF COURSE AND REQUIREMENTS

PURPOSE OF COURSE

Marine ecology is the study of the relationship of marine organisms to their environment and the effect of these relationships to their distribution and abundance. We will first introduce aspects of oceanography and sea water properties necessary to understand how marine creatures survive and reproduce. Next, we will discuss physiological function and reproduction. We will introduce the organisms living in open waters and then we will cover coastal marine habitats. Important will be a synthesis of how the overall ocean influences the diversity of marine life. Finally, we will discuss fisheries, mariculture, and pollution.

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FORMAT

The course will consist of three lectures per week. The teaching assistant (Patrick Lyons) will conduct a review session before each examination. There will be three examinations, whose format will be relatively short answers (words, sentences, diagrams). All examinations, **including the final**, will be non-comprehensive, which is to say that each exam will only cover part of the semester's lectures. I will also ask you to write two papers. The purpose of these papers is to: (1) Develop your writing skills; (2) improve your ability to reason using marine ecological concepts and data; and (3) develop your skills at examining the scientific literature. You may turn in the two papers to fulfill the upper division writing requirement for the Biology major.

GRADING

All three examinations will count for 50 % of the final grad (each exam weighted equally) and the papers will count for 45 % (paper I counts 15 %, paper II counts 30%). Exercises will count for 5 % of the final grade. All non-medically related makeup examinations will be given *in advance* of the regularly scheduled exam.

THERE WILL BE EXTRA-CREDIT OPPORTUNITIES DURING THE SEMESTER. SEE ANNOUNCEMENTS.

TEXTBOOK

The required text for this course, *Marine Biology: Function, Biodiversity, Ecology*, by J. Levinton (3rd edition Oxford University Press, 2009) will be available at the bookstore.

FIELD TRIP

There will be a 4-hour class field trip on Saturday Apr 28 OR Sunday Apr 29. The trip is **required**. You can choose to go on either Saturday or Sunday. See field trip

instructions for gear, etc.

ACADEMIC HONESTY POLICY

We take academic honesty seriously. All written assignments **must** be prepared individually. General discussion among students is welcomed, but the moment you start working on an assignment you should do it on your own with no seeking of answers from others. Plagiarism is defined as using the results or prose of others without citing it. You must not plagiarize the work of your fellow students, or previously written works of any others. Exams are also individual exercises. Studying with others is a good idea. In class at the time of the test, however, you must use only your own individual wits and a pen. Don't expect much sympathy for violations; they will be handled according to university rules.

FIELD TRIP INSTRUCTIONS

BIO/GEO 353 Field Trip Instructions – Spring 2012

Field Trip Instructions

Time: Saturday, Apr 28, 9 A.M. or Sunday, Apr 29, 10 A.M.

Meet: At Parking Lot, Flax Pond Lab (if you need a ride, we will arrange rides from the pay parking lot, south of the Life Sciences Lab, departing 9:45 A.M., Apr 28 and 10:45 A.M., Apr 29.

What to wear:

Be prepared to get wet, especially your feet. Wear shoes that you don't mind getting soaked or muddy, or boots that fit well. Don't wear flip-flops or loose-fitting sandals.

Bring: Bring a notebook and pencil.

Where to meet:

If you have a car: meet at the appointed times at the Flax Pond Lab, listed above.

If you do not have a car: meet by the Life Sciences laboratory, one half hour before the meeting time at Flax Pond. Meet by pay parking lot (south side of building).

How long will it be: No more than 4 hours:

How to get there:

GPS: 20 Shore Drive, Old Field NY 11733

From campus. Go north on Nicolls Rd. to 25A. Make a left (going west) onto Rt. 25 A. Make a right at first stop light onto Quaker Path. Go north, past several stop signs until you get to fork in road, just after stop sign. Take the left fork onto Mt. Grey Road and keep going. You will reach 3rd stop sign at West Meadow Beach Road. Keep going and follow map below-make left turn onto Crane Neck Road and follow winding road until Shore Drive. Make a right on Shore Drive and drive to end and park in parking lot of Flax Pond Lab. Drive according to speed limits. The Old Field police LOVE to stop speeders.

