

LIFE IN THE SEA (BIOL 324) – FALL 2004

Syllabus: Course Information, Lecture Schedule, Readings

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Office hours: Tuesdays and Thursdays, 1100-1200

Class schedule: Tuesday, Thursday: 0930-1045
Room: GMCS-214

Required text: Marine Biology, 4th ed. by Peter Castro and Michael E. Huber. McGraw-Hill Higher Education, New York (<http://www.mhhe.com/marinebiology/>)

Course web sites:
<https://blackboard.sdsu.edu/webapps/login>
<http://www.sci.sdsu/classes/biology/biol324/anderson/> (College of Sciences)

Course overview

The world's oceans contain an incredible diversity of life, ranging in size from tiny organisms to large whales. Much of the ocean depths remain unexplored, and we continue to examine the variety of species and their habitats in the sea. In this course, we will undertake to explore the many types of marine organisms and their habitats, and the processes that control their abundance and distribution. The first part of the course entails learning about the ocean physical environment and the conditions necessary for marine species to exist. The second part of the course covers the major marine phyla – in other words, the variety of body plans that have evolved in the sea – and how these plans allow organisms to grow, eat, move, and reproduce in seawater. In the third part of the course, we focus on some key marine ecosystems – the rocky intertidal zone, coral reefs, the deep sea, and the open ocean – to understand how the species of these ecosystems interact with each other and with the physical environment. Finally, we focus on the impacts of humans on our oceans in degrading the marine environment and threatening the organisms within it, and importantly, what solutions there may be to these problems.

Course goals

- Obtain an understanding of the physical marine environment, and therefore the conditions under which marine species have evolved.
- Learn about the many ways that species “make a living” in the marine environment, and how these strategies are linked to the ecosystems in which each species lives.
- Understand the ways in which species in major marine ecosystems interact.
- Learn how human activities harm the oceans, and what can be done to conserve marine species and habitats.

Grading

Your grade will be based on the percentage of total points earned on the exams, quizzes, and other assignments as indicated below. Your grade is based on a percentage of points earned from the total points possible:

A = 90-100%; B = 80-89%; C = 65-79%; D = 55-65%; F < 55%

The instructor will use plus/minus grading within each of the above letter-grade categories. To ensure that you will receive a particular grade, you must score within the percentages noted for that grade (**do not assume that grades will be curved**). The instructor at his discretion may modify the percentages for each grade downward if he concludes that the scores should be adjusted based on the class average and general class performance. Please remember that long-standing University policy considers a grade of A to represent exemplary performance, indicative of "outstanding achievement; available only for the highest accomplishment," while a grade of B indicates a "praiseworthy performance; definitely above average." I hope you will all strive to demonstrate exemplary performance.

Exam I	100 pts.
Exam II	100 pts.
Final Exam	150 pts.
Announced quizzes, 4 @ 25 pts. each	100 pts.
Assignments, 2 @ 25 pts. each	50 pts.
TOTAL POINTS POSSIBLE	500 pts.

SCANTRONS (REQUIRED) -- available at the Aztec bookstore -- you must have the correct forms. You'll need one scantron form (#882-ES) and #2 pencils for each exam. In addition, you will need small scantron forms #815 or #815E that are required for in-class quizzes.

Lectures

Lecture outlines will be posted on the website before class so that you may use topical points and figures as a guide during lecture as you are taking notes. **Note that these outlines are not the total lecture but a supplement to the lecture. PowerPoint lectures will not be posted** on the course website so that note-taking skills are fostered and attendance is encouraged.

Lecture exams will be multiple choice and will cover lecture material and readings from the textbook. Each exam will cover class and reading material covered after the previous exam (but see *final exam*).

Quizzes will be given at the beginning of class on 5 dates (see lecture schedule for dates). They will cover recent material (within the two previous lectures). **The best 4 out of 5 quizzes will count toward your grade, allowing you to miss a quiz without having a valid excuse.** You

will receive a grade of zero for a quiz if you come to class late or if you are absent without a valid excuse.

Out-of-class assignments will be given twice during the semester. They will be due two weeks after they are assigned, and will consist of a few essay questions covering recent material or there will be a specific assignment provided. They are designed to make you think about the course material in preparation for the exams and about the role of humans in the marine environment.

The ***final exam*** will cover the lecture material covered after Exam II (100 pts.) and major concepts and material covered throughout the semester (50 pts).

Missed exams and assignments

Because you have been or will be notified of the exact dates and times that each exam, quiz, or assignment is due, there should be no excuse for missing a test or not completing an assignment. Thus, **there is a “no make-up” policy for this class; no missed lecture exams or quizzes can be made up at a later time.** I realize, however, that in **rare** instances, circumstances beyond your control could prevent you from completing an assignment (e.g., a medical or family emergency). If this is the case, the student will be expected to **provide verifiable documentation** of the reason that he or she missed the assignment. The missed assignment will be dropped from the student’s grade; e.g., if a lecture exam is missed for a valid excuse, the student’s grade will be calculated out of a total number of assignments that does not include that exam. Note that events such as flat tires, oversleeping, and other commitments are **NOT** valid excuses.

Cheating

Warning you about the consequences of cheating may seem unnecessary. Nevertheless, to avoid any possibility that you do not recognize the consequences, this is my policy: If you are caught cheating on an exam, quiz, or assignment, you will receive a zero for the exam or assignment. In addition, the event will be reported to campus judicial authorities and may lead to additional actions from the University, including suspension and expulsion from the university. Cheating constitutes any situation in which a student claims another’s work for their own; e.g., copying answers from another student’s exam or quiz, or handing in plagiarized text in a homework assignment. With respect to any writing assignments, remember that your responses must be in your own words. I recommend that you look at the site below to obtain a clear explanation of plagiarism, cheating, and similar inappropriate conduct.

<http://science.widener.edu/svb/essay/plagiar.html>

Lecture Schedule and Readings
(Tentative schedule -- subject to change)

Week	Date	Topic	Readings (C&H) Chapter (pages)
1	Aug 31- Sep 2	Course introduction What is marine biology? How are the oceans explored?	1 (3-11)
2	Sep 7-9	How is science done? Some basics of biology Overview of marine ecosystems	1 (12-20) 4 (84-90) 10 (229-232)
3	Sep 14-16	Ocean basins and provinces Seawater and physical variation Currents and waves	2 (24-40) 3 (43-52) 3 (52-58)
4	Sep 21-23	Sep 23: Quiz 1 Tides and the water column Life histories of marine organisms Larvae in the life cycle	3 (58-65)
5	Sep 28-30	Prokaryotes of the oceans Phytoplankton <u>SEPTEMBER 30: EXAM 1</u>	5 (91-96) 5 (96-103)
6	Oct 5-7	Macroalgae and marine plants Sponges and cnidarians Polychaetes and other “worms”	6 (105-116) 7 (117-123) 7 (126-129)
7	Oct 12-14	Oct 12: Quiz 2 Mollusks Arthropods Echinoderms	7 (130-134) 7 (135-139) 7 (142-146)
8	Oct 19-21	Fishes – diversity and biology Fishes – behavior and life history Reptiles and birds	8 (153-169) 8 (169-177) 9 (179-187)
9	Oct 26-28	Oct 26: Quiz 3 Pinnipeds Cetaceans – diversity and biology Cetaceans – ecology and whaling	9 (187-190) 9 (190-195) 9 (195-209)

10	Nov 2-4	<u>NOVEMBER 2: EXAM 2</u> Ecological principles	10 (215-227)
11	Nov 9-11	Rocky intertidal Estuaries	11 (235-252) 12 (259-264)
12	Nov 16-18	Soft-sediment communities Kelp communities Coral reefs	13 (280-288) 13 (288-294) 14 (297-311)
13	Nov. 23	Nov 23: Quiz 4 Coral reefs (continued) Pelagic zone NOV. 25: THANKSGIVING RECESS	14 (312-322) 15 (323-336)
14	Nov 30- Dec 2	Primary production and El Niño Deep sea Human impacts - overfishing	15 (343-351) 16 (364-374) 17 (383-396)
15	Dec 7-9	Dec 7: Quiz 5 Human impacts – introduced species Human impacts – habitat destruction Human impacts – solutions	17 (420-421) 18 (407-414) 18 (423-425)

FINAL EXAM: Thursday, December 16, 1030-1230 in GMCS-214
