

## LIFE IN THE SEA (BIOL 324) – Fall 2007

### Syllabus: Course Information, Lecture Schedule, Readings

Instructor: Paul Detwiler      Class schedule: Tu, Th: 2:00–3:15      Storm Hall 247  
Office: LS 125  
Phone: TBA  
Email: pdetwiler@sciences.sdsu.edu  
Office hours: Tu, Th: 12:30–1:30 *and* by e-mail appointment  
Required text: *Marine Biology*, 6th ed. by Peter Castro and Michael E. Huber. McGraw-Hill Higher Education, New York (<http://www.mhhe.com/marinebiology/>)  
Optional texts on 2-hr. reserve:  
*Marine Biology: An Ecological Approach*. Nybakken, 1993.  
*Marine Biology of Southern California*. Bakus, 1989.  
*Marine Biology: Function, Biodiversity, Ecology*. Levinton, 2001.  
*SeaLife*. Waller et al., 1996.

Course web site:

<https://blackboard.sdsu.edu/webapps/login>

### Course overview

The world's oceans contain an incredible diversity of life, ranging in size from tiny single-celled organisms to whales. Much of the ocean depths remain unexplored, and we continue to discover new species and learn new things about how common species relate to various habitats in the sea. In this course, we will explore the many types of marine organisms and their habitats, as well as the processes that control their abundance and distribution. The first part of the course entails learning about the physical environment of the oceans 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 body plans allow organisms to grow, eat, move, and reproduce. Identification of common local species will be emphasized. The third part of the course focuses on 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. Throughout the course, we focus on the impacts of humans on our oceans and, most importantly, what solutions might exist to human-caused problems. It is hoped that this will heighten your appreciation, curiosity, and respect for the biological world around us, and will give you skills to continue to study the oceans and the world of nature on your own.

### Course Goals and Student Learning Outcomes

- Students will be able to list the major physical features of the oceans and describe how they can influence where different marine species live.
- Students will be able to identify the common types of marine organisms and describe how they obtain nutrients and food, how they move, and how they reproduce.
- Students will recognize some of the common ways that different marine species interact as predators and prey, parasites and hosts, competitors, and mutual symbionts.

- Students will be able to describe the general features and locations of important habitats such as coral reefs, intertidal zones, estuaries, kelp forests, the open ocean, and the deep sea.
- Students will be able to discuss the many human activities that 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. 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." There are no options for extra credit, so please do your best on these items.

**Incomplete Grade:** Incomplete grades are given only under exceptional circumstances. Students seeking an Incomplete must file a petition citing unforeseeable, emergency, and justifiable reasons.

|   |                 |
|---|-----------------|
| Exam 1 (Sep. 13)                                    | 80 pts.         |
| Exam 2 (Oct. 9)                                     | 80 pts.         |
| Exam 3 (Nov. 1)                                     | 80 pts.         |
| Final Exam (Dec 11; 1:00–3:00 pm)                   | 80 pts.         |
| In-Class Quizzes, best 3 of 4 @ 20 pts. each        | 60 pts.         |
| Online (Blackboard), Quizzes and Homeworks (approx) | 80 pts.         |
| <b>APPROX. TOTAL POINTS POSSIBLE</b>                | <b>460 pts.</b> |

Other assignments may be added, deleted, or changed during the semester; therefore semester point totals may vary. You should keep all returned work to be used in the event of any grading discrepancies, as well as to compute your current standing.

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 4 small scantron forms **#815 or #815E** that are required for in-class quizzes.

## Lectures

Lecture **outlines** may be posted on the Blackboard site 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 help guide you during the lecture.**

*Exams* will be multiple choice and might include one page of short-answer questions. Exams will cover lecture material and readings from the textbook. Each exam will be limited to lecture and reading material covered after the previous exam (but see *final exam*).

To encourage course attendance and to keep current with the reading assignments, *In-Class Quizzes* will be given at some time during class on 4 dates. These will cover recent material (within the three previous lectures). **Each student's best 3 out of 4 scores on in-class quizzes will count toward his/her final grade. This allows each student to miss one quiz without any penalty. Consequently, there are no make ups for absences.** Some quizzes might be distributed at the beginning of class (i.e., 1300), during the last 10 min of class, or during the middle of a class period if a lecture break is appropriate. Students who arrive late for quizzes or exams will not be given additional time to complete them. Missing a quiz will earn a score of zero on that quiz.

*Online Quizzes at the Biol-324 Blackboard site* may be given during the semester except weeks when there are exams or during the Thanksgiving break (see Lecture Schedule). Each week's quiz can be completed **anytime between noon Tuesday and noon Friday** (a 72-h time window) at the Blackboard site. These multiple-choice quizzes will be **open book** (students can use any materials they find helpful). **The lowest quiz score will be dropped. This allows each student to miss one online quiz without any penalty. Consequently, there are no make ups if you miss an online quiz.** Do not wait until the last minute to take an online quiz! If you experience technical problems with Blackboard, contact the Blackboard helpline: **594-3189** immediately. Technical problems with Blackboard are very rare when using computers in **campus computer labs**. Technical problems are not uncommon if your computer has older software. If you have technical problems with a home computer, the Help Staff will ask about your web browser and operating system. **It is each student's responsibility to solve any technical problems so they do not affect more than one quiz score** (which can be dropped without causing any real effect on the total grade)

The *Final Exam* will cover the lecture material after Exam 3 and major concepts and material covered throughout the entire semester.

### **Missed exams**

Because you have been notified of the exact dates and times that each exam will occur, there should be no excuse for missing an exam. In **rare** instances, circumstances beyond your control could prevent you from completing an exam on the scheduled date (e.g., a medical or family emergency). If such an unpredictable emergency occurs, the student will be given an opportunity to take a make up exam if **verifiable documentation** of the reason for the absence is provided within 72 hours of the exam. Make up exams will be entirely **Essay Questions** and must be completed no later than 7 days after the regularly schedule exam. Events such as flat tires, oversleeping, and other commitments are **NOT** valid excuses for missing an exam that is scheduled at least 3.5 weeks in advance.

### **Absences and Participation / Conduct**

Be aware of the consequences of missing class. The learning process depends heavily upon your

regular attendance and involvement during lecture. *Missing even one will put you at a disadvantage.* Being registered for this course shall be taken by the instructor as an agreement by you to participate regularly, responsibly, and constructively in class. If you are absent, it is up to **you** to get that day's lecture notes and handouts from a classmate. Inappropriate behaviors are distracting to the instructor and other students, and interfere with the educational function of the class. Inappropriate verbal or non-verbal communication, lack of participation, disrespect, grade contesting, and any other behaviors the instructor considers rude constitute serious problems. If such behaviors are repeated after the instructor has pointed them out, the instructor may file a complaint with the Center for Student Rights and Responsibilities. For your rights and responsibilities visit <http://csrr.sdsu.edu/conduct1.html> for a review of SDSU policy. **Please turn cell phones to silent mode before entering class.**

### **Cheating**

Academic integrity and honesty are essential. Cheating and plagiarism *in any form* will result in a grade of zero for the 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 includes but is not limited to: possession or use of unauthorized materials, revealing test questions or soliciting another person to reveal test questions, copying another person's work, and *allowing another person to copy one's own work*. Plagiarism is passing off another's ideas or work as your own. It includes *copying information from webpages* and/or other published sources without attribution, and passing off that work as your own. While students may work in teams to collect data and exchange ideas in discussions, any written work submitted to the instructor *by an individual student* must reflect the organization, composition, and expression of the *individual student's* ideas.

### **Accommodation Of Disability**

Students with documented disabilities who may need accommodations in this class should contact me privately, to discuss specific accommodations for which they have received authorization. If you need accommodation due to a disability, but have not registered with Student Disability Services at 619-594-6473 [Calpulli Center, Suite 3101] (<http://www.sa.sdsu.edu/sds/index.html>), please do so **early in the semester** before making an appointment to see me.

### **Grievances**

The following procedure is for filing a student grievance, if you have a misunderstanding with any instructor at San Diego State:

1. Speak with the instructor during his/her office hours to see if the issue can be resolved.
2. See the chairperson of the department, following your meeting with the instructor, if the problem is not resolved.
3. If the problem is not resolved, see the appropriate Assistant Dean for Student Affairs.
4. If the problem is not resolved, see the Ombudsman.

By enrolling in this course, you agree to all of the terms stated in this syllabus.

The instructor reserves the right to change the above schedule and procedures in this course in the event of extenuating circumstances.

**Lecture Schedule and Readings**  
(Tentative schedule —subject to change)

| <b>Week</b> | <b>Date</b> | <b>Topic (s)</b>  | <b>Reading in 6<sup>th</sup> ed.<br/>Chapter (pages)</b> |
|-------------|-------------|---|--|
| <b>1</b>    | Tu Aug 28   | Course introduction<br>What is marine biology?                | 1 (3–20)   |
|             | Th Aug 30   | How are the oceans explored?<br>How is science done?          | 1 (3–20)   |
| <b>2</b>    | Tu Sept 4   | Biology & Ecology principles<br>Overview of marine ecosystems | 4 (70–90), 10 (223–224)                                  |
|             | Th Sep 6    | Ocean basins and provinces                                    | 2 (25–43)  |
| <b>3</b>    | Tu Sep 11   | Seawater Characteristics<br>Currents and Tides                | 3 (44–69)  |
|             | Th Sep 13   | <b>Exam 1</b>   | <i>Bring scantrons</i>                                   |
| <b>4</b>    | Tu Sep 18   | Plankton  | 5 (100–105), 15 (325–336)                                |
|             | Th Sep 20   | Marine Productivity   | 10 (224–232)   |
| <b>5</b>    | Tu Sep 25   | Macroalgae and Marine Plants                                  | 6 (107–119), 13 (286–287)                                |
|             | Th Sep 27   | Sponges, cnidarians, worms                                    | 7 (120–131)  |
| <b>6</b>    | Tu Oct 2    | Mollusks  | 7 (131–137)  |
|             | Th Oct 4    | Section Wrap-up & Review                                      | <i>Bring book to class</i>                               |
| <b>7</b>    | Tu Oct 9    | <b>Exam 2</b>   | <i>Bring scantrons</i>                                   |
|             | Th Oct 11   | Arthropods, Echinoderms /<br>Invertebrate Chordates           | 7 (137–143)<br>7 (144–151)                               |
| <b>8</b>    | Tu Oct 16   | Fishes 1  | 8 (154–179)  |
|             | Th Oct 18   | Fishes 2  | 8 (154–179)  |
| <b>9</b>    | Tu Oct 23   | Reptiles, birds   | 9 (180–187)  |
|             | Th Oct 25   | Pinnipeds / Cetaceans   | 9( 187–212)  |
| <b>10</b>   | Tu Oct 30   | Section Wrap-up & Review                                      | <i>Bring book to class</i>                               |
|             | Th Nov 1    | <b>Exam 3</b>   | <i>Bring scantrons</i>                                   |
| <b>11</b>   | Tu Nov 6    | Soft Sediments & Estuaries                                    | 11(253–258); 12 (259–276),<br>13 (279–285)               |
|             | Th Nov 8    | Rocky Intertidal  | 11 (235–253)   |
| <b>12</b>   | Tu Nov 13   | Kelp Forests  | 13 (290–295)   |
|             | Th Nov 15   | Coral Reefs   | 14 (297–323), 18 (403)                                   |
| <b>13</b>   | Tu Nov 20   | Open Ocean  | 15 (333–353)   |
|             | Th Nov 22   | <b>Thanksgiving — NO CLASS</b>                                |  |
| <b>14</b>   | Tu Nov 27   | Deep Sea  | 16 (354–375)   |
|             | Th Nov 29   | Deep Sea  | 16 (354–375)   |
| <b>15</b>   | Tu Dec 4    | Final Remarks   |  |
|             | Th Dec 6    | <b>Section Wrap-up &amp; Review</b>                           | <i>Bring book to class</i>                               |
| <b>16</b>   | Tu Dec 11   | <b>Final Exam 1–3 pm</b>                                      | <i>Bring scantrons</i>                                   |