

**SIO 132: Introduction to Marine Biology**  
Fall Quarter 2016

**Course Instructors:**

Dr. Ron Burton, Scripps Institution of Oceanography  
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**Teaching Assistants:**

Alice Harada: aharada@ucsd.edu  
Tessa Pierce: ntpierce@ucsd.edu  
Leeann Alferness: lalferne@ucsd.edu

**Instructors' Office Hours:** by appointment (preferably set up by email)

**Course structure:** Two lectures/week on T/Th, 9:30 am - 10:50 am in Center Hall 119  
+ one section meeting/week (recommended, see below)

**Course Description**

Marine biology is the scientific study of life in the oceans. It is broad, because it includes all facets of general biology, ranging from biochemistry, genetics, cell biology, physiology, development, behavior, ecology, and evolution. So, as a group, marine biologists study a very wide range of questions and employ a great range of techniques, including field sampling, field/laboratory experimentation, mathematical models, and bioinformatics analyses. The aim of this course is to provide you with a foundational understanding of marine biology. This foundation includes knowledge about fundamental processes concerning marine environments, marine life, and a better understanding of the scientific methodology underlying marine biology.

**Lectures** are important, and, as is often the case, may include material that will not be on the lecture slides.

**Clickers (required):** Bring your own iClicker to each lecture. Do not have another student use your clicker for you. We use clickers to promote learning by creating more meaningful engagement in lecture (to help keep your brains tuned in). We may question and solicit clicker responses several times each lecture. Clicker questions will only be used to facilitate discussion, correct and incorrect answers earn equal points.

**Textbook (required):** Marine Biology (4th ed, 2013). J.S. Levinton. Oxford University Press. The textbook provides a wealth of background information for many lecture topics and expands on some topics we only touch on in class. The lectures will provide a guide regarding the level of detail we expect you to understand.

**Additional course readings**, consisting of primary literature, will be assigned in class or the TritonEd website. We will provide you with citations, and you will obtain the papers online or at the library. **Go to the library webpage (<http://libraries.ucsd.edu/spaces/computing/remote-access>) for information on how to set yourself up to access literature on your own computer.** Basic information from the readings may not be covered in lecture, but can be on exams. We will give you a generic, short list of questions for you to answer for every paper you ever read. All this is to help you develop solid scholarship skills; interacting with the scholarly literature should become second nature (and fun!) for science majors.

**TritonEd web site:** We will post lecture slides, exam keys, and citations to required and recommended readings.

**Grading:**

Two midterm exams (short answer format)	
1st Midterm	= 100 points
2nd Midterm	= 100 points
Final exam has two parts:	
3rd Midterm	= 100 points
Cumulative Final	= 100 points
Clicker points	= 50 points
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Total	= 450 points

**Test regrading policy:** Requests for regrades must be submitted to TAs within one week of midterm return. Please attach a sheet noting which questions you would like regraded, along with a brief justification. Note that regrades are primarily an opportunity to fix grading errors. Only exams written in non-erasable ink will be considered.

**Discussion Sections** are not mandatory and are primarily for the clarification of lecture material and readings; some required readings that are not discussed in class may be reviewed in section. Sections have been scheduled as follows:

Section	Day	Time	Location	TA
A01	M	4:00p-4:50p	HSS 2150	Leeann
A02	M	5:00p-5:50p	HSS 2150	Alice
A03	M	6:00p-6:50p	HSS 2150	Alice
A04	W	4:00p-4:50p	HSS 2150	Tessa
A05	W	5:00p-5:50p	HSS 2150	Tessa

**Academic integrity:**

Integrity of scholarship is essential for an academic community. For students, this means that all academic work will be done by the individual to whom it is assigned, without unauthorized aid of any kind. All suspicions of integrity violation will be reported to the Academic Integrity Office according to university policy. Integrity violation is not just blatant cheating (e.g., copying off another student during an exam), but include copying other students' papers or homework, copying or using old papers/report, using another student's clicker in class, working with others on individual assignments. Those students found to have committed academic misconduct will face administrative sanctions imposed by their college Dean of Student Affairs and will also face consequences for this course which may range in severity from and F on the exam or assignment to an F in the course. Students who assist in or are complicit with cheating could also be in violation of the Policy. Thus, students who become aware of their peers either facilitating academic misconduct or committing it should report their suspicions to me for investigation.

For more information on academic integrity please refer to The Policy on Integrity of Scholarship ([academicintegrity.ucsd.edu](http://academicintegrity.ucsd.edu)).

<b>Date</b>	<b>Lecture topic (Instructor: B = Burton; H = Hechinger)</b>	<b>Readings (in Levinton)*</b>
22-Sep	(1) Introduction: ocean environment and marine biology (B)	Chaps. 1-2
27-Sep	(2) Physiological adaptations (B)	Chap. 4
29-Sep	(3) Evolutionary adaptations (B)	Chap. 4
04-Oct	(4) Productivity and marine microbial ecology (B)	Pp. 141-145, 215-220; 225-233
06-Oct	(5) Trophic strategies, styles, organization (H)	Pp. 40-48; 288-296; 300-307
11-Oct	(6) Habitats: pelagic, open ocean, deep sea (H)	Chaps. 7-8; Pp. 404-428
13-Oct	(7) Habitats: coastal subtidal (hard & soft bottoms) (H)	Chaps. 15, 13
<b>18-Oct</b>	<b>(8) MIDTERM 1 (lectures 1, 2, 3, 4, 5, 6)</b>	
20-Oct	(9) Habitats: tidal wetlands, beaches, rocky intertidal (H)	Chap. 14
25-Oct	(10) Animal movements & migrations (B)	Pp. 114-121
27-Oct	(11) Marine molecular ecology and population structure (B)	Pp. 124-139
01-Nov	(12) Speciation (B)	
03-Nov	(13) Life histories; Reproduction; Social systems (H)	Chap. 6
08-Nov	(14) Species interactions/Community ecology 1 (H)	Chap. 3
<b>10-Nov</b>	<b>(15) MIDTERM 2 (lectures 7, 9, 10, 11, 12, 13)</b>	
15-Nov	(16) Species interactions/Community ecology 2 (H)	Chap. 3
17-Nov	(17) Global patterns of marine biodiversity (H)	Chap. 17
22-Nov	(18) Marine paleobiology (H)	
24-Nov	(19) THANKSGIVING holiday	
29-Nov	(20) Fisheries and Conservation (B)	Pages 450-471
01-Dec	(21) Human impacts on the marine environment (B)	Chapter 19
08-Dec	(22) <b>TERM 3 (lectures 14, 16, 17, 18, 20, 21) &amp; FINAL (cumulative)</b> <b>Thursday 8:00 am-11:00 am</b>	

\* Additional readings will be assigned in class and posted on the TritonEd website