

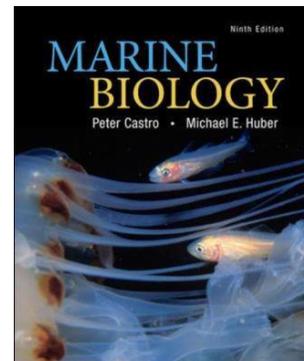
**INSTRUCTOR:** Scott Wingate, Executive Director  
**TIME:** 4:00-7:00pm Thursday evenings  
**OFFICE HRS:** By appointment

**Scott Wingate contact info:**  
**Office #:** 859-815-1404  
**E-mail:** swingate@wavefoundation.org

**TEXT:** *Required: Castro, P. and M.E. Huber. 2012. Marine Biology (9<sup>th</sup> ed.). McGraw-Hill, NY*

### Course Description

Introduction to Marine Biology is a course that examines oceans and the life within them. It is divided into four parts. The first introduces the discipline of marine biology and basic material in marine geology, chemistry and physics. The second focuses upon the nature of life in the sea from microbes to marine vertebrates. The third section covers the fundamental principles of ecology and the major ecosystems of the marine environment. Finally, the fourth examines the role of humans on the world oceans.



### Course Objectives

- convey to students a knowledge of the structural components of oceans,
- convey to students a knowledge of diversity of life and ecosystems within the sea,
- convey to students a knowledge of the human interactions on marine systems,
- encourage students to develop critical thinking skill in applying biological concepts to unique situations,
- encourage students to read and comprehend what they read,
- convey to students an enthusiasm for the subject so they will wish to learn more on their own and to equip them with the necessary information to do so.

### Evaluations

• Tests (3 x 50 points each)	150
• Oral Presentation	50
• Worksheet	50
• Lab Notebook	50
• Quizzes (5 x 10 points each)	50
• Attitude and Behavior	50
• Final Exam	<u>100</u>
<b>TOTAL</b>	<b>500</b>

### Grading

465-500 = A
450-464 = B+
415-449 = B
400-414 = C+
365-399 = C
350-364 = D+
300-349 = D
<300 = F

The grade received in the course will be determined from a variety of outcomes; three in-term exams, a comprehensive final exam, an oral presentation, worksheet, lab notebook, and quizzes. All examinations (tests, quizzes and final exam) will primarily consist of objective questions: multiple choice, fill-ins, etc., a few short answer questions and possibly an essay. These exams which will attempt to measure more than your ability to simply memorize facts; i.e. they will include questions which will measure your ability to apply, synthesize, and analyze information. Make-up exams will be given only to those with valid excuses. Otherwise, missed exams will be counted as 0%. In addition, a powerpoint presentation over a topic from Unit 4, also be assigned, along with a worksheet. More details on these as the semester progress. Finally, your attitude, behavior and participation throughout all of the activities will be evaluated accordingly and factored into your over grade.

**Attendance:** Attendance in all activities is required. Each unexcused absence will result in a reduction of 50 points. More than one unexcused absence in lab is grounds for dismissal from the class.

**Academic Dishonesty:** Academic dishonesty is a form of theft. It is inconsistent with the moral character expected of students at a college committed to the spiritual and intellectual growth of the whole person. It is a serious matter and will be dealt with as such. We expect all of our students to abide by the “honor system” and will not tolerate dishonesty of any kind in the class.

**NOTE:** If you have a documented physical or learning disability for which you require special accommodations, please notify us as soon as possible.

**Part One: Principles of Marine Science**

01 (Sept. 8) The Science of Marine Biology Ch 1  
 Activity: *General Walk-through the Aquarium; Video*

**Wed., Sept 09—Marine Biology Lecture Series (6:30-9:30pm)**

02 (Sept. 15) The Sea Floor (DL) Ch 2-3  
 Chemical and Physical Features of Seawater  
 Activity: *WQ Analysis*

03 (Sept. 22) NO CLASS—Fundamentals of Biology  
 Activity: *Taxonomy Exercise (HW Assignment)*

04 (Sept. 29) **EX 1—Chs 1-4** (*Aquarium Observations*)

**Part Two: The Organisms of the Sea**

09 (Oct. 6) Microbes and Primary Producers Ch 5-6  
 Activity: *Microscope Work*

10 (Oct. 13) Invertebrates Ch 7  
 Activity: *Observations*

11 (Oct. 20) Marine Fishes Ch 8  
 Activity: *Form & Function*

12 (Oct. 27) Marine Reptiles, Birds and Mammals Ch 9  
 Activity: *Behind-the-Scenes Operations & Observations*

09 (Oct. 27) **EX II—Chs 4-9** (*Aquarium Observations*)

**Part Three: Structure and Function of Marine Ecosystems**

05 (Nov. 3) Marine Ecology and Intertidal Zones Ch 10  
 Activity: *Carlson Surge Bucket*

06 (Nov. 10) Estuaries and Continental Shelf Ch 11-12  
 Activity: *Shore Gallery and Nitrogen Cycle*

07 (Nov. 17) Continental Shelf and Coral Reefs Ch 13-14  
 Activity: *Coral Propagation System*

08 (Dec. 1) Pelagic Zone and Abyssal Zone Ch 15-16  
 Activity: *Videos and Worksheet*

13 (Dec 8) **EX III—Chs 10-16**; Rough Draft Presentations Due; Discuss Final Exam

**Part Four: Humans and the Sea**

14 (Dec 15) **Final Exam (cumulative)**

**Oral Presentations**

- Resources from the Sea
- The Impact of Humans on the Marine Environment
- The Ocean and Human Affairs

Chs 17-19

Quizzes over the reading assignments will occur at the beginning of each class. Your top 5 quizzes will be counted toward your overall grade.

You will be required to deliver a 15-min PPT presentation a topic from Unit 4 of the textbook. As a group, we will develop a worksheet to be used by teachers and others for self-guided tours.

Further details for these assignments and for the exams will be presented in class as the dates for these approach.

The lab notebook will serve to:

- 1) to summarize the activities for each class meeting, and
- 2) to record the taxonomy and identification of the organisms covered during the activities.

Your attitude, behavior and participation in the class will also factor into your overall grade.

Be sure to ask questions and seek assistance should the need arise.