

BSCI 338 B
MARINE BIOLOGY
Fall 2010

Professor:
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Tu, Th 11.00-12.15 a.m.
Class Room: Room 1238 BiolPsychol Building

Objectives:

This will be a general introduction to the nature of the marine environment, the diversity and evolutionary history of organisms that live in the marine environment, and the primary processes that control the diversity, abundance and distribution of marine life. The course will emphasize the historical processes that have molded the forms, diversity, and ecology of marine life over the last half billion years. We will examine the basic ecological patterns found in all of the major marine habitats and the impact of humans on the marine environment. **There will be a new emphasis this year on sustainability in different marine environments and on sustainability of biodiversity in the seas overall when under human impact.**

Textbook:

Marine Biology (2007, 7th Edition), by Peter Castro and Michael E. Huber, McGraw Hill.

Exams:

The **mid-term exam** (one hour 15 minutes, in class, **Thursday, October 21**) will include material covered up until that time. The **final exam** (2 hours, **Monday, December 13, 8:00-10:00 a.m.**, this room) will be comprehensive but will emphasize the last half of the course. The midterm and final exam questions will cover lecture, discussion, and assigned reading material.

Grading:

Midterm (Thursday, October 21)	40%
Final exam (Monday, December 13, 8:00-10:00 am, this room)	60%

Assignment of grades will be based on:

- A = 90%
- B = 80%
- C = 70%
- D = 60%
- F = 50%

Academic Integrity:

The University has a Code of Academic Integrity, which is available on the web at

<http://www.inform.umd.edu/CampusInfo/Departments/JPO/>. The Code prohibits students from cheating on exams, plagiarizing papers, submitting the same paper for credit in two courses without authorization, buying papers, submitting fraudulent documents, and forging signatures. The University requires that students include the following signed statement on each examination or assignment: "I pledge on my honor that I have not given or received any unauthorized assistance on this examination or assignment". Compliance with the code is administered by an Honor Council. Allegations of academic dishonesty can be reported directly to the Honor Council (314-9154) by any member of the campus community.

Course Outline:

1. History and geophysical structure of the world oceans.
2. Chemical and physical characteristics of seawater and world oceans and its significance for marine organisms.
3. Historical development of the diversity of marine organisms: Marine microorganisms, marine plants, marine invertebrates, marine fishes, reptiles, birds, and mammals.
4. Structure, function **and sustainability** of marine ecosystems: Intertidal communities and estuaries, subtidal communities and continental shelf, kelp forests, coral reefs, open ocean, deep sea communities.
5. Human impact on the sea and its organisms: **Sustainability of the seas.**

Schedule:

<u>Date</u>	<u>Topic</u>	<u>Assigned Reading</u>
Tues. Aug. 31	Introduction, History of the Earth	Chapter 1, 2
Thurs. Sept. 2	The marine environment <i>and its significance</i> for the biota	Chapter 3

Tues. Sept 7	Life history and reproductive strategies in the sea (the history of <i>larvae</i> !!)	Chapter 4
Thurs. Sept. 9	Biodiversity on the globe and in the sea	Chapter 4

Tues. Sept. 14	Marine microorganisms and fungi	Chapter 5
Thurs. Sept. 16	Marine multicellular plants—marine algae	Chapter 6

Tues. Sept. 21	Marine multicellular plants—marine angiosperms	“
Thurs. Sept. 23	Marine invertebrates—sponges, cnidarians, ctenophores	Chapter 7

Tues. Sept. 28	Marine invertebrates—worms	“
Thurs. Sept. 30	Marine invertebrates—mollusks	“

Tues. Oct. 5	Marine invertebrates—arthropods	“
Thurs. Oct. 7	Marine invertebrates—lophophorates, chaetognaths, ecnoderms	“

Tues. Oct. 12	Marine invertebrates—hemichordates, invertebrate chordates	“
Thurs. Oct. 14	Marine vertebrates—fishes	Chapter 8

Tues. Oct. 19	Marine vertebrates—reptiles	Chapter 9
Thurs. Oct. 21	<u>MIDTERM</u>	

Tues. Oct. 26	Marine vertebrates—birds	“
Thurs. Oct. 28	Marine vertebrates—mammals	“

Tues. Nov. 2	What does “sustainability” mean? Special emphasis on the Chesapeake Bay	
	Guest speaker(s), Chapter 10	
Thurs. Nov. 4	Community dynamics and sustainability of rocky, sand, mud intertidal communities	Chapter 11

Tues. Nov. 9	Community dynamics and sustainability of estuaries, salt marshes, mangroves	Chapter 12
Thurs. Nov. 11	Community dynamics and sustainability of subtidal communities and continental shelf	Chapter 13

Tues. Nov. 16	Community dynamics and sustainability of kelp forests	“
Thurs. Nov. 18	Community dynamics and sustainability of coral reefs	Chapter 14

Tues. Nov. 23	Community dynamics and sustainability of epipelagic communities	Chapter 15
Thurs. Nov. 25	<u>THANKSGIVING HOLIDAY</u>	

Tues. Nov. 30	Community dynamics and sustainability of the Deep Sea	Chapter 16
Thurs. Dec. 2	Resources from the sea	Chapter 17

Tues. Dec. 7	Human impacts on the sea	Chapter 18
Thurs. Dec. 9	Sustainability of the Seas	Chapter 19

Mon. Dec. 13	<u>FINAL</u> (8:00-10:00 am, this room)	