

Course Syllabus

Marine Biology

MARS 3450, Fall 2015

Updated 8/14/15



Photo by Dave Cowles, Goodman Creek, WA, July 2002 (http://www.wallawalla.edu/academics/departments/biology/rosario/inverts/Echinodermata/Class%20Asteroidea/Pisaster_ochraceus.html).

Course Summary: This is a survey of the biological diversity of the marine environment, focusing on coastal and nearshore organisms and processes. The goal of the course is to familiarize students with marine organisms and with the ecological interactions that occur in marine environments. The course is meant to complement MARS 4200, Biological & Chemical Oceanography.

The course features 2 field trips. The first is an optional weekend trip to the University of Georgia Marine Institute on Sapelo Island where we will study salt marsh and estuarine habitats and organisms. The second is an afternoon trip to the Dekalb Farmer's Market that includes a short homework assignment on fisheries.

Note that there is no laboratory associated with this course and it does not count as credit for the laboratory requirement of the BIOL major!!!

Pre-requisites: BIOL 1108/1108L and CHEM 1212/1212L

Textbook: “Marine Biology: Function, Biodiversity, Ecology” 4th edition; by Jeffrey S. Levinton; ISBN 978-0-19-985712-8. The textbook is not required; however, some students may find it helpful. Additional reading material (web pages or short articles) will be assigned.

Instructors:

James T. Hollibaugh

Office Hours: Room 248 Marine Sciences Bldg, by appointment.

Contact Info: 706-542-7671 / aquadoc@uga.edu

Brian Binder

Office Hours: Room 290A Marine Sciences Bldg, Mon. 3:00-4:00; Wed 10:30-11:30

Contact Info: 706-542-6408 / bbinder@uga.edu

Lecture: Tuesday and Thursdays, 3rd period (11:00-12:15) in Room 239 Marine Sciences (Building 1030)

Expected Learning Outcomes:

1. Students will be familiar with marine organisms and the ecological interactions that occur within major marine environments.
2. Students will gain experience in data interpretation and synthesis through assignments and participation in discussions of scientific issues.
3. Students have the option of directly experiencing marine habitats through a field trip.
4. Students will be shown how the concepts they have been taught are applied to the management of marine ecosystems.
5. Student mastery of the material will be measured by quizzes, 2 midterm exams and a comprehensive final, as well as occasional homework assignments.

Grades: A-F based on quizzes (1 per lecture [8 pts], 3 lowest dropped, 200 points total), homework assignments (total of 50 points), midterms (2 at 200 points each), final exam (300 points). Students will have the option of excluding either the sum of the quiz grades (with 3 lowest quizzes dropped) or one of the midterms from calculation of the

final grade, i.e. final grade is based on (homework + final + 1 midterm + (1 midterm OR sum of quizzes)).

The following table is a general guide for letter-grade assignment in this course. The exact correspondence between calculated number grades and assigned letter-grades is at the discretion of the instructor.

		659 – 630	B+	569 – 540	C+				
750 – 690	A	629 – 600	B	539 – 510	C	479 – 450	D	<450	F
689 – 660	A-	599 – 570	B-	509 – 480	C-				

Attendance Policy: We will not take attendance in lecture; however, missed quizzes will be graded as zero, there will be no opportunity to make them up and they will not be excused for any reason.

We generally do not allow students to make-up major exams they missed. *However, we will consider make-ups if there are unavoidable circumstances that prevent you from taking a scheduled, but you must contact us BEFORE the exam (for circumstances you know about) or no later than 24 h after the exam (in the case of medical emergencies) to discuss your situation. All excuses must be fully documented. Bogus excuses are an Honor Code violation and may result in a failing grade for the course.*

Withdrawals: Per UGA policy, withdrawals after the add/drop period but before the registrar’s withdrawal deadline will result in a grade of W. Withdrawals are not permitted after the deadline.

Students with Disabilities: Students with disabilities who require accommodations in order to participate in course activities or meet course requirements should contact the course instructors.

Field Trips:

One Saturday afternoon field trip to the Fish Market at the Dekalb Farmers Market. Participation in the Farmers Market trip is part of a homework assignment; alternative arrangements can be made for students who are unable to participate attend.

One additional weekend field trip (Fri - Sun) to Sapelo Island, GA is offered. This trip is entirely optional and no credit will be given for participation. But Sapelo Island is not to be missed! There will be room and board costs (TBD, but ~\$100) associated with this trip.

Expectation of Academic Honesty: All academic work must meet the standards explained in “A Culture of Honesty.” Each student is responsible for informing themselves of these standards before performing any work in this course and for following the UGA Student Honor Code: “I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others.” *A Culture of Honesty*, the University’s policy and procedures handling cases of suspected dishonesty, can be found at www.uga.edu/ovpi.

Course Schedule. *Note: this syllabus is a general plan for the course; deviations may be necessary and will be announced to the class by the instructor. Reading assignments may include online information or files of material to be read for the class. Reading assignments, including the text book, are intended to augment the lecture and their content will be included in exams.*

Be sure to check ‘Lecture Schedule’ on eLC for updates.

Prof*	Date	Lecture Topic	Textbook Chapters	Additional Reading
MARINE ORGANISMS (1)				
August				
BB	Tues	18	Introduction to Marine Biology and the Ocean	Chapter 1
BB	Thurs	20	Primary Production	Chpt 3:60-61; Chpt 9:198-219; Chpt. 10:229-233
BB	Tues	25	Primary Producers	Chpt 7:141-145; Chpt 11
THE MARINE ENVIRONMENT				
AB	Thurs	27	The Physical and Chemical Environment	Chpt 2
September				
AB	Tues	1	Nutrient cycles	Chpt 9:208-214 (rvw)
MARINE ORGANISMS (2)				
BB	Thurs	3	Zooplankton	Chpt 7:145-161
BB	Tues	8	Marine Invertebrates I	Chpt 8:163-165; Chpt 12
BB	Thurs	10	Marine Invertebrates II	"
BB	Tues	15	Fishes	Chpt 8:165-177; Chpt 4:71-72,81-83
BB	Thurs	17	Reptiles & Birds	Chpt 8:185-197
BB	Tues	22	Mammals	Chpt 8:177-185
BB	Thurs	24	MIDTERM EXAM I (11 lectures)	
MARINE HABITATS				
BB	Fri-Sun	25-27	<i>Field Trip to Sapelo Island (optional)</i>	
BB	Tues	29	The Deep Sea	Chpt 8:175-177 (rvw); Chpt 16:404-421

October				
BB	Thurs	1	Hydrothermal vents/ chemoautotrophic ecosystems	Chpt 16: 422-428
BB	Tues	6	Kelp Ecosystems	Chpt 15:366-378
JTH	Thurs	9	Mudflats and Shallow Water Sediments, Seagrasses	Chapter 14
JTH	Tues	14	Estuaries and Salt Marshes	Chapter 14
JTH	Thurs	16	Beaches and Barrier Islands	Chapter 14
JTH	Tues	21	Mangrove Ecosystems	Chapter 14
JTH	Thurs	23	Coral Reefs	Chapter 15
JTH	Tues	28	The Rocky Shore I	Chapter 3, 13, 14
JTH	Thurs	30	The Rocky Shore II	Chapter 3, 13, 14
November				
JTH	Tues	4	<i>MIDTERM EXAM II (10 lectures)</i>	
LIFE IN THE SEA				
JTH	Thurs	6	Biodiversity	Chapter 3, 17
JTH	Tues	11	Social Behavior and Symbiosis	Chapter 6
JTH	Thurs	13	Migration and Navigation	Chapter 6
JTH	Sat	14	<i>Field Trip - Dekalb Farmers Market</i>	
JTH	Tues	18	Fisheries Management	Chapter 18
JTH	Thurs	20	Fisheries management	Chapter 18
	Tues	25	THANKSGIVING HOLIDAY	
	Thurs	27	THANKSGIVING HOLIDAY	
December				
JTH	Tues	2	Eutrophication and Management of estuaries	Chapter 17, 19
JTH	Thurs	4	Ocean acidification/climate change	Chapter 10, 19
	Tues	9	Fri schedule - no lecture	
JTH	Thurs	16	<i>FINAL EXAM: 12:00 - 3:00 pm (8 lectures + review)</i>	
	Mon	22	Grades Due	

* BB = Brian Binder; AB = Adrian Burd (guest lecturer); JTH = James. T. Hollibaugh