

MARS 3450 Marine Biology

Fall 2022 Syllabus

Instructors: Dr. Holly Bik (102 Marine Sciences Building, hbik@uga.edu)
 Dr. Jaclyn Saunders (250 Marine Sciences Building, Jaci@uga.edu)

Office Hours: By appointment (via Zoom); please request meetings via email or eLC

Course Format and Class Timings:

- This course will operate as a “flipped classroom”
- Lectures and course assessments will be asynchronous, posted on eLC
- In-person classroom discussions Tues/Thurs 2:20pm-3:35pm, Marine Sciences 239

Required Course Material:

1. **Textbook**: “*Marine Biology: Function, Biodiversity, and Ecology*” 5th Edition, by Jeffrey S. Levinton. The print book will be available at the UGA Library course reserves, but you are encouraged to rent or purchase your own copy. Prior or more recent editions of this textbook are not acceptable to use because of significant differences in text organization and chapter structure between editions.
2. **Other readings will be assigned, and will be available on eLC**. Please check the course announcements and online course materials frequently.

Course Aims: In Marine Biology we will study the organisms that live in the ocean and learn about the ecosystems they participate in, including human impacts on marine species. The primary focus of this course is the organisms themselves – illustrating how organisms function in an ecological and evolutionary context (from physiology to genetics to behavior). We will cover major groups of marine organisms (primary producers, invertebrates, and vertebrates), as well as selected ecosystems (such as the pelagic environment, coral reefs, the deep sea, and salt marshes).

Week	Dates	Topic	Readings (Levinton 2018, 5 th Ed.)
Introduction to the Marine Environment			
Week 1 Bik/Saunders	Thu Aug 18	Course Intro (instructor, students) Overview of Marine Biology	Ch 1, pp. 1-11
Week 2 Saunders	Tue Aug 23	The Physical and Geological Environment	Ch 2, pp. 12-31
	Thu Aug 25	The Chemical Environment	Ch 2, pp. 24-26 Ch 11, pp. 211-225
Marine Organisms			
Week 3 Saunders	Tue Aug 30	Primary Producers	Ch 8, pp. 145-149 Ch 13, pp. 260-267
	Thu Sept 1	Zooplankton	Ch 8, pp. 149-158
Week 4 Saunders	Tue Sept 6	Marine Bacteria, Archaea & Viruses	Ch 8, pp. 145-149 and 156-157

			Ch 13, pp. 256-257
	Thu Sept 8	Marine Invertebrates (Part 1)	Ch 9, pp. 159-161 Ch 14, pp. 268-296
Week 5 Saunders	Tue Sept 13	Marine Invertebrates (Part 2)	“ “
	Thu Sept 15	Larval Biology	Ch 7, pp. 126-143
Week 6 Saunders	Tue Sept 20	Nekton (Part 1)	Ch 9, pp. 161-179
	Thu Sept 22	Nekton (Part 2)	“ “
Week 7 Saunders	Tue Sept 27	Sea Birds and Reptiles	Ch 9, pp. 179-188
	Thu Sept 29	Marine Mammals	Ch 9, pp. 171-179 Ch 10, pp. 193-195
Ecosystem Processes			
Week 8 Saunders	Tue Oct 4	Marine Primary Production, Nutrient cycles and Biogeochemistry	Ch 11, pp. 219-228 Ch 12, pp. 243-247
	Thu Oct 6	Food Webs & Energy Transfer	Ch 11, pp. 233-234 Ch 12, pp. 239-243
Week 9 (no quiz) Bik	Tue Oct 11	MIDTERM EXAM	--
	Thu Oct 13	Migration & Navigation	Ch 7, pp. 120-125 Ch 10, pp. 197-201
Week 10 Bik	Tue Oct 18	Marine Biodiversity	Ch 20, pp. 445-461 and 466-469
	Thu Oct 20	Social Behavior & Symbioses	Ch 4, pp. 2-54 Ch 17, pp. 383-386 and 393-394
Marine Habitats			
Week 11 Bik	Tue Oct 25	Shorelines (Rocky, Sandy, Mudflats)	Ch 16, pp. 317-359
	Thu Oct 27	Estuaries	Ch 16, pp. 341-349 and 353-363
Week 12 Bik	Tue Nov 1	Coral Reefs (Part 1)	Ch 17, pp. 382-407 Review Ch 5 pp. 86-88
	Thu Nov 3	Coral Reefs (Part 2)	Ch 10, pp. 192-197 and 201-209
Week 13 Bik	Tue Nov 8	Deep-Sea Ecosystems (Part 1)	Ch 18, pp. 409-425
	Thu Nov 10	Deep-Sea Ecosystems (Part 2)	“ “
Week 14 Bik	Tue Nov 15	Chemosynthetic Environments	Ch 18, pp. 425-431
	Thu Nov 17	Kelp, Seagrasses, and Hardbottomed Reefs	Ch 17, pp. 358-382

Week 15 (no quiz) Bik	Tue Nov 22	Mangroves, Salt Marshes, and Blue Carbon	Ch 16, pp. 349-352
	Thu Nov 24	THANKSGIVING – NO CLASS	--
Human Impacts on the Ocean			
Week 16 Bik	Tue Nov 29	Fisheries	Ch 3, pp. 38-45 Ch 21, pp. 471-495 Ch 22, pp. 526-529
	Thu Dec 1	Marine Pollution	Ch 22, pp. 504-526
Mock Final (on eLC)	Available Dec 2-7	Mock Final Exam (optional) – can be used to swap out your lowest quiz grade	
Final Exam Saunders	Tue Dec 13	FINAL EXAM – 3:30-6:30pm	

GRADING: Your overall course grade will be calculated as follows:

- 30% Final Exam
- 20% Midterm Exam
- 30% Quizzes
- 20% Class Participation (**points given for viewing and completing content on eLC ONLY** – no participation credit is associated with attendance at in-person class discussions)

Exams and Quizzes = 80% of the course grade.

These may cover material from lectures, assigned readings (textbook and scientific papers), and video content (links in lectures and videos posted on eLC). Exam dates are listed in the above class schedule, and Quizzes will be posted in eLC (see details below)

Class Participation = 20% of course grade

This will include lecture viewing and completion of other eLC content (quizzes, videos, readings, and other course content posted online). Participation credit will be awarded based on due dates specified in eLC. **Asynchronous lectures on eLC MUST be completed by 11:59pm on the date corresponding to the specific lecture topic (as listed above).**

Students who view a lecture after the due date listed on eLC will not receive participation credit for that lecture; credit is determined according to the eLC timestamp for lecture completion.

Asynchronous lectures will be posted on eLC one week prior to the due date. Full participation credit will be awarded to students with 80% or more of the total possible participation points over the course of the semester. Below this 80% threshold, the credit awarded will equal the % credit earned.

Letter Grades. The following is a general guide for grade assignment in this course. The exact correspondence between calculated numeric grades and assigned letter-grades is at the discretion of the course professor.

		89.99 – 87.00	B+	79.99 – 77.00	C+	69.99 – 60.00	D
100 – 93.00	A	86.99 – 83.00	B	76.99 – 73.00	C	< 60.00	F
92.99 – 90.00	A-	82.99 – 80.00	B-	72.99 – 70.00	C-		

Midterms and Final: The Midterm Exam will account for 20% of the overall course grade and will cover material from the first eight weeks of lectures. The Final Exam will be cumulative (covering material from the entire semester) and will account for 30% of the overall course grade. Midterm and Final exams will contain a mixture of multiple choice, short answer, and essay questions. **For Fall 2022, both Midterm and Final Exams will be TIMED, OPEN BOOK exams completed on eLC during our assigned classroom timeslot.** You will have access to your notes and textbook, however it is critical that you learn the material before the exam; you will not have enough time to look up every answer, and you will struggle to complete short answer and essay questions if you have not been engaged with the course content.

Quizzes: There will be a total of fourteen quizzes over the course of the semester, and the overall average of these quizzes will comprise 20% of the course grade. The lowest three quiz scores will be dropped before the quiz average is calculated. Online quizzes will be posted in eLC and will need to be completed by Sunday each week (online quizzes will close each Sunday at 11:59pm EST). There will be no quizzes during Week 9 (midterms week) or Week 15 (Thanksgiving break). Weekly assessments are a low stakes method that tests your knowledge of the material covered in class – so it is important that you complete the weekly lectures and review the assigned textbook readings.

Make-up policies: Make-up exams will be offered only in the cases of serious medical or other personal emergencies that prevent a student from taking the regularly scheduled exam. Any student who finds themselves in this situation should contact the Dr. Bik and Dr. Saunders before the regularly scheduled exam if at all possible, and in any case not more than 24 hours after the exam. Documentation from a health care provider (in the case of illness), or other sources as appropriate, will be required. The decision to offer a make-up exam is at the sole discretion of the course instructor. If you require a makeup exam, it will contain different questions and may be different in form (in terms of question type and number of questions) than the normal exam taking during the allocated class timeslot.

Learning Objectives:

By the end of this course, students should be able to:

1. Identify and describe the major groups of marine organisms.
2. Compare and contrast the features of different marine habitats, and assess the ecological and evolutionary adaptations of the organisms present in each habitat.
3. Summarize how marine organisms interact with each other and their environment.
4. Interpret and explain scientific figures and technical research articles.
5. Predict the future impacts of human activities on marine organisms and ecosystems.

Online Resources: Updated class schedule and readings, project and exercise information, lecture notes (when available), exam grades, and administrative information will be posted on eLC (<https://uga.view.usg.edu/>).

Disability Accommodations: UGA is committed to providing equal access to learning opportunities for all students. If you have a disability and would like to request specific accommodations, please contact your instructor. If you plan to request accommodations for a

disability, please register with the UGA Disability Resource Center (<https://drc.uga.edu/>) , 114 Clark Howell Hall, Athens, GA 30602. Phone: 706.542.8719 Fax: 706.542.7719 TTY: 706.542.8778 Email: drc@uga.edu

Academic Honesty: As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code. All academic work must meet the standards described in "A Culture of Honesty" found at: <https://honesty.uga.edu/Academic-Honesty-Policy/>. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the course instructors. Honesty is fundamental to everything we do at the University: all meaningful learning and research is predicated on academic honesty. Academic dishonesty harms and degrades your classmates and teachers, and it ultimately harms and degrades you. If you have any questions regarding what constitutes honest or dishonest behavior, your instructor is able to discuss these issues with you.

Peer Tutoring: The Division of Academic Enhancement (DAE) offers free peer tutoring in over 200 of UGA's most rigorous courses including writing tutoring. For more information on how to engage with a Peer Tutor email tutor@uga.edu or visit <https://dae.uga.edu/services/tutoring/>. In addition to peer tutoring, the DAE also provides Academic Coaching, Student Success Workshops and more. The DAE is committed to the success of all students at the University of Georgia. For more on these and other resources, please visit dae.uga.edu.

Syllabus Disclaimer: This course syllabus is a general plan for the course; deviations may be necessary, and any modifications will be announced to the class by the instructor. Updated lecture schedules and other changes will be announced in class and posted on eLC as necessary. Information posted on eLC takes precedence over all previous information.

Instructor Email Policy: Please note that Dr. Bik and Dr. Saunders do not typically check email or eLC messages between 7pm-7am on weekdays, and the course instructors may not check email/eLC at all on the weekends in order to devote time to family and rest. Messages received during these times will receive attention once your course instructors are back online. Otherwise you can expect to receive a response to your message within 24 hours (but often much sooner). If you do not receive a response within 24 hours, please re-send your message in case it got marked as spam or buried in our inboxes.

Well-being, Mental Health, and Student Support: If you or someone you know needs assistance, you are encouraged to contact Student Care & Outreach in the Division of Student Affairs at 706-542-7774 or visit <https://sco.uga.edu/>. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services.

UGA has several resources to support your well-being and mental health: <https://well-being.uga.edu/>. The University Health Center also offers FREE workshops, classes, mentoring and health coaching led by licensed clinicians or health educators: <https://healthcenter.uga.edu/bewelluga/>

Counseling and Psychiatric Services (CAPS) is your go-to, on-campus resource for emotional, social and behavioral-health support: <https://caps.uga.edu/>, TAO Online Support (<https://caps.uga.edu/tao/>), 24/7 support at 706-542-2273. For crisis support: <https://healthcenter.uga.edu/emergencies/>

Coronavirus Information for Students (Updated – Fall 2022)

Wastewater surveillance of the COVID-19 virus currently provides the most accurate assessment of local community transmission levels in Athens, GA:

<https://www.covid19.uga.edu/wastewater-athens.html>

Face coverings:

Following previous guidance from the University System of Georgia, face coverings are strongly recommended for all individuals while inside campus facilities (any indoor spaces). This guidance applies to all individuals, whether vaccinated or not.

How can I obtain the COVID-19 vaccine?

University Health Center is scheduling appointments for students through the UHC Patient Portal (https://patientportal.uhs.uga.edu/login_dualauthentication.aspx). Learn more here – <https://www.uhs.uga.edu/healthtopics/covid-vaccine>

The Georgia Department of Health, pharmacy chains and local providers also offer the COVID-19 vaccine at no cost to you. To find a COVID-19 vaccination location near you, please go to: <https://georgia.gov/covid-vaccine>

In addition, the University System of Georgia has made COVID-19 vaccines available at 15 campuses statewide and you can locate one here: <https://www.usg.edu/vaccination>

What do I do if I have COVID-19 symptoms?

Students showing COVID-19 symptoms should self-isolate and schedule an appointment with the University Health Center by calling 706-542-1162 (Monday-Friday, 8 a.m.-5p.m.). Please DO NOT walk-in. For emergencies and after-hours care, see, <https://www.uhs.uga.edu/info/emergencies>

What do I do if I test positive for COVID-19?

We encourage you to stay at home if you become ill or until you have excluded COVID-19 as the cause of your symptoms. Please refer to current Georgia Department of Public Health (DPH) quarantine and isolation guidance (<https://dph.georgia.gov/covid-19>). You should communicate directly with your faculty to coordinate your coursework while in isolation following a positive COVID test. If you need additional help, reach out to Student Care and Outreach (sco@uga.edu) for assistance.

Guidelines for COVID-19 Exposure and Quarantine Periods

Please refer to current Georgia Department of Public Health (DPH) for current quarantine and isolation guidance following a known COVID-19 exposure (<https://dph.georgia.gov/covid-19>).

Students, faculty and staff who have been in close contact with someone who has COVID-19 are no longer required to quarantine if they have been fully vaccinated against the disease and show no symptoms.

Monitoring conditions:

Note that the guidance referenced in this syllabus is subject to change based on recommendations from the Georgia Department of Public Health, the University System of Georgia, or the Governor's Office or. For the latest on UGA policy, you can visit <http://coronavirus.uga.edu>