

Marine Biology

BIOL2563

Instructor: Trevor Avery

Office: BIO410

Office Hours: Mon/Wed 12:30-1:30 PM or by appointment on Teams

E-mail: trevor.avery@acadiau.ca

Slot: M-W-F (Slot 4)

Room: BAC 132

Time: 11:30–12:20



Evaluation	Percentage	Date
Test #1	25%	2 Oct
Test #2	35%	18 November
Quizzes (4)	20%	Dates in table below Content details provided on Moodle
Final Exam	15%	Online during exam period
Top-up	5 %	Best Test, All quizzes, or Final Exam

Part 1: Course Information

Course Description

An introduction to the oceans and seas of the world and the organisms that live there; the importance of these waters and animals to humans and how both are impacted by society. The diversity and ecology of phytoplankton, zooplankton, invertebrates, fish, mammals, birds, and seaweeds are explored as they relate to marine processes such as tides, currents, ecology, pollution, fisheries, and climate change. Local focus on the Bay of Fundy.

Prerequisite(s): None

Textbook & Course Materials

A textbook is not strictly required. However, reference material for this course will be helpful. Reference material will be posted and/or links created in Moodle. If you review this material, you will succeed.

Course Requirements

1. Access to Moodle. Moodle is the central portal for all course material.
2. Computer or tablet to take online quizzes and tests.
3. Enthusiasm.

Course Structure

Format: Lectures presented in real time.

Slot and Room: M-W-F in-person, Slot 4: 11:30-12:20

Course Delivery

In-person.

Lecture Recordings

Students may not create audio or video recordings without written permission from the instructor.

Student Learning Outcomes

1. Understand and describe ocean formation, sea water properties, waves, currents, and tides.
2. Understand and describe ocean habitats, marine food webs, and marine ecosystems.
3. Identify and know the key characteristics of profiled organisms that inhabit oceans, seas, estuaries, and intertidal zones, the habitats in which each resides, and their life histories in a global context.
4. Relate how organisms interact with their habitat and the diversity of organisms in oceans ecosystems.
5. Understand the historical and current human actions and how they affect oceans.

How to Meet the Learning Outcomes

1. Attend all lectures, take notes, and participate.
2. Read the required readings on Moodle, and the 'really cool articles' for even more background and context.

3. Study on a regular basis to excel on quizzes and tests.

Part 2: Topic Outline/Schedule

Basically, I try to stick to a schedule (see below) and follow most topics with a quiz or mid-term.

Date	Topic	Synopsis	Mark
4 Sep	Course outline	Marine Research @ Acadia	
Intro to Marine Science (6 Sep: 1 Lec)	Introduction to Marine Biology	What is 'Marine'? Research at, in, and on the Sea	
Topic 1 (9, 11 & 13 Sep: 3 Lec)	Ocean Formation	What are 'oceans' and how do they form?	
16 Sep	Quiz #1	Marine Biology + Topic 1	5%
Topic 2 (16, 18 & 20 Sep: 3 Lec)	Sea water, Waves, Currents, and Tides	What is sea water? What are waves, currents, and tides, and how might they influence organisms?	
23 Sep	Guest Lecture – Richard Karsten	Many things about currents and tides	
25 Sep	Quiz #2	Topic 2 + Guest Lecture	5%
Topic 3 (25 Sep: 1 Lec)	Marine Zones	Ocean areas, light penetration, depth, and pressure	
27 Sep	Guest Lecture – Ryan Stanley	Fisheries and Oceans Marine Protected Areas, biodiversity, and zones	
30 Sep	No Classes – T&R Day		
2 Oct	Test #1	All topics and readings to date	25%
Topic 4 (4 Oct: 1 Lec)	Marine Ecology	Marine ecology, ecosystems, and energy	
Topic 5 (7, 9 & 11 Oct: 3 Lec)	Marine Food Webs	Microbes, phytoplankton and zooplankton Microbial Loop	
14-18 Oct	No Classes	Thanksgiving and Fall Study Break	
21 Oct	Quiz #3	Topics 4 and 5	5%
Topic 6 (23 & 25 Oct: 2 Guest Lectures)	Living in the Intertidal Zone – Garrett Allen & Russell Easy	Stress tolerance and adaptations	
Topic 7 (28 & 30 Oct, 1 Nov: 3 Lec)	Coral Reefs	Porifera, Cnidaria, Symbiosis and diversity	
Topic 8 4 Nov	Living with Cold and Ice Guest Lecture – Sherman Boates	Arctic/Antarctic living conditions Cruising the Arctic and biodiversity and all things	
6 Nov	Quiz #4	Topics 6 and 7 + Guest Lectures	5%
Topic 9 (6 & 8 Nov: 2 Lec)	Things that Swim		
11 Nov	No Classes	Remembrance Day	
(13 Nov: 1 Lec)	Things that Swim		
(15 Nov: 1 Lec)	Guest Lecture – Ashley Nicoll	Tracking fish movements	
18 Nov	Test #2	All topics and readings since Test #1	35%
Topic 10 (20, 25 & 27 Nov: 3 Lec)	The Deep Ocean	It's dark and full of life!	
(22 Nov: 1 Lec)	Guest Lecture – Keeler Colton & Leah Creaser	Fishes in Annapolis River	
Topic 11 (29 Nov & 2 Dec: 2 Lec)	Sharks, Skates, and Rays Guest Lecture – Hunter Hogan	Contaminants and sharks!	
4 Dec	Guest Lecture – Marco Turner	Lobster and sharks in Canada and Bahamas	
Final Exam	Available online during exam period	All lectures, guest lectures, and readings on <u>Topics 10 & 11</u> (all material since Test #2)	15%

Part 3: Grading Policy

Quizzes

Quizzes cover the basic material such as terminology of organisms/systems/zones, organism identification, concept matching, and all the 'smaller' things.

1. Each quiz will be delivered on Moodle and completed by each student.
2. Each quiz will be available during lecture as per the Topics Outline section above. Exceptions are outlined for Accessible Learning Services students on Moodle.
3. Once a quiz is started, you will have 10-15 minutes to complete it (sometimes longer, sometimes shorter). Once you begin a quiz, the clock starts. If your quiz times out, your answers to that point will be saved.
4. Your quiz will consist of a selection of questions pulled randomly from a larger set. Your quiz may be very different from your friends.

Tests

Tests are designed to investigate what you have learned in a broader sense. What are the main concepts? Are you able to apply concepts with examples? Do you understand the material, and can you integrate terminology, identification, and all the 'smaller things' in some sensible way? Can you integrate the required readings to support your answers?

1. Each test will be delivered on Moodle and completed by each student, separately **DURING LECTURE TIME**.
2. Once a test is started, you will have 45 minutes to complete it (no more, no less) and it **MUST BE COMPLETED** within the 50 min lecture slot. Once you begin a test, the clock starts so you must start the test within the first 5 minutes of lecture otherwise you won't get full time. If your test times out, your answers to that point will be saved.
3. Your test will be one of several randomly chosen from a larger set. Your test may be very different from your friends, but of equal value and difficulty.

Make-up Grading

Make-up tests for either absence, or poor performance, will not be provided as an option. In the event that you have a valid excuse for missing any quiz or test, the weight from the missed item will automatically be distributed across all other items of the same category. Missed quizzes or tests without a valid excuse from the registrar will result in a mark of zero.

Part 4: Course Policies

1. Complete quizzes and tests as scheduled. If you are unable to do so for an approved reason, please contact me as soon as possible (email is best) **before the quiz or test date**, otherwise see 'make-up grading' above.
2. Come to all classes. There is considerable material presented in class that is not provided on lecture slides or in other material.
3. Login to Moodle **at least once per day** to check for news, participate in discussion forums, and/or check for updated material. From time-to-time I will update course slides if errors are found, or if I find ancillary material that will help you to study.
4. Act accordingly in class. That means no talking or disruption unless it is directly related to the course material as part of a class discussion etc.. If you want to spend your time instant messaging, do so quietly. I am not your guardian, but I will get annoyed.
5. Contact me when you do not know the material. It is impossible to help if you do not contact me.

Part 5: University Policies

University policies are available in the Acadia University Academic Calendar or through the Registrar's website:

<https://registrar.acadiau.ca/welcometotheregistrarsoffice.html>

Covid-19

All students must read and adhere to covid-19 policies found here:

<https://www2.acadiau.ca/covid-19.html>

Missed Classes

University policies on missing classes, etc. can be found here:

<https://registrar.acadiau.ca/RecordsandOtherRequests.html>

Last Drop Day

Last day to drop a course and receive a “W”. Please check the Acadia University calendar dates, which are available here: <https://registrar.acadiau.ca/AcademicCalendars.html>

Inform Your Instructor of Accommodations

Acadia University is dedicated to improving access to campus life for all students with disabilities. While we attempt to ensure that all courses are accessible, we recognize that there are barriers that need to be addressed on an individual basis. Students who require accommodation to complete coursework or otherwise fully participate in class should contact Accessible Learning Services directly as soon as possible. Please visit Accessible Learning Services website or email them at disability.access@acadiau.ca for more information. Accessible Learning Services is in Rhodes Hall, rooms 111-115. <https://www2.acadiau.ca/student-life/accessiblelearning.html>

Equity, Diversity and Inclusion

EDI Acadia University is committed to becoming a culturally safe and anti-oppressive community. This can only be achieved where there are simultaneous efforts to eliminate all forms of discrimination and harassment from our campus community, including the elimination of all discrimination, harassment and violence based on one’s identity, including but not limited to, gender, race, class, ethnicity, sexual orientation, disability, gender identity, gender expression, and Indigeneity.

The Equity, Diversity and Inclusion Officer is available to students, staff, and faculty. The fundamental objective of the Equity Office is to prevent discrimination, sexual harassment, and personal harassment from occurring, in part by managing Acadia’s Policy Against Harassment and Discrimination. For more information, as well as for resources for students who believe they may have experienced or witnessed discrimination, sexual harassment, or personal harassment please contact Acadia’s Equity, Diversity and Inclusion Officer, Polly Leonard, MSW, RSW (she/her/hers) at equity@acadiau.ca, and check out the [website](#).

Commitment to Integrity

Cheating in the lecture and/or lab, including plagiarism, will not be tolerated. Please read the appropriate sections of the current Acadia University Academic Calendar.

<https://registrar.acadiau.ca/AcademicCalendars.html>

If caught cheating you will automatically receive a grade of zero on the quiz/assignment/exam, and your name will be submitted to the registrar. If this is not the first occurrence you will either receive a mark of zero for the course (2nd occurrence) or be expelled from the University (3rd occurrence).

Copywrite

Information on copy-write and course content from Acadia University is available through the Vaughan Memorial Library:

<http://libguides.acadiau.ca/c.php?g=433650&p=5027078>

Information on Acadia’s policy on Lecture Recording

https://ltid.acadiau.ca/files/sites/ltid/resources/documents/guides/Lecture%20Recording%20Policy_Senate%20Approved%2009_14_2020.pdf

Course Content Intellectual Property

The spoken and written and recorded course content (including the syllabus, handouts, lectures, presentations, labs, assignments, lecture videos, quizzes, tests, and exams) are the intellectual property of the instructor and may only be copied for personal use. Sharing these materials or uploading them where they may be accessed by others is a violation of copyright. If you wish to make audio, video, or photographic recordings in class, you must first obtain the consent of the instructor and of any other persons (e.g. guest speakers, other students) who may be captured in such recordings. In the case of personal use by students with disabilities, the instructor's consent shall not be unreasonably withheld. Students with disabilities who wish to request accommodation should contact Accessible Learning Services.