

EOSC 270: Marine Ecosystems

UBC Land Acknowledgement

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəyəm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on in their culture, history, and traditions from one generation to the next on this site

Course Information

Course Title	Course Code Number	Credit Value
Marine Ecosystems	EOSC 270 201	3

Teaching Team

Instructor: Dr. Brian Hunt

Teaching assistant: Brooke Hoppstock-Mattson

Communicating with your Instructor and TA

You can reach your instructor Brian Hunt directly via email at b.hunt@oceans.ubc.ca or through the Canvas inbox. You can reach your TA Brooke Hoppstock-Mattson at bhoppmatt@eoas.ubc.ca or through the Canvas inbox. You can expect to receive a reply within 36 hours except on holidays/weekends.

Course overview

This course offers an introduction for biologically focused undergraduate students into the major marine ecosystems of the world. You will learn about the diversity of marine ecosystems globally and for each: where they occur and how they function, including their environmental characteristics and the unique adaptations of the organisms that inhabit them. You will also consider and learn about the array of human impacts that these ecosystems face, how their ecosystem properties determine their response, and the potential solutions to their preservation.

Learning Goals

1. Describe the diversity of global marine ecosystems;
2. Understand the challenges of life in the different marine ecosystems;
3. Explain how organisms are adapted to the challenges they face in the different marine ecosystems;

4. Explain ecological, physical and chemical processes and interactions that define marine ecosystems;
5. Compare and contrast habitats and ecological processes between any number of marine ecosystems;
6. Knowledge of major human impacts on marine ecosystems;
7. Analyze how the inherent characteristics of an ecosystem may make it resilient or susceptible to anthropogenic threats;

Navigating the Course on Canvas

This document provides an overview of the course. Full detail on all activities, assignments, and grades can be found on the course Canvas page. Please become familiar with the Canvas page.

Use of Microsoft Teams

We will frequently work collaboratively on documents and presentations during class time, using Microsoft Teams. In class, I will share worksheets and PowerPoint files for you to work on with your classmates.

Team Channels will be created for In-Class work groups and for Wiki work groups. Within these channels you can share documents, chat, and conference call.

All UBC students qualify for a free account - find out more information [here](#). I will be asking for everyone's @student.ubc.ca e-mail address, so that I can add you to the EOSC 270 team.

Course Structure

Most classes will have readings that you are expected to complete before class in preparation for group work in class. This will typically take the form of completing one of 5 short readings from the course textbooks or scientific literature that are directly relevant to the upcoming class. **This reading must be briefly summarized and submitted to Canvas and your Groups Team Channel by 10pm on the night before the relevant class.** Readings will be posted at least 5 days before the relevant class.

Classes will take place over zoom. A zoom link to each class can be found on the course Canvas page. Each class will begin with a lecture (30-40 minutes) that will be recorded and posted to Canvas.

Following the lecture, students will be sent to breakout rooms (20-30 minutes) for discussion of pre-class readings.

- Groups for in-class work will comprise 5 students;
- Students will be assigned to Groups for in-class work at the beginning of the semester and these groups will stay the same for the duration of the semester;
- Each group member will have a number from 1-5 and must do the pre-class reading with the corresponding number;

- When breakout rooms are set, students will self-select the number corresponding to their group;
- Within their breakout group, each student will provide an overview of their reading to their group, identifying the key points. They can refer to the summary document that they uploaded to their groups Team Channel.
- Once the students have completed informing each other of the pre-class material they will examine and answer a set of questions posted to the “In-Class Readings and Discussion Groups” channel on Teams. Make a copy of the question file and save it to your group’s private channel. Working in the document, answer the questions.

At the end of the breakout group session you will rejoin the main zoom room for a class discussion about the posted questions.

Learning Materials

You are required to purchase or rent copies of the two textbooks below. Both textbooks will be used throughout the semester for in class assignments. They provide a valuable source of information on topics relevant to the course. Both textbooks are available online through Redshelf or Vitalsource:

1. **Marine ecology: processes, systems, and impacts** / Michel J. Kaiser [and others]; with contributions from Peter J. le B. Williams [and others]. 2020
 - <https://www.vitalsource.com/en-ca/products/marine-ecology-v9780192522856>
 - <https://www.redshelf.com/>
2. **Marine biology: function, biodiversity, ecology** / Jeffrey S. Levinton, Stony Brook University. 2018
 - <https://www.vitalsource.com/en-ca/products/marine-biology-jeffrey-levinton-v9780190681289?term=Marine+biology+%3A+function%2C+biodiversity%2C+ecology>
 - <https://www.redshelf.com/>

Class schedule

Class will be held on Tuesday and Thursday every week from 15:30 to 17:00 Pacific Standard Time (PST).

Date	Pre-Class	Class	
		Class Lecture (30-40 min)	Class activity (30-40 min)
12-Jan-21	Read course syllabus	Course Introduction	Icebreaker
14-Jan-21	Review UBC wiki materials and course site; Make user page	MANDATORY CLASS; Foundations of marine life	Wiki intro; human impacts brainstorm; assign groups and topics (team page)
19-Jan-21	Intertidal readings	Intertidal	Present and discuss readings; answer discussion questions
21-Jan-21	Rocky shore readings	Rocky Shore	Present and discuss readings; answer discussion questions

26-Jan-21	Soft bottom readings	Soft bottom	Present and discuss readings; answer discussion questions
28-Jan-21	Kelp readings	Kelp	Present and discuss readings; answer discussion questions
2-Feb-21	UBC wiki draft and peer review	MANDATORY CLASS	UBC wiki In class peer-review and feedback
4-Feb-21	Estuary readings	Estuary Part 1	Present and discuss readings; answer discussion questions
9-Feb-21	Estuary readings	Estuary Part 2	Review
11-Feb-21		MIDTERM EXAM	1.5 hours
15-19 Feb	Midterm Break		
23-Feb-21	Epipelagic readings	Epipelagic Part 1	Present and discuss readings; answer discussion questions
25-Feb-21	Epipelagic readings	Epipelagic Part 2	Present and discuss readings; answer discussion questions
2-Mar-21	Mesopelagic readings	Mesopelagic	Present and discuss readings; answer discussion questions
4-Mar-21	Bathypelagic readings	Bathypelagic	Present and discuss readings; answer discussion questions
9-Mar-21	Submit human impacts presentation by 8 Mar., 10pm.	MANDATORY CLASS	Human impacts presentations
11-Mar-21		MANDATORY CLASS	Human impacts presentations
16-Mar-21	Deep sea readings	Deep sea floor	Present and discuss readings; answer discussion questions
18-Mar-21	Hydrothermal vent readings	Hydrothermal vents	Present and discuss readings; answer discussion questions
23-Mar-21	Diversity reading	MANDATORY CLASS; iNaturalist - what it is and set up	*Diversity* readings & report back
25-Mar-21	Whale fall readings	Whale Falls	Present and discuss readings; answer discussion questions
30-Mar-21	Coral reef readings	Coral Reef Part 1	Present and discuss readings; answer discussion questions
1-Apr-21	Coral reef readings	Coral Reef Part 2	Present and discuss readings; answer discussion questions
6-Apr-21	Polar readings	Polar Ecosystem Part 1	Present and discuss readings; answer discussion questions
8-Apr-21	Polar readings	Polar Ecosystem Part 2	Present and discuss readings; answer discussion questions
13-Apr-21		Last lecture - review	
TBD		FINAL EXAM	2.5 hours

Assessment

Your instructor and TA will assess you on several different learning tasks, which are designed to help you achieve the course's learning outcomes. Deadlines for each major assignment are detailed in the table below.

Task	Due date (times are PST)	Individual grade (% of total)	Group Grade (% of total)
UBC Wiki Page on human impacts on the ocean			
Wiki page outline	19 Jan., 10pm	0	2.5
Wiki Page Draft 1	28 January, 10pm	7.5	2.5
Wiki page Draft 1 peer review	1 Feb, 10pm	2.5	
Wiki Page Final Version	26 February, 10pm	5	5
Human impacts presentation submission	8 Mar., 10pm		
Human impacts presentation delivery	9 Mar., 3:30pm	5	5
<i>Sub-Total</i>		<i>20</i>	<i>15</i>
Biodiversity assignment	30 March, 10pm	10	
Participation Pre-class reading summary & In-class participation	NA – all classes	15	
Exams			
Midterm	11 February, 3:30-5pm	15	
Final	TBD (2.5 hours)	25	
<i>Sub-Total</i>		<i>40</i>	
Total			100

- **Wiki Page on human impacts on the ocean** – detailed descriptions and grading rubrics for the UBC Wiki Page assignments and associated presentation will be provided on Canvas.
- **Biodiversity Assignment** – a detailed description and grading rubric will be provided on Canvas.
- **Class Participation** – this will be assessed based on a combination of:
 - 1) Pre-class reading summary completed by each student and posted to Canvas before class. The 15 best submissions will be used for the final grade.
 - 2) In-class participation in your assigned Group's discussion – based on self and peer review.

For classes where there is no Group discussion, an in-class quiz will be posted related to assigned readings.

- **Mid-term exam** will be held during class on February 11th, 15-30-17:00 (PST). The exam will be on all subject matter covered during the course up to that point, including lectures, readings, and group discussion topics. The exam will be open book.
- **Final Exam** will take place at the end of the semester between 18-29 April, at a date and time TBD. The exam will cover all of the course content. The exam will be 2.5 hours long and will be open book.

University Policies

Resources to support student success

UBC provides resources to support student learning and to maintain healthy lifestyles, but recognizes that sometimes crises arise and so there are additional resources to access, including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated, nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty, and students are expected to acknowledge the ideas generated by others, and to uphold the highest academic standards in all of their actions.

Details of the policies and how to access support are available on [the UBC Senate website](#).

Statement regarding online learning for international students

During this pandemic, the shift to online learning has greatly altered teaching and studying at UBC, including changes to health and safety considerations. Keep in mind that some UBC courses might cover topics that are censored or considered illegal by non-Canadian governments. This may include, but is not limited to, human rights, representative government, defamation, obscenity, gender or sexuality, and historical or current geopolitical controversies.

If you are a student living abroad, you will be subject to the laws of your local jurisdiction, and your local authorities might limit your access to course material or take punitive action against you. UBC is strongly committed to academic freedom, but has no control over foreign authorities (please visit <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,33,86,0> for an articulation of the values of the University conveyed in the Senate Statement on Academic Freedom). Thus, we recognize that students will have legitimate reason to exercise caution in studying certain subjects. If you have concerns regarding your personal situation, consider postponing taking a course with manifest risks, until you are back on campus or reach out to your academic advisor to find substitute courses. For further information and support, please visit: <http://academic.ubc.ca/supportresources/freedom-expression>.

Other Course Policies

Illness and Late assignments

All assignments are due at the specified date and time, and a penalty of -10% per day (24 hours) will apply to late assignments. If you are in a time zone where the usual (10 pm Pacific Time) deadline would be impractical, please reach out to your instructor to discuss an alternative deadline.

Exceptions to the late penalty will be made if students request an academic concession for medical reasons, on compassionate grounds, or in certain cases of conflicting responsibilities. Please refer to UBC's policy on [Academic Concession](#) for details. To apply for an academic concession, please inform your instructor as soon as possible, and fill out the "Student Declaration of Academic Concession" form (posted to Canvas).

Technological requirements

Because EOSC 270 is being held online this term, you will require internet access and a computer with a webcam and a microphone. You are strongly encouraged to turn on your webcam during small group discussions in class; if problems with your internet connection prevent you from doing so, we suggest that you select a photo to use as an avatar to help build community within the class.

In the event that problems with technology or your internet connection limit your ability to participate in EOSC 270, please inform your instructor as soon as possible. You can also reach out to [Science Advising](#) to discuss access to technology.

For some pre-class activities, you will be asked to read articles or watch videos that are hosted on external websites (i.e., outside of Canvas). If you have trouble accessing these resources from your location, one option may be to use the [UBC VPN](#) (Virtual Private Network). Using the UBC VPN will also enable you to access many resources through the UBC Library's online collections.

Plagiarism and Academic INTEGRITY

All submitted writing must be your original work. While you are encouraged to seek support and feedback on your writing (e.g., from the services mentioned under "Learning Resources"), it is unacceptable to have others write your assignments on your behalf.

Students are expected to be aware of the UBC policies on [academic honesty](#) and [academic misconduct](#), published in the UBC Calendar, and to adhere strictly to them for all work in this course.

As a student, your number-one task is to learn new things. Just like your professors, however, you are a member of a university. As a part of a research community, you are responsible for

engaging with existing knowledge and contributing ideas of your own. Academics—including you!—build knowledge through rigorous research that expands on the contributions of others, both in the faraway past and around the world today. This is called scholarship. Academic integrity, in short, means being an honest, diligent, and responsible scholar. We don't expect you to write a "perfect" paper; but we do expect you to do your work with academic integrity. In EOSC 270, this includes:

- Creating and expressing your own original ideas
- Engaging with the ideas of others, both past and present, in a variety of scholarly platforms such as research journals, books by academics, lectures, etc.
- Explicitly acknowledging the sources of your knowledge, especially through accurate citation practices
- Completing assignments independently or acknowledging collaboration when appropriate

Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President's Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

This information was adapted from the UBC Learning Commons' [guide to understanding academic integrity](#).

Copyright

All materials of this course (course handouts, lecture slides, assessments, course readings, etc.) are the intellectual property of the Course Instructors, or licensed to be used in this course by the copyright owner. Redistribution of these materials by any means without permission of the copyright holder(s) constitutes a breach of copyright and may lead to academic discipline.

Classes and office hours will be held through Zoom, which is integrated with our Canvas course. Please note that Zoom lectures will be recorded and posted to Canvas – all recordings will be kept secure, and will only be available to students enrolled in the course. Do not distribute recordings of the class sessions as doing so is a copyright violation as well as violation of your classmates' and instructor's privacy.

Resources for Academic Success and Wellbeing

UBC's [Academic Success website](#) can direct you to resources that will help you develop a strong plan for meeting your academic goals.

Your ability to meet your academic goals at UBC is related to your physical and mental health. [UBC Student Services](#) and the [Alma Mater Society](#) both provide services designed to support

your health and overall wellbeing. We advise and encourage you to explore and make use of these services.