BIOLOGY 319
Marine Ecology

Prof. Benjamin Neal
Spring 2023, January 12- April 6
Office: Petch 009: Office Hours: Thursdays 10:30-12:00. Email: benjaminpneal@uvic.ca
Lectures: Tuesday, Wednesday, and Friday 12:30 pm - 1:20 pm, Cornett Building B135.

Lab instructors:
Caitlyn Donadt: cdonadt@uvic.ca
Kaitlyn Zerr: kzerr@uvic.ca

Course description: Building upon an understanding of basic ecological and evolutionary principles, and a familiarity with the major marine invertebrate and algal taxa, this course examines patterns and processes at the organismal, population and community levels that shape the diversity and distribution of life in the sea.

Learning objectives:

1. To develop an understanding of the science of ecology as it applies to marine ecosystems
2. To develop an understanding of community ecology in a diverse array of marine ecosystems ranging from the tropics to the polar regions
3. To explore major patterns of biodiversity (causes and effects) in the ocean
4. To develop applied skills for studying marine ecology (intertidal field sampling, image analysis, statistical skills, etc.)

I acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.

Evaluation:

Lab 40%
1st in-class exam: 20%
2nd in-class exam: 20%
3rd in-class exam: 20%

Lab mark break down (40% total):

Lab assignment 1 stats 1%
Trawling lab report 4%
Field report 1 10%
Field report 2 10%
Coral reefs report 10%
General lab conduct and participation 5%

Text: There is no textbook for this class. Readings will be posted on the class Schedule. Lab outlines will be made available on Brightspace a few days before the lab.

Lectures and labs: Lectures and labs will be delivered in-person unless health guidelines change. In-person lectures will be recorded as much as possible using Echo360 to allow students who are not able to attend to watch later, but please be aware that this may not occur so it is best to attend lectures if possible. Do not attend lectures if you are ill. Lecture recordings will be posted on Brightspace. Dates and content for lectures and labs will be posted on the online Schedule, and is subject to change as the course unfolds, so please check it often.

Class information: All course information including lectures PDFs, lab materials, guidelines for assignments, grades, etc will be communicated and delivered via Brightspace.

Lecture topic outline:
In this course we will survey the following marine ecosystems, and discuss the physical and biological features of these systems. Our focus will be on community interactions, food webs, and human impacts:

- Shore ecosystems (rocky and sandy beaches)
- Kelp forests
- Eelgrass Meadows
- Saltmarsh ecosystems
- Mangrove forests
- Coral reefs
- Deep-sea communities (abyssal planes, hydrothermal vents, whale falls, seamounts, etc.)
- Polar ecosystems
- Temperate estuarine anadromous ecosystems

Field trip: There will be one extracurricular evening field trip in the course to a local beach ecosystem in order to collect samples to be used in the lab analysis. More information will be available on the schedule. Likely date: Friday 20 January, 8:00-10:00PM (low tide 9:44PM).