

This syllabus is a general representation of the course as previously offered and is subject to change.

BIOL 409 – Field Course in Ecology

General Course Syllabus (as of June 2019)

About the Course:

Course Description: A two- to three-week intensive course in field methods used in ecology. Each year, students will travel to select destinations to conduct field-based research projects on ecology in an immersed learning atmosphere. Fieldwork for this course is normally in the summer, and a fee will be assessed for living and traveling expenses. Pre-registration required.

Course Format: Field course

Credits: 3

Prerequisites: BIOL 230 and one of BIOL 300, STAT 200. (BIOL 306 is recommended.)

Course content, location, and instructors vary each year. For more information about a specific term's learning outcomes, required materials, grading scheme, and schedule, please contact the instructors listed below.

Past BIOL 409 examples:

- **Summer 2019 - Canada's Arctic**, July 15th to 21st, 2019.

The Arctic encompasses 40% of Canada's land mass and is home to one of the most unique ecosystems in the world. This region is facing severe challenges because temperatures in the Canadian Arctic are warming faster than anywhere else on the planet. This Arctic Ecology field course takes place in Cambridge Bay, Nunavut, an Arctic hamlet (popn=1700) on Victoria Island. Cambridge Bay is 350 km north of the Arctic Circle and home to the new Canadian High Arctic Research Station. The class will cover the ecophysiology, functional morphology, population and community ecology, and thermal biology of Arctic flora and fauna.

The class is intensive. Days will be long (24 hours of sun!) and filled with lectures, paper discussion, and student-lead research projects. Some of the incredible local wildlife in the region include tundra plants and lichen, countless Arctic shallow lakes and ponds, polar bears, muskox, caribou, seals, Arctic fox, lemmings, rock ptarmigan, and mosquitoes. Students should be prepared to work outdoors in rough (and potentially very buggy) conditions.

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

- Describe key physiological and ecological processes using Arctic examples.
- Design, conduct, analyze, present, and write-up an outdoor, arctic-based research project.
- Interpret, critique, and synthesize primary literature in arctic ecology.

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- Understand the importance of traditional ecological knowledge and Inuit and First Nations partnerships in conducting research in the Arctic.

Instructors: Dr. Sean Michaletz, sean.michaletz@botany.ubc.ca and Dr. Michelle Tseng, tsengm@mail.ubc.ca

▪ **Summer 2018 – Ecology of the Marine Environment**, April 26th to May 12th, 2018.

This course covers the ecology of the marine environment, with a focus on the rocky coastlines of western North America. The emphasis is on field work, but this will be complimented by lectures, laboratory activities, and group discussions. The goals of the course are to foster an appreciation of marine ecological processes, highlight recent scientific advances, and provide hands on research experience including independent project work. Field sites: We will visit four field sites spanning 15 degrees of latitude: Calvert Island (Hakai), BC; Charleston, OR; Bodega Bay, CA; and Monterey / Pacific Grove, CA. See the schedule sheet.

By the end of this course a student will be able to:

- Understand the ecological forces that structure coastal marine ecosystems.
- Identify many of the common plants and animals that live in the intertidal zone.
- Describe large scale biogeographic patterns and their causes.
- Develop and test hypotheses related to large-scale ecological variation.
- Select and implement appropriate field sampling techniques.
- Clearly present scientific results in oral and written formats.

Instructor: Dr. Chris Harley, harley@zoology.ubc.ca

University Policies:

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, spiritual and cultural 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.