ORIGINAL COURSE IMPLEMENTATION DATE: September 2007

REVISED COURSE IMPLEMENTATION DATE: September 2022

COURSE TO BE REVIEWED (six years after UEC approval)**:** January 2028

Course outline form version: 05/18/2018

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: BIO 410	**Number of Credits:** 4 Course credit policy (105)

Course Full Title: Plant Ecology

Course Short Title:

(Transcripts only display 30 characters. Departments may recommend a short title if one is needed. If left blank, one will be assigned.)

Faculty: Faculty of Science	**Department (or program if no department):** Biology

Calendar Description:

Examines the interactions of plants with their abiotic and biotic environment, population biology, the structure and dynamics of plant communities, ecosystems, landscapes, and climate. Field methods and analysis techniques for studying plant ecology will be covered.

Note: This course is offered as BIO 410 and GEOG 410. Students may take only one of these for credit.

Prerequisites (or NONE):	BIO 210 or GEOG 219/BIO 219.
Corequisites (if applicable, or NONE):	
Pre/corequisites (if applicable, or NONE):	

Antirequisite Courses *(Cannot be taken for additional credit.)*

Former course code/number:

Cross-listed with: **GEOG 410**

Dual-listed with:

Equivalent course(s): **GEOG 410**

(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)

Typical Structure of Instructional Hours

Lecture/seminar hours	45
Tutorials/workshops	
Supervised laboratory hours	45
Experiential (field experience, practicum, internship, etc.)	
Supervised online activities	
Other contact hours:	
Total hours	**90**

Labs to be scheduled independent of lecture hours: No Yes

Special Topics *(Double-click on boxes to select.)*

This course is offered with different topics:

☒ No ☐ Yes *(If yes, topic will be recorded when offered.)*

Independent Study

If offered as an Independent Study course, this course may be repeated for further credit: *(If yes, topic will be recorded.)*

☒ No ☐ Yes, repeat(s) ☐ Yes, no limit

Transfer Credit

Transfer credit already exists: *(See **bctransferguide.ca**.)*

☒ No ☐ Yes

Submit outline for (re)articulation:

☒ No ☐ Yes *(If yes, fill in transfer credit form.)*

Grading System

☒ Letter Grades ☐ Credit/No Credit

Maximum enrolment (for information only): 24

Expected Frequency of Course Offerings:

Once every two years *(Every semester, Fall only, annually, etc.)*

Department / Program Head or Director: Gregory Schmaltz	**Date approved:**	September 2021
Faculty Council approval	**Date approved:**	October 8, 2021
Undergraduate Education Committee (UEC) approval	**Date of meeting:**	January 28, 2022

Learning Outcomes:

Upon successful completion of this course, students will be able to:

1. Compare methods of sampling vegetation in the field.
2. Assess and describe a plant community.
3. Develop a detailed understanding of the unique ecological adaptations of plants.
4. Analyze and interpret field and experimental data.
5. Compare and measure the biotic and abiotic influences on plant distribution.
6. Predict how a plant community might change over time.
7. Collaborate effectively with others in a group project.
8. Evaluate indigenous plant management impacts on plant distribution and biodiversity.

Prior Learning Assessment and Recognition (PLAR)

☒ Yes ☐ No, PLAR cannot be awarded for this course because

Typical Instructional Methods *(Guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion.)*

Course format will include lectures, laboratory sessions, and field trips. Laboratory exercises and assignments are designed to supplement theory presented during lectures.

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Typical Text(s) and Resource Materials *(If more space is required, download Supplemental Texts and Resource Materials form.)*

	Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1.	Gurevitch, J., Scheiner, S.M., and Fox, G.A.	The Ecology of Plants		Sinauer	2020
2.	Pojar, J. and MacKinnon, A. (eds)	Plants of Coastal British Columbia		Lone Pine	2016
3.					

Typical Evaluation Methods and Weighting

Final exam:	40%	Lab exercises:	30%	Field project:	%	Other:	%
Midterm exam:	20%	Project:	10%	Practicum:	%	Total:	100%

Details (if necessary):

Typical Course Content and Topics

- Autecology of individual plants
- Abundance and distribution
- Populations
- Synecology: communities, classification, and ordination
- Ecosystems: an introduction to succession
- Primary and secondary succession
- Plant-environment interactions
- Mineral cycles
- Soils
- Water
- Climates and ecosystems, use of geographic information systems

Laboratory topics: (field work for the labs will be done in several areas of the UFV campus)

- Plant identification: students will collect and identify plants on campus
- Plant identification
- Pollination
- Competition
- Biodiversity indices: Students will measure the abundance and distribution of plants in several areas on campus and calculate the biodiversity.
- Vegetation description and analysis: Students will identify different plant groups on campus after reading Samantha Muller, Steve Hemming, Daryle Rigney. Indigenous sovereignties: relational ontologies and environmental management. Geographical Research, 2019; DOI: 10.1111/1745-5871.12362, an in-lab discussion will follow on indigenous land management.
- Species distribution along environmental gradients
- Classification and ordination
- Soil profiles
- Water tables
- Biotic legacy, seed banks