UNIVERSITY OF THE FRASER VALLEY

ORIGINAL COURSE IMPLEMENTATION DATE: November 1993
REVISED COURSE IMPLEMENTATION DATE: September 2017
COURSE TO BE REVIEWED: (six years after UEC approval) March 2023
Course outline form version: 09/15/14

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

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

Course Code and Number: BIO 210	**Number of Credits:** 4 Course credit policy (105)
Course Full Title: Introduction to Ecology **Course Short Title (if title exceeds 30 characters):**	
Faculty: Faculty of Science	**Department (or program if no department):** Biology

Calendar Description:

This course is an introduction to the basic principles of ecological theory relating to the structure and function of ecosystems and examines the various ways in which organisms interact.
Note: Field trips outside of class time are required.

Prerequisites (or NONE):	BIO 111 and BIO 112. Note the prerequisite will be waived for students who have completed the Agriculture Technology diploma. Contact the Biology department to arrange a prerequisite waiver. Note: As of January 2018, prerequisites will change to: One of the following: (BIO 112 and CHEM 114) or (BIO 111, [CHEM 110 or CHEM 113], and [two of the following: AGRI 123, AGRI 124, AGRI 129, AGRI 163, AGRI 203, AGRI 204, or AGRI 220]), all with a C+ or better.
Corequisites (if applicable, or NONE):	
Pre/corequisites (if applicable, or NONE):	

Equivalent Courses (cannot be taken for additional credit)
Former course code/number:
Cross-listed with:
Equivalent course(s):
Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.

Transfer Credit
Transfer credit already exists: ☒ Yes ☐ No
Transfer credit requested (OReg to submit to BCCAT):
☐ Yes ☒ No (if yes, fill in transfer credit form)
Resubmit revised outline for articulation: ☐ Yes ☒ No
To find out how this course transfers, see **bctransferguide.ca**.

Total Hours: 90
Typical structure of instructional hours:

Lecture hours	45
Seminars/tutorials/workshops	
Laboratory hours	45
Field experience hours	
Experiential (practicum, internship, etc.)	
Online learning activities	
Other contact hours:	
Total	**90**

Special Topics
Will the course be offered with different topics?
☐ Yes ☒ No
If yes, different lettered courses may be taken for credit:
☐ No ☐ Yes, repeat(s) ☐ Yes, no limit
Note: The specific topic will be recorded when offered.

Maximum enrolment (for information only): 24

Expected frequency of course offerings (every semester, annually, every other year, etc.): annually

Department / Program Head or Director: Allan Arndt	**Date approved:**	November 25, 2016
Faculty Council approval	**Date approved:**	January 6, 2017
Campus-Wide Consultation (CWC)	**Date of posting:**	March 17, 2017
Dean/Associate VP: Lucy Lee	**Date approved:**	January 6, 2017
Undergraduate Education Committee (UEC) approval	**Date of meeting:**	March 24, 2017

Learning Outcomes

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

1. Explain how global climate patterns determine the distribution of Earth's major biomes
2. Discuss basic ecological processes that affect individuals, populations, and communities of organisms
3. Identify local plant species
4. Conduct basic vegetation surveys
5. Make assessments of habitat and community structure.
6. Apply statistical analyses to ecological data and present this information in both written and oral formats

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)

Instruction will include a combination of lectures, group work in class, video and oral presentations, laboratory and field exercises, as well as design and execution of a group field investigation.

Grading system: Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☒ No ☐

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.	Smith/Smith	Elements of Ecology with MasteringBiology		Cummings	2014

Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)

Typical Evaluation Methods and Weighting

Final exam:	30%	Assignments:	10%	Midterm exam:	20%	Practicum:	%
Quizzes/tests:	%	Lab work:	%	Field trip written report:	15%	Shop work:	%
In-class participation:	5%	In-class oral presentation:	5%	Stream ecology report:	15%	Total:	100%

Typical Course Content and Topics

Life and the physical environment
Physical conditions, climate patterns
Climate diagrams and the major terrestrial biomes
Life in water – zonation and nutrient flow
Response to changing essential conditions
Temperature
Water
Energy and nutrients
Succession
Population processes
Distributions and life history patterns
Growth and dynamics
Dispersal and metapopulations
Interactions
Competition
Parasitism and mutualism
Communities
Community structure and food webs
Nutrient cycling
Landscape ecology and conservation

Laboratory Exercises

1. Tree, shrub, and ground cover identification in the woodlot. Students will be introduced to sampling methods and local plant identification.
2. Plant diversity in a raised bog. Students will travel to Derby Reach to investigate plant diversity in this unique community and apply statistical measures to look for variance and correlations in sampling.
3. Soil invertebrates. The class will collect litter/soil samples and learn to use a key to identify the common invertebrates present.
4. The class will learn stewardship techniques for monitoring and improving habitat quality in local streams by quantifying physical conditions as well as assessing the invertebrate community and phytoplankton levels.
5. A field trip component will also introduce students to developing and testing their own hypotheses. Groups of students will develop their own investigation on the consequences environmental gradients have on the makeup of communities.