



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

November 1993  
 September 2017  
 January 2023

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

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

<b>Course Code and Number:</b> BIO 210		<b>Number of Credits:</b> 4 <a href="#">Course credit policy (105)</a>																	
<b>Course Full Title:</b> Introduction to Ecology <b>Course Short Title (if title exceeds 30 characters):</b>																			
<b>Faculty:</b> Faculty of Science		<b>Department (or program if no department):</b> Biology																	
<b>Calendar Description:</b> <p>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.</p> <p>Note: Field trips outside of class time are required.</p>																			
<b>Prerequisites (or NONE):</b>		One of the following: BIO 112 or (BIO 111, AGRI 163, and AGRI 203).																	
<b>Corequisites (if applicable, or NONE):</b>																			
<b>Pre/corequisites (if applicable, or NONE):</b>																			
<b>Equivalent Courses (cannot be taken for additional credit)</b> Former course code/number: Cross-listed with: Equivalent course(s): <i>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.</i>		<b>Transfer Credit</b> Transfer credit already exists: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Transfer credit requested (OReg to submit to BCCAT): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form) Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> .																	
<b>Total Hours: 90</b> <b>Typical structure of instructional hours:</b> <table border="1"> <tr> <td>Lecture hours</td> <td>45</td> </tr> <tr> <td>Seminars/tutorials/workshops</td> <td></td> </tr> <tr> <td>Laboratory hours</td> <td>45</td> </tr> <tr> <td>Field experience hours</td> <td></td> </tr> <tr> <td>Experiential (practicum, internship, etc.)</td> <td></td> </tr> <tr> <td>Online learning activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td><b>Total</b></td> <td><b>90</b></td> </tr> </table>		Lecture hours	45	Seminars/tutorials/workshops		Laboratory hours	45	Field experience hours		Experiential (practicum, internship, etc.)		Online learning activities		Other contact hours:		<b>Total</b>	<b>90</b>	<b>Special Topics</b> Will the course be offered with different topics? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, different lettered courses may be taken for credit: <input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit <i>Note: The specific topic will be recorded when offered.</i>	
Lecture hours	45																		
Seminars/tutorials/workshops																			
Laboratory hours	45																		
Field experience hours																			
Experiential (practicum, internship, etc.)																			
Online learning activities																			
Other contact hours:																			
<b>Total</b>	<b>90</b>																		
		<b>Maximum enrolment (for information only):</b> 24 <b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> annually																	
<b>Department / Program Head or Director:</b> Allan Arndt		<b>Date approved:</b> July 27, 2016																	
<b>Faculty Council approval</b>		<b>Date approved:</b> October 2016																	
<b>Campus-Wide Consultation (CWC)</b>		<b>Date of posting:</b> November 18, 2016																	
<b>Dean/Associate VP:</b> Lucy Lee		<b>Date approved:</b> October 2016																	
<b>Undergraduate Education Committee (UEC) approval</b>		<b>Date of meeting:</b> January 27, 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 stream habitat and water quality
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

### Typical Evaluation Methods and Weighting

Final exam:	30%	Assignments:	10%	Midterm exam:	20%	Field trip written report:	15%
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.