



BIOL-204 – Introduction to Ecology

University Arts and Science

Effective Term & Year: Fall 2023
Course Outline Review Date: 2028-03-01

Program Area: Math and Sciences

Description:

This course studies the interactions between organisms and their environment at the organismal, population, community, and ecosystem levels. Topics considered include energy flow, nutrient cycling, organismal ecology, population growth, regulation and dynamics, species interactions, community structure, ecological succession, biodiversity, conservation, and evolutionary processes. Lab activities support lecture material allowing students to apply ecological concepts and theories by testing ecological hypotheses. Students gain local natural history knowledge and employ various quantitative methods to collect, analyze, and interpret ecological data from field studies and experiments.

Program Information:

This course is required as part of the core courses for a science degree in biology. Once this course is mastered, one would be prepared for related third and fourth year courses at the university level.

Delivery Methods: On-campus (Face-to-Face)

Credit Type: College of the Rockies Credits

Credits: 3

Course type/s: Lab Sciences, Sciences

Instructional Activity and Hours:

Activity	Hours
Classroom, Directed Studies or Online Instruction	45
Seminar/Tutorials	
Laboratory/Studio	45
Practicum/Field Experience	
Co-op/Work Experience	
Other	
Total	90

Course Requisites:

- Completed the following:
 - [BIOL101](#) – Introduction to Biology 1 (3)
 - [BIOL102](#) – Introduction to Biology 2 (3)

Flexible Assessment: Yes

In some cases students may be able to apply for recognition of prior learning outside the classroom. This flexible assessment process provides equivalent course credit. It is a rigorous process that may include external evaluation, worksite assessment, demonstration, standardized test, self-assessment, interview, products/portfolio, and challenge exam, or other measures as appropriate. Tuition fees apply. Contact an education advisor for more information.

Course Transfer Credit:

For information about receiving transfer credit for courses taken at either British Columbia or Alberta institutions, please see <https://www.bctransferguide.ca/> or <https://transferalberta.alberta.ca> . For more transfer credit information, please visit <https://www.cotr.bc.ca/Transfer>

All requests for course transfer credit from institutions in British Columbia or elsewhere should go to the College of the Rockies Enrolment Services office.

Textbook Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

Relyea. 2021. Ecology: The Economy of Nature, 9th edition. Freeman.

BIOL 204 Lab Outlines

Please see the instructor's syllabus or check COTR's online text calculator <http://go.cotr.bc.ca/tuition/tCalc.asp> for a complete list of the currently required textbooks.

Learning Outcomes:

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

- Explain the interactions between and within trophic levels as well as habitat shape distribution and abundance of organisms in ecological systems;
 - Explain the interrelationship between organism form and function, ecological interactions, and habitat tolerance within an evolutionary context;
 - Assess how habitat, organisms and complex interactions influence energy flow and cycling of matter within ecosystems;
 - Apply ecological principles to develop responses to local and global issues in ways that recognize the impacts of human activity on ecological processes as well as solutions drawn of different worldviews;
 - Develop hypotheses, design and conduct ecological studies in field and laboratory settings;
 - Apply various techniques to collect data and apply appropriate statistical analysis to analyze and interpret data;
 - Search for primary scientific literature and critically evaluate the scientific and/or technical information being communicated for accuracy, relevance, importance, and generalizability;
 - Present information in a variety of written and oral formats to effectively communicate concepts and research findings to different audiences;
 - Engage in creative problem-solving processes to evaluate situations logically and critically through techniques such as brainstorming, analogy, probing, attitude and analysis; and
 - Work with others toward accomplishing collective goals and responsibilities through effective communication and collaboration in a laboratory or field situation.
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Course Topics:

- Scope and Basis of Ecology.
- Organisms and Their Environment
- Energy/Trophic Structure
- Communities
- Population Dynamics
- Competition
- Life History Patterns
- Predation
- Succession
- Species Diversity

- Ecosystems

See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.

Evaluation and Assessments

Assessment Type: On-Campus (face-to-face)

Assessment Type	% of Total Grade
Midterms	40%
Presentations	10%
Lab Write ups	25%
Final Exam	25%
Total	100%

Grade Scheme

A+	A	A-	B+	B	B-	C+	C	C-	D	F
>=90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	<50

Pass requirements: None

Evaluation Notes: A grade of "D" grants credit, but may not be sufficient as a prerequisite for sequential courses.

Exam Attendance:

Students must attend all scheduled exams at the appointed time and place. Instructors may approve an alternate exam to accommodate an illness or personal crisis. Department heads will consider other written requests. Any student who misses a scheduled exam without prior approval will receive a "0" on the exam.

Academic Policies:

College of the Rockies policies related to courses can be found at <https://cotr.bc.ca/about-us/college-policies/> and include the following:

- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Conduct (plagiarism, other cheating, behavioral misconduct)
- Policy 2.5.8 Academic Performance
- Policy 2.5.3 Grade Appeal
- Policy 2.4.9 Student Concerns Re Faculty

Course Changes:

The College of the Rockies updates course outlines regularly to meet changing educational, employment and marketing needs. The instructor will notify students in writing of any updates to this outline during the semester. The instructor reserves the right to revise, add or delete material while meeting the learning outcomes of this course outline.