Principles of Ecology
BIOL 3033/3030L

Instructor: Dr. Mike Stokesbury (He/Him)

Hear my name

Office: Room 141 ACER
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Lecture: T Th, BAC 234, 11:00 AM
Lab: BIO 210

Evaluation	Percentage	Date
Midterm 1	20%	3 October
Midterm 2	20%	7 November
Final Exam	30%	TBD
Laboratory	30%	See Lab Syllabus
Total	100%	

Part 1: Course Information

Course Description

Principles of ecology provides an overview of the fundamental concepts of ecology at the individual, population, community, ecosystem and landscape levels of organization. Emphasis is placed on both developing the theory behind the concepts, and on the application of this theory to environmental issues.

Prerequisite(s): BIOL 1113/1123 with minimum grades of C- in each.

Course Materials & Requirements

Text:
Sher, A. A., and Molles, M. C. 2022. Ecology: Concepts and Applications, 9th Edition McGraw Hill, pp.585

Course Requirements:
- Access to course on ACORN page
- Laptop
- Good internet service
- Knowledge of MS Teams
- iNaturalist account

Course Structure

Lecture material will be presented in 80 min lecture slots.
Lectures will take place in BAC 138, starting at 11:00 AM on T, TH.
Labs will meet Bio 210 on Monday afternoon from 1:00 PM to 4:00 PM
Labs will begin on 11 September.

Student Learning Outcomes

Understanding of: ecosystem structure and function; biodiversity and human impacts on ecosystems.

How to Meet the Learning Outcomes

1. Attend lectures and labs

2. Pay attention
3. Participate in discussions

Part 2: Course Plan

The instructor reserves the right to amend the course plan with reasonable notice, and in consultation with the class.

Lecture:

5	September	Introduction
10	September	1-Introduction to Ecology
12	September	2-Life on Land
17	September	3-Life in Water A
19	September	4-Life in Water B
24	September	5-Temperature Relations A
26	September	6-Temperature Relations B
1	October	7- Water and Life
3	October	Midterm 1
8	October	8-Energy and Nutrient Relations
10	October	9-Optimal Foraging Theory
15	October	Study Break - No class
17	October	Study Break - No class
22	October	10-Behavioural Ecology
24	October	11- Life History A
29	October	12- Life History B
31	October	13- Distribution and Abundance
5	November	14-Community Structure and Function
7	November	Midterm 2
12	November	13- Distribution and Abundance
14	November	14-Population Structure
19	November	15-Poopulations Dynamics and Growth
21	November	16- Competition
26	November	17- Herbivory and Predation
28	November	18-Mutualism Parasitism and Disease
3	December	19-Species Interactions

Part 3: Assessment and Grading

You are required to pass the lab to pass the course.

Points	Description
Midterms (40%)	Two tests, 20% each
Lab (30%)	See Marking scheme in Lab Syllabus
Final Exam (30%)	Focused on final 1/3 of course, with essay question addressing a theme common throughout the course.
Total = 100	**Total Points possible**

Part 4: Course Policies

All materials covered in lecture, information from the textbook and information from Guest Speakers may be included in the midterms and final exam. So, you should attend class.

You are permitted to use laptops or tablets to take notes in lecture, please limit their use to classroom material only. No use of phones.

A missed test requires a doctor's note.

Assignments must be passed in on time. Late assignments will not be accepted.

Makeup tests will not be given, rather the value of the midterm will be added to the final exam.

Part 5: University Policies

University policies are available in the Acadia University Academic Calendar or through the Registrar's website: https://registrar.acadiau.ca/welcometotheregistrarsoffice.html

Equity, Diversity and Inclusion

Acadia University is committed to becoming a culturally safe and anti-oppressive community. This can only be achieved where there are simultaneous efforts to eliminate all forms of discrimination and harassment from our campus community, including the elimination of all discrimination, harassment and violence based on one's identity, including but not limited to, gender, race, class, ethnicity, sexual orientation, disability, gender identity, gender expression, and Indigeneity. The policy against harassment and discrimination, and resources for students who believe they may have experienced, or witnessed, discrimination or harassment, are available here: https://www2.acadiau.ca/student-life/equity-judicial/equity.html

Last Drop Day

Last day to drop a course and receive a "W". Please check the Acadia University calendar dates, which are available here: https://registrar.acadiau.ca/AcademicCalendars.html

Inform Your Instructor of Accommodations

Acadia University is dedicated to improving access to campus life for all students with disabilities. While we attempt to ensure that all courses are accessible, we recognize that there are barriers that need to be addressed on an individual basis. Students who require accommodations to complete coursework or otherwise fully participate in class should contact Accessible Learning Services directly as soon as possible. https://www2.acadiau.ca/student-life/accessiblelearning.html

The Use of Animals in Teaching and Research

The use of animals in teaching and research at Acadia University is done in accordance with guidelines on the care and use of animals published by the Canadian Council on Animal Care (CCAC). For more information on the CCAC, please visit their website at http://www.ccac.ca

Commitment to Integrity

It is standard practice in Biology to check exams and assignments for cheating and plagiarism. Cheating in the class and/or lab, including plagiarism, will not be tolerated. Please read the appropriate sections of the current Acadia University Academic Calendar: https://registrar.acadiau.ca/AcademicCalendars.html

Information on copy-write and course content from Acadia University is available through the Vaughan Memorial Library: http://libguides.acadiau.ca/c.php?g=433650&p=5027078

The spoken and written course content (including the syllabus, handouts, lectures, presentations, labs, assignments, quizzes, tests, and exams) are the intellectual property of the instructor and may only be copied for personal use. Sharing these materials or uploading them where they may be accessed by others is a violation of copyright. If you wish to make audio, video, or photographic recordings in class, you must first obtain the consent of the instructor and of any other persons (e.g., guest speakers, other students) who may be captured in such recordings. In the case of personal use by students with disabilities, the instructor's consent shall not be unreasonably withheld.

Part 6: Program Learning Outcomes

Foundations of knowledge		**Course specific examples**	**Proficiency** 1-Introduction 2-Reinforcement 3-Proficient
Scientific method, inquiry and hypothesis testing	Find, understand and apply information from the literature; understand how to use the scientific method to examine problems from different perspectives	Scientific Method will be discussed throughout the course, with specific examples from published literature	3
Historical concepts and contributions by important figures	Explain foundational concepts in biology, Two-eyed Seeing, and ethical implications of scientific discoveries	Contributions by important scientific figures will be reviewed.	2
Biodiversity and ecology	Understand the genetic, taxonomic and ecosystem levels of biodiversity; focus on SW Nova including the Acadian Forest and Bay of Fundy ecosystems	Biodiversity will be a central theme in the course.	3
Genetics and evolution	Understand the chemical basis of heredity, genetics and genomics; integrate concepts across disciplines to understand evolution	Genetics will be touched upon in the context of evolution and ecology	2
Human and environmental health	Understand form and function in health and disease within a One Health framework, integrating human and environmental health	This will be touched upon in the context of evolution and ecology	2

Lab and field skills			
Experimental design	Gain experience in applying the scientific method	A central theme of the course.	3
Safety	Work safely and productively in lab and field settings	Focus on field and lab safety.	3
Lab skills	Gain experience with basic and advanced lab techniques and understand their application in research, health science and industry	Some lab skills will be learned in the aquatic invert lab and the tagging lab	2
Field skills	Gain experience in basic and advanced field skills and understand their application in ecology, conservation biology and environmental change	Many of the labs are field focused.	3
Data acquisition, analysis and interpretations	Collect data, present results both qualitatively and quantitatively, and interpret outcomes in light of the literature	Fulfilled in the invert full lab report.	2
Statistical analysis	Use R and or other programs to analyze biological data	Software choice will mostly be left to the student. Excel and "R" are common programs.	2
Professional skills			
Ethical practices	Demonstrate ethical conduct, apply principles of academic integrity, and understand the principles of EDI in science	A focus throughout the course both in lecture and lab.	3
Collaboration and group work	Work effectively in groups within and across disciplines	A focus throughout the course both in lecture and lab.	3
Critical thinking	Analyze and evaluate information to make science-based decisions	A focus throughout the course both in lecture and lab.	3
Computer proficiency	Use common and discipline- specific software	Some focus.	2
Scientific communication	Communicate science effectively to both scientific and general audiences	Some focus.	2