



ENVS*2330 Current Issues in Ecosystem Science and Biodiversity

Fall 2023

Section(s): 01

School of Environmental Sciences

Credit Weight: 0.50

Version 1.00 - September 05, 2023

1 Course Details

1.1 Calendar Description

This course provides an introduction to a range of specific environmental and scientific issues relating to ecological sciences. Issues to be covered include the biology of climate change, forest science and management of terrestrial ecosystems. Three examples of current problems of societal concern will be used as starting points to examine the role of science in addressing them, while developing students' knowledge of the underlying science and its relation to policy and economics.

Pre-Requisites: 1 of BIOL*1050, BIOL*1070, ENVM*1000, ENVM*1200, ENVS*1030

Equates: ENVB*2030

Restrictions: ENVB*3330, ENVS*2150

1.2 Course Description

This course provides an introduction to core concepts in ecosystem and biodiversity science. Concepts to be covered include the biogeochemical cycling, types and distributions of biodiversity and the integrative science of food web ecology. After their introduction, these concepts will be explored through case studies of some of the most recent and pressing environmental issues. The issues presented during class will provide the bases for seminar debates, the topics of which will be chosen by the students.

1.3 Timetable

Lectures Tuesday, Thursday

1:00 PM - 2:20 PM

THRN, 1307

1.4 Final Exam

No final exam.

2 Instructional Support

2.1 Instructional Support Team

Instructor:	Neil Rooney
Email:	nrooney@uoguelph.ca
Telephone:	+1-519-824-4120 x52573
Office:	ECBA 2107
Office Hours:	To be determined

2.2 Teaching Assistants

Teaching Assistant (GTA):	Joseph Langlois
Email:	langloij@uoguelph.ca
Teaching Assistant (GTA):	Samantha Reynolds
Email:	sreyno08@uoguelph.ca

3 Learning Resources

3.1 Required Resources

Required textbooks (Textbook)
There are no required textbooks.

3.2 Recommended Resources

Recommended Textbooks (Textbook)
There are no recommended textbooks.

3.3 Additional Resources

Lab Manual (Lab Manual)
There is no lab manual.

Field Trips (Other)
There are no field trips.

Additional costs (Other)
There are no additional costs for this course.

4 Learning Outcomes

Students who successfully complete this course will achieve the following Learning Outcomes (LO):

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. Describe the pools and processes of major global biogeochemical cycles at ecosystem scales through:
 - The discussion of course content during lecture periods
 - In class quizzes

2. Explain the hypothesized drivers of global biodiversity distribution through:
 - The discussion of course content during lecture periods
 - In class quizzes

3. Explain the quantitative tools (statistics, models and theory) used in environmental sciences through:
 - The discussion of course content during lecture periods
 - In class quizzes
 - Constructing an abstract for a scientific paper
 - An analysis of the scientific evidence related to an environmental issue by arguing in a debate-style format

4. Demonstrate the ability to integrate ecosystem and biodiversity concepts into a unified view of natural systems through:
 - The discussion of course content during lecture periods
 - In class quizzes

5. Concisely and effectively communicate in writing the findings of two major scientific studies through the drafting of a journal style abstract

6. Demonstrate teamwork and oral communication skills through an analysis of the

- scientific evidence related to an environmental issue by arguing in a debate-style format
7. Demonstrate critical thinking skills by reviewing the scientific literature surrounding a contentious environmental issue and drafting a position paper defending one side of that issue
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5 Teaching and Learning Activities

Lectures will examine a variety of current environmental/societal issues and how they are being addressed by the scientific study of ecosystems. Broadly, these issues will be used to explore the following themes:

1. Biogeochemical cycles and how human activities affect them.
2. Biodiversity, food web structure and the stability of aquatic and terrestrial ecosystems
3. Anthropogenic effects on the structure and function of aquatic and terrestrial ecosystems
4. Linking biogeochemical cycling to biodiversity and ecosystem function

5.1 Seminar

Week of 11 September

Topics: No seminar

Week of 18 September

Topics: Literature research workshop

Week of 25 September

Topics: Introduction of debate topics

Week of 2 October

Topics: Journal article discussion

Week of 9 October

Topics: No seminar

Week of 16 October

Topics: No Seminar

Week of 23 October

Topics: Writing workshop

Weeks of 30 October

Topics: No Seminar

Weeks of 6, 13, 20 November

Topics:

Debates

6 Assessments

6.1 Marking Schemes & Distributions

Name	Scheme A (%)
Group Contract	2.5
Assignment 1	7.5
Concept Map	10
Oral debate	17.5
Position Paper	17.5
Peer evaluation	5
In Class Quizzes	40
Total	100

6.2 Assessment Details

Group Contract (2.5%)

Date: Week of 25 September (End of Seminar)

Draft and sign a group work contract

Assignment 1 (7.5%)

Date: Fri, Oct 13, 11:55 PM

Write an abstract for a peer reviewed scientific paper

Concept Map (10%)

Date: Mon, Oct 23

A concept map of the position paper for you debate

Oral debate (17.5%)

To occur during month of November

Position Paper (17.5%)

Position paper detailing arguments for your side of the debate supported by peer reviewed literature. Due 1 week after your debate.

Peer evaluation (5%)

To occur during month of November

Online Quizzes (40%)

In class quizzes each worth 8% held:

September 28th - Online

October 17th

November 2nd

November 16th

November 30th

7 Course Statements

7.1 Grading Policies

Written assignments will be submitted via Dropbox on D2L, before midnight on the due date. Oral presentations will be due during the appropriate lab period or otherwise as assigned. All late assignments will receive a 10% deduction for each day, or part thereof, that they are late. Keep paper and/or reliable electronic back-up copies of all out-of-class assignments: you may be asked to resubmit your work at any time.

7.2 Course Policy on Group Work

Group work will be allowed only where specified (e.g. for debate assignment).

7.3 Course Policy regarding use of electronic devices and recording of lectures:

None

8 University Statements

8.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

8.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

8.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

8.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

8.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to make a booking at least 14 days in advance, and no later than November 1 (fall), March 1 (winter) or July 1 (summer). Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time.

For Guelph students, information can be found on the SAS website
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website
<https://www.ridgetownc.com/services/accessibilityservices.cfm>

8.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community-faculty, staff, and students-to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

8.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

8.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars
<https://www.uoguelph.ca/academics/calendars>

8.9 Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g.. final exam or major assignment).
