



BIOL*2060 Ecology

Winter 2020

Section(s): C01

Department of Integrative Biology

Credit Weight: 0.50

Version 1.00 - November 01, 2019

1 Course Details

1.1 Calendar Description

This course discusses the ecology of plants, animals, fungi and bacteria as individual organisms, interacting populations, communities and ecosystems. Lectures and discussion groups are used to demonstrate the difficulty of interpreting ecological data derived from field studies. The value of laboratory-based research in ecology will also be discussed. The course will be important for anyone who wishes to understand what we know and need to know about the way ecological systems work.

Pre-Requisites: 4.00 credits including BIOL*1070

1.2 Course Description

BIOL*2060 will introduce students to the basic concepts, theories and evidence regarding ecological processes that determine the distribution and abundance of organisms. The approach will include a mix of theory and field/laboratory techniques, as presented in lecture and explored in seminars. Special emphasis will be placed on the application of ecological principles to contemporary topics (news articles and current research) related to ecology, conservation and human effects on the biosphere. Lecture discussion and seminar assignments will allow students numerous opportunities to develop their understanding and practical application of the scientific method in ecology.

1.3 Timetable

- Lectures: Tuesday/Thursday, 11:30-12:50 in MACN 105
- Seminars: Monday: 2:30 - 4:20, Tuesday: 1 - 2:50, Tuesday: 3 - 4:50 in SSC 3315

1.4 Final Exam

TBA. Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Instructional Support Team

Instructor:	Cortland Griswold
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Course Co-ordinator:	Shaylah Tuttle-Raycraft
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3 Learning Resources

3.1 Required Resources

TBA (Textbook)

Encyclopedia of Life Sciences (www.els.net): Accessible through the University of Guelph Library

Scitable by Nature Education (www.nature.com/scitable): Accessible through the University of Guelph Library

SimUText Ecology Electronic 'Textbook' Software (Textbook):

We will be using interactive software called SimUText Ecology. This software is required. SimUText Ecology must be purchased with a credit card and can be downloaded onto your computer. We will utilize the interactive simulations to practice working with concepts we discuss in lecture. Information will be provided about purchasing the textbook.

Spreadsheet and Word Processing Software (Software)

The assignments will involve creating effective figures and writing reports. Students will need access to spreadsheet and word processing software that is compatible with Microsoft Word and Excel. These programs are available to download for free from the Computing and Communication Services (CCS) website. They are also installed on the laptops available at the University of Guelph Library and on the desktops in the CBS computer laboratories.

3.2 Submission of Assignments Checklist

- Have I got a back-up copy of my assignment saved on a USB key or in the cloud?
 - Is my work complete?
 - Have all required elements been included?
 - Have I used the appropriate Submission Form? (No cover page is required.)
 - Have I saved my file in Word (.doc file format compatibility mode)?
 - Have I named my file with my surname, given name, and assignment number, e.g. "McCombe, Dori Assignment 1.doc"?
 - Have I submitted my file in the correct folder on the Dropbox page?
 - Have I submitted the correct file? **Hint:** You can download the file after it has been submitted to double-check for empty files, incomplete files, or incorrect files.
 - Have I submitted it well in advance of the deadline to avoid late penalties? **Hint:** If you are still working on the assignment close to the deadline, you should submit one copy before and then re-submit closer to the deadline. We will grade the version that is submitted closest to the deadline.
 - Have I received a Dropbox Submission Receipt by email? **Note:** You should retain this email in case it is needed to verify that your submission was received. If you don't get a Submission Receipt then your submission has not been successful and you should try again.
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4 Learning Outcomes

4.1 Course Learning Outcomes

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

1. Develop cause-effect explanations for observed natural patterns in organism distribution/abundance, by applying fundamental ecological concepts.
2. Communicate clearly about ecological systems and processes by applying appropriate ecological terminology.
3. Appreciate the historical development of ecology as a discipline, leading to a deeper appreciation of contributions by contemporary ecologists to grapple with major ecological issues confronting the future of life on this planet.
4. Begin to formulate potential solutions to biological conservation and resource management issues related to the species' distribution/abundance, by applying ecological theory.

5. Critically evaluate knowledge conveyed in news articles and the primary ecological literature related to selected case studies.
 6. Reach a deeper understanding of the the Science knowledge system by employing the scientific method to explicitly ask questions about ecological states of nature, develop hypotheses as possible explanations of cause-effect, which in turn generate predictions that can be empirically tested to update probabilities of the associated hypotheses.
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5 Teaching and Learning Activities

5.1 Lecture

Topics: Lectures will cover general topics in Ecology, organized on the basis of the following themes:

1. Biogeography and Species Distributions
2. Individuals and Populations
3. Communities
4. Ecosystems
5. Climate Change & Ecology: Past, Present and Future

5.2 Seminar

Topics: Foundation of Scientific Skills

Topics: From Natural History to the Scientific Method

Topics: Experimental Ecology

Topics: Ecological Complexity Through Simulation

Topics: Work Period for Group Project

5.3 General Information on Seminars

Seminars run **every other week**. Odd sections will run the first week and even sections will run the second week.

- Each student will be assigned to a seminar group and will remain with that group for the semester.
 - Attendance at all seminars is expected. Each seminar will include some or all of the following activities: i) advance preparation on an individual basis, ii) an in-class activity along with group discussion to produce a written assignment, and iii) submission of the completed assignment(s)
 - Materials for each seminar session will be available on CourseLink. Be sure to complete any assigned activities in advance of the seminar so that you are prepared and ready to contribute to your group!
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6 Assessments

6.1 Assessment Details

Seminars (40%)

Date: Bi-weekly (every other week)

Learning Outcome: 1, 2, 3, 4, 5, 6

- Seminar 1 (Weeks 3, 4): 5%
- Seminar 2 (Weeks 5, 6): 10%
- Seminar 3 (Weeks 7, 8): 10%
- Seminar 4 (Weeks 9, 10): 15%

Group Assignment: Applying the Scientific Method to Canadian Ecology in the News (10%)

Date: Fri, Apr 3, 4:30 PM

Learning Outcome: 1, 2, 3, 4, 5, 6

This group assignment focusses on two of the major priorities for this course: (1) understanding and application of the scientific method, and (2) developing an appreciation of the breadth and depth of contemporary issues in Canadian ecology. Students will be randomly assigned to groups of four within their seminar sections and will work together to select, explore, develop and communicate their understanding of a key ecological uncertainty associated with a recent Canadian news article as a case study. Detailed assignment instructions will be provided on CourseLink.

Midterm Exam (20%)

Date: Thu, Feb 27, Lecture Room

Learning Outcome: 1, 2, 3, 4, 5

The exam will include a selection of multiple choice and short answer questions based on all material presented and discussed in lectures, seminars, assignments, and the assigned readings. The questions discussed in lecture and seminars will be similar to the kinds of questions that will appear on exams.

Final Exam (30%)

Date: Please see WebAdvisor for the latest information., Please see WebAdvisor for the latest information.

Learning Outcome: 1, 2, 3, 4, 5

The exam is comprehensive and include a selection of multiple choice and short answer questions based on all material presented and discussed in lectures, seminars, assignments, and the assigned readings. The questions discussed in lecture and seminars will be similar to the kinds of questions that will appear on exams.

7 Course Statements

7.1 Academic Consideration

- If you are unable to complete any of the assignments by the deadline for documented medical, psychological, or compassionate reasons, please contact the Course Coordinator in advance of the deadline to make arrangements for a short extension.
- If you are sick or otherwise unable to attend a seminar for a valid medical, psychological or compassionate reason, please contact the Course Coordinator by email in advance. You may be able to attend a different seminar section that week or complete the work on an individual basis.
- If you are absent for a midterm exam for documented medical, psychological, or compassionate reasons, you should contact your program counsellor within five working days of the missed exam and seek academic consideration. Students who miss a midterm exam for documented reasons will have the final exam reweighted.
- See the undergraduate calendar for information on regulations and procedures for Academic Consideration:
<https://www.uoguelph.ca/registrar/calendars/undergraduate/2019-2020/index.shtml>

7.2 Academic Integrity

- You are encouraged to discuss the course with your peers, but all work for the assignments **MUST** be your own unless otherwise stated.
- 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 discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.
- 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.
- The Academic Misconduct Policy is detailed in the Undergraduate Calendar: <https://www.uoguelph.ca/registrar/calendars/undergraduate/2019-2020/index.shtml>

7.3 Plagiarism Detection Software

Electronically submitted student assignments are automatically compared to other electronic documents (including online and student papers) by Turnitin™ for degree of similarity.

7.4 Asking Questions in the Online Discussions

If you have any questions about the course you should post them in one of the discussions on the Courselink website. The instructor(s) will answer questions about lectures in the Main Class Discussion, and the Course Coordinator will answer questions about seminars and assignments in the Seminars and Assignments Discussion. Questions of a personal nature (e.g. illness) should be emailed to the appropriate person, i.e. an Instructor regarding lectures and exams, and the Course Coordinator regarding seminars and assignments.

7.5 Assignment of Grades

Assignments will be marked on the basis of the criteria outlined in the Undergraduate Calendar. Clarification about the assignment of grades can be found under Grading Procedures at: <https://www.uoguelph.ca/registrar/calendars/undergraduate/2019-2020/index.shtml>

7.6 Course Evaluation Information

- CCS now provides the U of G Course Evaluation System in a secure, online environment. End of semester course and instructor evaluations provide students the opportunity to have their comments and opinions form part of the information used by Promotion and Tenure Committees in evaluating the faculty member's contributions in the area of teaching.
- Course evaluations are now conducted through this web site. Login with your central email account login ID and password:
https://courseeval.uoguelph.ca/CEVAL_LOGIN.php
- Instructors do NOT receive evaluations until the end of exam period. Furthermore, evaluations are anonymous, unless you specifically indicate you want to acknowledge your comments.

7.7 Re-Grading of Assignments

If you wish to have an assignment re-graded, then you should email the Course Coordinator. In order for a re-grading request to be considered, you must provide a written justification for why the grade should be changed based on the assessment criteria found in the grading rubric. All requests for re-grading MUST be made within one week of the return of the assignment. Be aware that the entire document will be re-graded, which could result in an increase, decrease, or no change to your mark.

7.8 Student Responsibilities

You should plan on spending a minimum of ten hours per week working on this course, in addition to time spent in lectures and seminars. This time includes reading the assigned readings, reviewing and/or rewriting lecture notes, preparing questions on any material with which you need help, preparing for the seminars, and working on your assignments. The Instructor, Course Coordinator, and TAs will offer as much assistance as possible. However, remember that this is your learning experience, and you will get as much out of this class as you put into it.

7.9 Submission of Assignments and Late Policies

- Late assignments will be penalized 10% for each 24 hour period. If you encounter technical problems when submitting your writing assignments, please email the assignment to the Course Coordinator IN ADVANCE of the deadline to avoid late penalties.
- Please be sure to follow the guidelines in the Submission of Assignments Checklist in order to avoid common problems that could cost you marks.

8 Department of Integrative Biology Statements

8.1 Academic Advisors

If you are concerned about any aspect of your academic program:

- Make an appointment with a program counsellor in your degree program. [B.Sc. Academic Advising](#) or [Program Counsellors](#)

8.2 Academic Support

If you are struggling to succeed academically:

- Learning Commons: There are numerous academic resources offered by the Learning Commons including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills. You can also set up individualized appointments with a learning specialist. <http://www.learningcommons.uoguelph.ca/>
- Science Commons: Located in the library, the Science Commons provides support for physics, mathematic/statistics, and chemistry. Details on their hours of operations can be found at: <http://www.lib.uoguelph.ca/get-assistance/studying/chemistry-physics-help> and <http://www.lib.uoguelph.ca/get-assistance/studying/math-stats-help>

8.3 Wellness

If you are struggling with personal or health issues:

- Counselling services offers individualized appointments to help students work through personal struggles that may be impacting their academic performance. <https://www.uoguelph.ca/counselling/>
- Student Health Services is located on campus and is available to provide medical attention. <https://www.uoguelph.ca/studenthealthservices/clinic>
- For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to stress management and high performance situations. <http://www.selfregulationskills.ca/>

9 University Statements

9.1 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.

9.2 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>

9.3 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>

9.4 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.

9.5 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 book their exams at least 7 days in advance and not later than the 40th Class Day.

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>

9.6 Academic Integrity

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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>

9.7 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.

9.8 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>
