



BIOL*3060 Populations, Communities and Ecosystems

Winter 2023

Section(s): C01

Department of Integrative Biology

Credit Weight: 0.50

Version 1.00 - January 06, 2023

1 Course Details

1.1 Calendar Description

This course will explore advanced topics in ecology, building on the foundation provided by BIOL*2060. The course material will be organized around common mechanisms that link ecological processes across levels of organization, such as organism function, species interactions, spatial connectivity and energetic transfers across trophic levels. Emphasis will be on testing ecological theory with quantitative analysis of empirical data, thereby gaining greater depth of understanding of ecological processes at the population, community and ecosystem scales. Through the examination of case studies, students will apply ecological knowledge and quantitative analysis to problem solving in areas such as resource management, conservation of populations and communities, and predicting biosphere responses to climate change.

Pre-Requisites: 10.00 credits including BIOL*2060, (1 of GEOG*2460, STAT*2040, STAT*2060, STAT*2230)

1.2 Timetable

Timetable is subject to change. Please see WebAdvisor for the latest information.

1.3 Final Exam

Exam time and location is subject to change. Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Instructional Support Team

Instructor: Timothy Bartley
Email: tbartley@uoguelph.ca
Office: SSC 2505
Office Hours: During some Friday lecture times. Otherwise by appointment only. Requests should be made by email, and the Instructor will decide if a meeting is required. All meetings will be virtual unless otherwise specified.

Instructor: Marie Gutgesell
Email: mgutgese@uoguelph.ca
Office: SSC 2314/3315
Office Hours: During some Friday lecture times. Otherwise by appointment only. Requests should be made by email, and the Instructor will decide if a meeting is required. All meetings will be virtual unless otherwise specified.

2.2 Teaching Assistants

Teaching Assistant (GTA): Brett Pauli
Email: biol3060@uoguelph.ca
Office: During Seminar
Office Hours: During your regularly scheduled Seminar only.

Teaching Assistant (GTA): Alexa Scott
Email: biol3060@uoguelph.ca
Office: During Seminar
Office Hours: During your regularly scheduled Seminar only.

Teaching Assistant (GTA): Jake Carman
Email: biol3060@uoguelph.ca
Office: During Seminar
Office Hours: During your regularly scheduled seminar only.

2.3 Communications Policy

Please review and follow the Communications Policy to both help the Teaching Team manage course communications and to ensure that you receive a response in a timely manner. Failure to follow this Communications Policy may result in a delayed response or no response at all from the Teaching Team.

Response Time from the Teaching Team

The Teaching Team endeavors to respond to your inquiries within 48 hours. The Teaching Team will respond to your emails and/or CourseLink Discussion posts only during regular business hours (Monday to Friday from 8:30 am to 4:30 pm). Please note that sending multiple emails will not get you a faster response and may in fact slow down the Teaching Team's response time.

Email Policy

The course email address is biol3060@uoguelph.ca and all emails should be directed there unless otherwise specified. Anytime you email the Teaching Team about this course, please always

1. email from your UofG email address (emails from other email addresses may not receive a response because we cannot verify your identity)
2. include the course code (i.e., BIOL*3060) in the subject line
3. include the full name of the assessment if you are emailing about an assessment
4. include both your name and student number in your email
5. address your email to a specific Teaching Team member (e.g., your GTA) using their name if you are contacting them specifically
6. only flag an email as important or indicate urgency in the subject line of your email if you absolutely must receive a response more quickly than the normal response timeframe outlined for the course.

How to I contact the Teaching Team?

General questions about course content (e.g., a concept that is unclear) or assignment/exam details (e.g., referencing style for a paper or the question types that will be on an exam) can be asked during Lecture or Seminars. Electronic communication about general questions must be made using the appropriate CourseLink Discussion boards. Before you post your question, review the Discussion boards to see if your question has already been answered. New CourseLink Discussion threads should have a detailed name including an assessment name if relevant. Sending an email rather than posting on the Discussion boards does not guarantee a faster response, and the Teaching Team may respond by posting on CourseLink rather than by email. Specific questions about your assignments/exams/grades or discussions of personal matters should be directed towards the course email address.

Students' Responsibility for Course Information

Important information will be presented in Lecture and/or Seminars or sent to students as CourseLink Announcements or by email. Students are responsible for accessing and understanding all information distributed to students, even if they miss lecture/seminar.

3 Learning Resources

There is no required textbook for this course. You will not be able to master the learning objectives and lecture content of this course unless you fully understand the basic concepts taught in BIOL*2060. During each module in this course, we will provide a brief review of the concepts we expect you to already know from your previous coursework. If you do not believe that you have mastered these concepts, we recommend that you revisit your notes from BIOL*2060 or read the appropriate sections of the textbook that was required in BIOL*2060. There are many alternative ways that you can acquire this basic information (other general ecology textbooks, additional readings). In all cases, it is up to you to critically evaluate your understanding of the basic concepts we outline at the beginning of each module, and brush up on knowledge of these concepts if required.

3.1 Required Resources

Courselink (Website)

<https://courselink.uoguelph.ca>

BIOL*3060 will make use of CourseLink. Please check CourseLink regularly for the most current course information and deadlines.

Zoom (Software)

<https://zoom.us/>

Zoom will be used for lectures (and possibly some tutorials). Register for a Zoom Basic account that is associated with your University of Guelph email, and ensure you are signed into this account before joining classes through CourseLink.

3.2 Required Resources

Regularly, we will distribute additional resources as pdfs on Courselink. This material will include primary literature and case studies that support lecture or tutorial content. It is your responsibility to read and fully understand the material in these pdfs prior to class.

4 Learning Outcomes

4.1 Course Learning Outcomes

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

1. Identify and evaluate the validity of ecological theories that explain the distribution and abundance of species and the functioning of communities and ecosystems.
2. Identify the common mechanisms that influence population and community dynamics and ecosystem function.
3. Evaluate how ecological processes at one level of organization influence processes at other levels of organization.
4. Utilize quantitative methods to project the dynamics of populations, communities and ecosystems.
5. Evaluate hypotheses about mechanisms responsible for the dynamics of populations, the assembly of communities and the functioning of ecosystems using inferential statistical

analyses.

6. Work collaboratively and apply ecological science to formulate solutions to specific conservation and management problems.
 7. Communicate the results of research findings to peers in written documents and oral presentations.
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5 Teaching and Learning Activities

5.1 Lecture

Topics: Monday and Wednesday lectures will be face-to-face and will be used for traditional lecture content.

Friday lectures will be via Zoom and will be used for skills-based modules, discussing Assignments/the Final Paper, guest lectures, and Midterm exams.

5.2 Seminar

Topics: Seminars will be held face-to-face. Consult WebAdvisor for your Seminar time and location.

5.3 Course Content

- The emphasis will be on experiential skill development through hypothesis testing, interpretation of quantitative results, and the use of quantitative methods to increase ecological knowledge and solve conservation and management problems.
- Because of the emphasis on experiential learning, the major topics will be organized around specific questions at each level of ecological organization. The four units described below are examples of the questions that will be addressed using lectures, guided class discussions, and tutorial/lab exercises. However, in BIOL3060 we will be highlighting research questions that integrate across these levels of biological hierarchy. Specific content in each unit may be subject to change.
- Topics for the course may include: environmental physiology of organisms and allometry; causes of variation in population abundance and spatial distribution; explanations for the abundance, number and identity of species in communities; and regulation of nutrient cycling and energy flows within ecosystems and scaling from

genes-to-ecosystems.

6 Assessments

6.1 Assessment Details

Assignments (20%)

Date: Periodically, CourseLink Dropbox

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

See CourseLink and lecture notes for details.

Final Paper/Project (30%)

Date: , CourseLink Dropbox

Learning Outcome: 4, 5, 6, 7

See CourseLink and lecture notes for details.

Midterm 1 (20%)

Learning Outcome: 1, 2, 3, 5

See CourseLink and lecture notes for details.

Midterm 2 (30%)

Learning Outcome: 1, 2, 3, 5

See CourseLink and lecture notes for details.

6.2 Important Dates

Deadlines will be posted on Courselink and also will be discussed during lecture. Be sure to attend lectures regularly or you may miss important updates to the curriculum.

7 Course Statements

7.1 Late or Missed Assessments

Late assignments will be penalized 10% for each 24 hour period for up to 72 hours after the original due date/time. All late Assignments must be submitted via CourseLink. No Assignments will be submitted beyond 72 hours after the due date. Students with reasonable grounds for academic consideration must contact the Instructor(s) to request an extension (only up to 72 hours after the due date) or an exemption. No assignments grades will be reweighted for this course. Students will only be granted academic consideration for unforeseen circumstances.

7.2 Missed Exams

If you miss the first midterm exam due to illness or for other reasons officially recognized by the university, your final grade may be reweighted towards the next midterm exam. In the case of missed final midterm, a term paper (typed, 8-12 pages text not including references,

double-spaced, 12 point font) may be assigned on a mutually-agreed topic closely linked to the course content. We will not offer makeup exams in this class. Students with approved deferred conditions must contact the course Instructor(s) to determine the details of their deferred assessments. Students will only be granted academic consideration for unforeseen circumstances.

7.3 Grade Concerns and Regrade Requests

Students with concerns about how an assessment was graded can contact the Teaching Team for clarification. Any concerns about grades for any assessments in this course must be expressed by email using the course email address within 10 days of the release of grades for that assessment. Beyond this period, grades for assessments will not be adjusted. Students that are requesting a grade change due to calculation errors on the part of the Teaching Team or an issue with CourseLink rubrics/grades are not subject to the regrade policy.

Reassessment (Regrade) Policy

Any requests for grade changes or reassessments (aka regrades) must be made by email to the course email address including all of the following information:

1. email subject line with the course code and assessment name
2. a list of specific concerns that explicitly describes each discrepancy
3. supporting references or quotations of both the student's work and the instructions/rubric (for assignments) or the course content (for exams, and
4. an explanation of how each discrepancy affects the grade for the assessment

Requests for a regrade without this information will not be considered. When regrading is deemed appropriate, it will be conducted by a Teaching Team member that did not provide the original grade and will include the entire assessment (no partial regrades will take place). A regrade may result in a grade increase, a grade decrease, or no change to the grade. Only one regrade will be permitted per assessment.

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/>

8.4 Personal information

Personal information is collected under the authority of the University of Guelph Act (1964), and in accordance with Ontario's Freedom of Information and Protection of Privacy Act (FIPPA) <http://www.e-laws.gov.on.ca/index.html>. This information is used by University officials in order to carry out their authorized academic and administrative responsibilities and also to establish a relationship for alumni and development purposes.

For more information regarding the Collection, Use and Disclosure of Personal Information policies please see the Undergraduate Calendar.
(<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/intro/index.shtml>)

8.5 Course Offering Information Disclaimer

Please note that course delivery format (face-to-face vs online) is subject to change up to the first-class day depending on requirements placed on the University and its employees by public health bodies, and local, provincial and federal governments. Any changes to course

format prior to the first class will be posted on WebAdvisor/Student Planning as they become available.

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 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>

9.6 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>

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>

9.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

9.10 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).

9.11 Covid-19 Safety Protocols

For information on current safety protocols, follow these links:

- <https://news.uoguelph.ca/return-to-campus/how-u-of-g-is-preparing-for-your-safe-return/>
- <https://news.uoguelph.ca/return-to-campus/spaces/#ClassroomSpaces>

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.
