



BIOL*4150 Wildlife Conservation and Management

Fall 2022

Section(s): 01

Department of Integrative Biology

Credit Weight: 0.50

Version 1.00 - September 07, 2022

1 Course Details

1.1 Calendar Description

This course builds on previous courses in population and community ecology to evaluate the long-term dynamics of threatened populations in the context of human intervention. The course will also provide a "hands-on" introduction to computer modeling, with application to contemporary issues in population ecology and resource management. Lectures will be drawn from the following topics: growth and regulation of populations, long-term persistence of ecological communities, harvesting, bio-economics, and habitat modification.

Pre-Requisites: BIOL*3060 or BIOL*3130

1.2 Course Description

The conservation and sustained utilization of wildlife are two of the most challenging issues facing resource managers. This course will build on previous courses in ecology to evaluate the long-term dynamics of threatened populations in the context of human intervention. Computer modelling and demographic statistical analyses are some of the most important tools used by researchers, resource managers, and policy advisers in evaluating alternate long-term scenarios and remedial actions for conservation and management problems. This course also provides a "hands-on" introduction to problem solving using R computer software, with application to contemporary issues in population ecology and resource management. Our objectives are (1) to develop a deeper understanding of the factors influencing wildlife conservation and management at both the population and community levels and (2) to develop quantitative skills that are helpful in evaluating alternative conservation and management policies.

1.3 Timetable

Classes are scheduled on T/Th 11:30-12:50. **Pre-recorded lectures** will be uploaded on CourseLink ahead of time for each week. It is recommended that students watch the lectures during the regularly scheduled lectures times in order to better manage time. **In-person** classes will be held in MACN 113 on Thursdays **only**, where the time will be used to do work

in a student directed manner (e.g. work on assignments, problem solving, group work, questions; modified flipped class).

Students will work on assigned readings, recommended readings, problem-solving and programming skill development using R throughout the course.

1.4 Final Exam

In-person final exam will be held Dec. 12, 2022 at 8:30-10:30 am

Location TBD

Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Instructional Support Team

Instructor: Adrian Ionescu PhD
Email: ionescu@uoguelph.ca
Office: SSC 2312
Office Hours: Office hours and/or help sessions will be held by appointment in-person or via ZOOM and/or Teams, which may include small groups of students.

For discussion of a private matter, student may contact Dr. Ionescu or the TA (Andrew Gavloski) for an appointment.

Instructor: John Fryxell PhD
 Online lecture content - available via CourseLink

2.2 Teaching Assistants

Teaching Assistant (GTA): Andrew Gavloski
Email: agavlosk@uoguelph.ca
Office Hours: Office hours will be held by appointment in-person or via ZOOM and/or Teams

3 Learning Resources

3.1 Recommended Resources

Wildlife Ecology, Conservation, and Management. (Textbook)

Wildlife ecology, conservation, and management. Fryxell, Sinclair, and Caughley (2014), Wiley-Blackwell, Oxford, 3rd edition (copies will be made available on library reserve).

3.2 Campus Resources

The Academic Calendar is the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs:

<http://www.uoguelph.ca/registrar/calendars/index.cfm?index>

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

- make an appointment with a program counsellor in your degree program. <http://www.bsc.uoguelph.ca/index.shtml> or <https://www.uoguelph.ca/uaic/programc>

If you are struggling to succeed academically:

- 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/>

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.uoguelph.ca/~ksomers/>

4 Learning Outcomes

4.1 Course Learning Outcomes

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

1. Understand the conceptual basis of the following topics in wildlife conservation and management: (a) population estimation, (b) estimation of population growth rates from time series data, (c) stochastic population models, (d) model evaluation, (e) age- and class-structured matrix population models, (f) population viability analysis (g) sustainable harvesting, (h) home range and habitat selection analysis, (i) species interactions.
 2. Execute and interpret analyses related to the above topics using statistical and modeling software (R) commonly used by conservation biologists and wildlife managers.
 3. Be familiar and conversant in some past and present case studies of wildlife conservation and management within the context of population and behavioural changes driven by habitat modification, harvesting, novel species interactions, disease and/or climate change.
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5 Teaching and Learning Activities

5.1 Lecture

Topics:	Introduction (1 Lecture)
Topics:	Estimation of population abundance (2-3 lectures)
References:	Chapter 12
Topics:	Population growth and regulation (2-3 lectures)
References:	Chapter 5
Topics:	Model evaluation (2 lectures)
References:	Chapter 15
Topics:	Stochasticity and extinction risk (2-3 lectures)

References:	Chapter 16
Topics:	Age- and stage-specific population models (2-3 lectures)
References:	Chapter 13
Topics:	Species interactions (2-3 lectures)
References:	Chapter 9
Topics:	Harvesting (2-3 lectures)
References:	Chapter 18
Topics:	Home range, habitat use, and habitat loss (2-3 lectures)
References:	Chapter 3
Topics:	Disease dynamics (2-3 lectures)
References:	Chapter 8

6 Assessments

6.1 Marking Schemes & Distributions

Assignments 1-8 - 7 marks per assignment, hence each assignment is worth 7% of the final grade (total 56% of final mark): Will be posted to CourseLink each assignment week and due the following Monday before 11:59 pm. Only digital submissions via Turnitin Dropbox will be acceptable. A penalty of 1 mark per business day (i.e. Mon-Fri) will be applied in the case

of late assignments. For example, an assignment turned in on Wed could receive only a maximum grade of 5 marks rather than 7. All assignments must solely reflect the work of the submitting student – group work is not permitted.

Digital Poster Student Conference Day (19% of final mark): groups will assess, review and critique a peer reviewed publication (published in 2012 or later).

In-person Final Exam (25%): A mix of multiple choice, short answer and short essay questions based on lectures, discussions, and assigned readings. See CourseLink for a sample examination as the final exam approaches.

6.2 Assessment Details

Assignment 1 (7%)

Date: Mon, Sep 20, 11:59 PM

Assignment 2 (7%)

Date: Mon, Sep 26, 11:59 PM

Assignment 3 (7%)

Date: Mon, Oct 3, 11:59 PM

Digital Poster Student Conference Day (19%)

Date: Thu, Oct 20, 11:30 AM, In Class

Assignment 4 (7%)

Date: Mon, Oct 24, 11:59 PM

Assignment 5 (7%)

Date: Mon, Nov 7, 11:59 PM

Assignment 6 (7%)

Date: Mon, Nov 14, 11:59 PM

Assignment 7 (7%)

Date: Mon, Nov 21

Assignment 8 (7%)

Date: Mon, Nov 28, 11:59 PM

Final Exam (25%)

Date: Mon, Dec 12, 8:30 AM - 10:30 AM, TBD

7 Department of Integrative Biology Statements

7.1 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](#)

7.2 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>

7.3 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/>

7.4 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>)

7.5 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.

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 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.

8.10 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).

8.11 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.
