



BIOL*4150 Wildlife Conservation and Management

Fall 2020

Section(s): 01

Department of Integrative Biology

Credit Weight: 0.50

Version 1.00 - September 09, 2020

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

100-120 min weekly asynchronous lectures via CourseLink

Online live discussions on T/Th 11:30-12:00 or later as needed

Assigned readings

Recommended readings

Problem-solving and programming skill development using R

1.4 Final Exam

Dec. 12, 2020 11:30-13:30, on-line

Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Support Details

Students with conflicts during the scheduled office hours and help session should e-mail the instructor or a teaching assistant to schedule a meeting. The earlier in advance a request is sent, the more likely an appropriate time could be arranged.

While quick questions can be answered by e-mail, more detailed explanations and guidance are best suited for office hours, help sessions, or meetings.

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 available on 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/programcounsel>

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 a statistical program 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.

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:	Case studies (2-3 lectures)
References:	Paper(s) posted to CourseLink

6 Assessments

6.1 Marking Schemes & Distributions

Assignments 1-5 (5% each): Will be posted to CourseLink on Thursday, and due on the following Friday. Only digital submissions via Turnitin dropbox. A penalty of 5% per business day will be applied in the case of late assignments. All assignments must solely reflect the work of the submitting student – group work is not permitted.

Individual project (25%): Each individual will submit a digital copy of a scientific poster that summarizes the objectives, methods, results, conclusions, and significance of paper published over the past 10 years for any given wildlife population(s). Examples covered in BIOL4150 are not eligible. A penalty of 10% per business day will be applied in the case of late projects. Digital submission via Turnitin dropbox. All projects must solely reflect the work of the submitting student - group work is not permitted.

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. All exams must reflect the work of the submitting student. Consultation with other individuals or group work of any kind is not acceptable under any circumstance.

Individual paper (25%): Each student will be required to write a 10-13 page paper (double-spaced, 12 pitch Times Roman font, 1 in margin), not including title page, literature cited,

figures, or tables that provides a literature review and personal commentary on conservation or management challenges, potential solutions, and a feasibility assessment of those options for a population of a given species of the student's choice, based on data obtained from the published literature, not original data. Digital submission via Turnitin dropbox. All papers must reflect the work of the submitting student, group work is not permitted. A penalty of 10% per business day will be applied in the case of late papers.

6.2 Assessment Details

Assignment 1 (5%)

Date: Fri, Sep 18, 5:00 PM

Learning Outcome(s) Addressed: 1-2

Assignment 2 (5%)

Date: Fri, Oct 2, 5:00 PM

Learning Outcome(s) Addressed: 1-2

Individual project (25%)

Date: Fri, Oct 9, 5:00 PM, on-line via Turnitin

Learning Outcome(s) Addressed: 1-3

Assignment 3 (5%)

Date: Fri, Oct 16, 5:00 PM

Learning Outcome(s) Addressed: 1-2

Individual Paper (25%)

Date: Fri, Nov 6, 5:00 PM

Learning Outcome(s) Addressed: 1 - 3

Assignment 4 (5%)

Date: Fri, Oct 30, 5:00 PM

Learning Outcome(s) Addressed: 1-2

Assignment 5 (5%)

Date: Fri, Nov 27, 5:00 PM

Learning Outcome(s) Addressed: 1-2

Final Exam (25%)

Date: Sat, Dec 12, 11:30 AM - 1:30 PM

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>)

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 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>

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 and academic schedules. Any such changes will be announced via CourseLink and/or class email. 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

The University will not normally require verification of illness (doctor's notes) for fall 2020 or winter 2021 semester courses. However, requests for Academic Consideration may still require medical documentation as appropriate.
