



BIOL*4150 Wildlife Conservation and Management

Fall 2019

Section(s): C01

Department of Integrative Biology

Credit Weight: 0.50

Version 3.00 - September 04, 2019

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

Lectures in MacNaughton room 113 on T/Th 11:30-13:00

1.4 Final Exam

Dec. 5, 2019 8:30-10:30, Room TBA

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

2 Instructional Support

2.1 Instructional Support Team

Instructor: Rebecca Viejou
Email: rviejou@uoguelph.ca
Office: SSC 2460
Office Hours: Monday 9-10

2.2 Teaching Assistants

Teaching Assistant: Xueqi Wang
Email: wangx@uoguelph.ca
Office: SSC 2460
Office Hours: Tuesday 17:30-18:30 (lab room SSC 2306)
 This will be a regular weekly help session intended to help students with assignments and exam preparation in a group setting.

Teaching Assistant: McLean Smith
Email: msmith76@uoguelph.ca
Office: SSC 2453
Office Hours: To be assigned

2.3 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/program>

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

6 Assessments

6.1 Marking Schemes & Distributions

Assignments 1-3 and 5 (5% each): Will be posted to CourseLink on Thursday, and due on the following Thursday. Only hard copies are accepted. A penalty of 10% per business day will be applied in the case of late assignments. Late or early assignments can be dropped off at office SSC2460. If no drop off box is indicated, just slide the assignment under the door, making sure it is clearly labeled as a BIOL4150 assignment. All assignments must solely reflect the work of the submitting student – group work is not permitted.

Assignment 4 (10%): Same as above, except the assignment will be post 2 weeks prior to the due date.

Group Project (20%): The group project will be based on the efforts of 3-4 team members. Each group will submit a digital copy of a scientific poster based on a topic and analysis covered in class. Assessment will be partly based on the evaluation of participation from team members (25%) and the final product of the entire team (75%). Students who do not submit an evaluation of their peers will receive a grade of 0 on the peer evaluation section. A penalty of 10% per business day will be applied in the case of late projects.

Exams (25% each): A mix of short answer and short essay questions based on lectures, discussions, and assigned readings. See CourseLink for a sample examination as the midterm approaches.

The make-up exam in December will apply only to students that were unable to attend one of the mid-terms scheduled earlier in the term. Students who are unable to attend both mid-term exams scheduled during the semester for any reason will be required to write a 10-12 page term 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 any topic covered in lecture, subject to written approval by the course instructor. This make-up term paper is due the last day of lectures. An additional make-up exam will not be provided under any circumstances, nor will mid-term examination dates or times be changed to accommodate conflicts with those in other courses.

Any changes to the evaluation scheme will be considered on a case-by-case basis.

6.2 Assessment Details

Assignment 1 (5%)

Date: Thu, Sep 19, 11:30 AM

Learning Outcome(s) Addressed: 1-2

Assignment 2 (5%)

Date: Thu, Sep 26, 11:30 AM

Learning Outcome(s) Addressed: 1-2

Assignment 3 (5%)

Date: Thu, Oct 3, 11:30 AM

Learning Outcome(s) Addressed: 1-2

Midterm 1 (25%)**Date:** Thu, Oct 10, 11:30 AM, In class**Learning Outcome(s) Addressed:** 1-3**Assignment 4 (10%)****Date:** Thu, Oct 31, 11:30 AM**Learning Outcome(s) Addressed:** 1-2**Group Project (20%)****Date:** Fri, Nov 15, 11:55 PM**Learning Outcome(s) Addressed:** 1 - 3**Assignment 5 (5%)****Date:** Thu, Nov 21, 11:30 AM**Learning Outcome(s) Addressed:** 1-2**Midterm 2 (25%)****Date:** Thu, Nov 28, In class**Learning Outcome(s) Addressed:** 1-3

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/>

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>

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.

More information can be found on the SAS website

<https://www.uoguelph.ca/sas>

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>
