

1. Course Information

Animal Ecology – Biology 3435G – Winter 2024

Lecture outlines will be posted twice per week prior to class. Assignments are computer-based, so bring your portable device to lab.

List of Prerequisites

Biology 2483A/B, and Biology 2244A/B or Statistical Sciences 2244A/B, with a minimum grade of 60%.

Unless you have either the prerequisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites or permissions.

2. Instructor Information

I am happy to field questions in person or via email or Zoom regarding the course content as opportunities permit. Immediately after lecture is often a good time to make casual contact, without the need for scheduling a one-on-one meeting. Otherwise, my office hours are by appointment only. **Please use your Western (@uwo.ca) email address when contacting me and include Biology 3435 in the subject line. Other email addresses or forms of online contact will not be responded to.** If you have an urgent question that requires my attention that is not answered in the syllabus, please direct it to my email. I will respond within 24 hours, so if you have not received a response by the end of the next business day, please send a follow up email to ensure it was received.

3. Course Syllabus, Schedule, Delivery Mode

Key concepts in applied, individual-based animal ecology: limiting factors and the ecological niche, habitat selection, ecological traps, movement, dispersal, migration, growth and bioenergetics, and physiological flexibility.

Further to the goals of the course listed below, outcomes for each lecture will be released throughout the semester. By the end of this course, you should be able to:

- Discuss how environmental factors interact with individual-level processes to determine a species' ecological niche and distribution in space and time
- Explain the core principles of individual-based ecology using accurate ecological and evolutionary terminology
- Apply individual-based ecological predictions to make predictions about novel situations
- Use software to analyze data statistically.

- Evaluate existing literature to design an experiment and to communicate the experiment's purpose with written assignments

The lecture topics presented below are *tentative* and may change as the semester develops. There will be periodic readings in support of the lecture material.

Lecture Topics

Introduction, Writing a research proposal
Biomes, Annual & daily cycles
Natural selection, Life histories
Niche concepts I & II
Habitat selection, range & distribution
Territoriality, Dispersal
Migration, Movement paths I
Movement paths II, Energy storage
Bioenergetics, Growth
Morphology, Flexible phenotypes
Changing environments I & II
Consequences on populations, Summary

4. Course Materials

Required Texts:

- Instructions for the labs will be posted to the OWL website.
- Getting Started in R will be used as support for the labs. Western has an electronic version available [here](#).

Recommended Text:

- Ecology - Bowman & William (6th edition; available via Bookstores)

OWL:

Students should check OWL (<http://owl.uwo.ca>) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class. Students are responsible for checking OWL on a regular basis. All course material will be posted to OWL.

Field Code Changed

Intellectual Property and Course Conduct Policy in the use of Lecture, Tutorial, and other materials: All materials that are posted for and/or presented to you are for your individual use only. Course material (i.e. lecture slides, videos, and other supplementary material posted on OWL), assignments, tests, and exams, are the intellectual property of your instructor that are shared with the student and the University. To post, share, or sell any of this content is a breach of intellectual property. Visual recording is not allowed, however audio recording is permitted for personal use only.

If students need assistance, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

Technical Requirements:

Students should have access to a computer and the R Studio software.

5. Methods of Evaluation

Assignment 1	Working with animal ecology research	10%
Assignment 2	Introduction to R	10%
Assignment 3	Communicating animal ecology research	10%
Research proposal		20%
Midterm		15%
Final exam		35%

The instructor will not answer questions about the course material between the scheduled midterm and the makeup test. There will only be one makeup midterm scheduled for this course, if you are unable to write either the original or makeup test, the weight of the assessment will be shifted to the final.

Unless a question on the midterm or final specifically says to include additional sources, answers will be marked based on information presented by the instructor, any videos presented in class, and from assigned readings.

Late assignments

- Late assessments without accommodation will be subject to a late penalty of 10% per day
- Late assignments with accommodation from academic counselling should be submitted within 24 hours of the end of the 48-hour period. Late assignments will be penalized 10% per day
- An assessment cannot be submitted after it has been returned to the class; if the student receives academic accommodations, the submitted assignments will be reweighted so that the total value of lab assignments and final report is 50%. Otherwise the grade on the assignment will be zero.

6. Student Absences

Academic Consideration for Student Absences

By policy, academic considerations for work totaling 10% or more of the final course grade can be granted **ONLY** by the student's Faculty of Registration (typically by academic counsellors). In such cases, you must provide valid medical or supporting documentation to the Academic Counselling Office of your Faculty of Faculty of Registration as soon as possible.

For further information, please consult the University's medical illness policy at https://uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration.pdf

The Student Medical Certificate is available at https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf

Note that in all cases, students are required to contact their instructors within 24 hours of the end of the period covered. Students should also note that individual instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds, or for other reasons. **All documentation required for absences must be submitted to the Academic Counselling office of a student's Home Faculty.**

Absences from Final Examinations

If you miss the Final Exam, please contact the Academic Counselling office of your Faculty of Registration as soon as you are able to do so. They will assess your eligibility to write the Special Examination (the name given by the University to a makeup Final Exam).

You may also be eligible to write the Special Exam if you are in a “Multiple Exam Situation” (e.g., more than 2 exams in 23-hour period, more than 3 exams in a 47-hour period).

If a student fails to write a scheduled Special Examination, the date of the next Special Examination (if granted) normally will be the scheduled date for the final exam the next time this course is offered. The maximum course load for that term will be reduced by the credit of the course(s) for which the final examination has been deferred. See the Academic Calendar for details (under Special Examinations).

Note: missed work can *only* be excused through one of the mechanisms above. Being asked not to attend an in-person course requirement due to potential COVID-19 symptoms is **not** sufficient on its own.

6. Accommodation and Accessibility

Religious Accommodation

When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request accommodation for their absence in writing at least two weeks prior to the holiday to the course instructor and/or the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at

<https://multiculturalcalendar.com/ecal/index.php?s=c-univwo>.

Accommodation Policies

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf.

7. EDI statement

I seek to create a learning environment for my students that supports a diversity of thoughts, perspectives, and experiences, and honors/respects your identities. To accomplish this:

- If you have a name and/or set of pronouns that you prefer, please let us know!
- If something was said in class (by myself or anyone) that made you feel uncomfortable, please contact me.

The pronouns used by:

- The instructor: she/her
- The TAs:

8. Land acknowledgment

We acknowledge that Western University is located on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak and Chonnonton peoples, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum. With this, we respect the longstanding relationships that Indigenous Nations have to this land, as they are the original caretakers.

9. Academic Policies

The website for Registrarial Services is <http://www.registrar.uwo.ca>

In accordance with policy, https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf

the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner.

Electronic devices. Some very basic calculations may be asked of you on the Midterm or Final. It is therefore permissible to use a calculator, however it must be non-programmable.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Use of Generative AI: Students are permitted to make use of available technological tools, including generative AI tools as supplementary resources in this course and must cite the use of software properly in their submission. When leveraging these technologies, students are encouraged to critically evaluate the generated content and to integrate it with their own understandings to produce original work. Students are responsible for all text they submit and are expected to be knowledgeable of all material in their assignments. In exceptional circumstances, students may be asked to demonstrate knowledge of their work with an in-person meeting. Please note that large language models may make up incorrect facts and fake citations. Students should ensure that proper referencing of original sources are always included.

10. Support Services

Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic related matters: <https://www.uwo.ca/sci/counselling/>.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you information is available about support services for survivors, including emergency contacts at https://www.uwo.ca/health/student_support/survivor_support/get-help.html. To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at http://academicsupport.uwo.ca/accessible_education/index.html if you have any questions regarding accommodations.

Learning-skills counsellors at the Student Development Centre (<https://learning.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Additional student-run support services are offered by the USC, <https://westernusc.ca/services/>.