

1. Course Information

Course Information

Animal Ecology (Biology 3435B) Winter 2022

Lectures: Mondays and Wednesdays 1:30-2:30pm in AHB 1R40*

Tutorials: Section 003: 2:30-5:30pm in BGS 2077*

Section 004: 8:30-11:30am in BGS 2077*

Section 005: 2:30-5:30pm in BGS 2077*

*Both lectures and tutorials will begin the year online, and will move into the designated classroom space once in-person learning resumes. Assignments 2 and 3 are computer-based, so bring your portable device to those labs.

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 requisite 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.

2. Instructor Information

Dr. Tim Hain (thain@uwo.ca); Office in NCB 301F

Office hours: Mondays and Wednesdays at 2:30pm (after class).

Please include "Biology 3435G" in the subject line of any emails addressed to your instructor or to your teaching assistants.

For office hours, please make an effort to attend in the first half hour; if no one is present I may leave the meeting.

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. Labs will largely be self-directed, and use quantitative approaches in the study of individual-based ecology.

Further to the goals of the course listed below, outcomes for each lecture will be released with the lecture. 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, and to model and visualize simple types of animal movement
- Evaluate existing literature to design an experiment and to communicate the experiment's purpose with written assignments

Mode of delivery

Until January 31: Online, synchronous over Zoom. Lectures will be recorded and posted to the course website. Tutorials will be conducted over Zoom as well.

After January 31: to be determined. If the university allows in-person instruction, lectures will be held in-person in NCB 117, and tutorials will move to BGS 2077.

The lectures will be presented as videos, which can be watched asynchronously. The scheduled tutorial time will not be used; instead, I encourage you to use that time to write your reflection (which must be done once), or your comments on another student's reflection (which must be done five times). You may also use that scheduled time to arrange to meet with your TA.

Online Participation and Engagement

- Students are expected to participate and engage with content as much as possible
- Students can post on OWL after watching the recording
- Students can also participate by interacting in the forums with their peers and instructors

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 from the course textbook. All readings can be seen in the supplementary Course Readings section.

Week of:	Lecture Topics & Exam Dates
Jan 10	Introduction, Writing a research proposal
Jan 17	Biomes, Annual & daily cycles
Jan 24	Natural selection, Life histories
Jan 31	Niche concepts I & II
Feb 7	Habitat selection, Range & distribution <i>The midterm will cover up to the end of this lecture</i> Midterm (15%) Saturday, February 12, 2021, 7:00-9:30PM
Feb 14	Territoriality, Dispersal
Feb 21	Reading Week
Feb 28	Migration, Movement paths I
Mar 7	Movement paths II, Energy storage
Mar 14	Bioenergetics, Growth
Mar 21	Morphology, Flexible phenotypes
Mar 28	Changing environments I & II
April 4	Consequences on populations, Summary

Laboratory schedule

Date (week of)	Description
January 10	No labs
January 17	No labs
January 24	NetLogo demonstration - work through Part 1 on your own
January 31	If we are meeting in person, attendance is optional: your TA will take you to a location with goldenrod galls (assignment 1 due on Friday by 5pm, worth 4%)
February 7	No labs – lecture midterm on Saturday
February 14	NetLogo – work through Part 2 on your own
February 21	Reading Week (no lab)
February 28	NetLogo assignment due – practical assessment must be scheduled with your TA or with your instructor during lab time (worth 10%). The practical assessment takes place during your scheduled lab period, but the assignment is not due until March 4 at 5pm.
March 7	While you are waiting to meet with your TA, start the Introduction to R tutorial
March 14	Introduction to R – tutorial to be completed on your own with help from your TA
March 21	Intro to R part 2 – tutorial to be completed and submitted on your own on Friday by 5pm, worth 1%).
March 28	Help on Goldenrod/gallfly assignment in R
April 4	Help on Goldenrod/gallfly assignment in R (assignment 2 due on Friday, April 1 by 5pm, worth 10%)
	Discuss proposal with your TA (due April 8 by 5pm, worth 25%)

4. Course Materials

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](#).

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: <http://owl.uwo.ca>.

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.

Contingency plan for an in-person class pivoting to 100% online learning

In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction beyond January 31, the remaining course content will be delivered entirely online and synchronously (i.e., at the times indicated in the timetable). The grading scheme will **not** change. Any remaining assessments will also be conducted online as determined by the course instructor.

If the tests are conducted online, remote proctoring software (i.e. Proctortrack) will be used. Please see Section 9 for more details.

Technical Requirements

A stable internet connection and a computer with a working webcam is required.

5. Methods of Evaluation

Assignment 1	Gallfly field assignment, due February 4 by 5pm	4%
Assignment 2	NetLogo assignment (code ready by lab the week of February 28; schedule a meeting with your TA during the lab for practical component; submit your assignment to OWL by March 4 at 5pm)	10%
R tutorial	Intro to R, submit by March 18 at 5pm	1%
Assignment 3	Goldenrod/gallfly assignment in R, due April 1 by 5pm	10%
Research proposal	April 8 by 5pm	25%
Midterm	February 12, 7:00pm	15%
Final exam	Scheduled by the Registrar's Office	35%

The makeup midterm will be scheduled for the following Tuesday at 7pm. The instructor will not answer questions about the course material between the scheduled midterm and the makeup test.

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

Answers to all questions must be in your own words. That is, you may not copy-and-paste a lecture transcript and expect to receive full marks for a question.

Late assignments

- Late assessments without self-reported absences (SRA) will be subject to a late penalty of 10%/day
- Late assessments with self-reported absences should be submitted within 24 hours of the end of the 48-hour period. Late assignments will be penalized 10%/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

Students who experience an extenuating circumstance (illness, injury or other extenuating circumstance) sufficiently significant to temporarily render them unable to meet academic requirements may submit a request for academic consideration through the following routes (**NOT through their course instructors**):

- (i) Submitting a Self-Reported Absence (SRA) form provided that the conditions for submission are met. To be eligible for a Self-Reported Absence:
 - an absence must be no more than 48 hours
 - the assessments must be worth no more than 30% of the student's final grade
 - no more than two SRAs may be submitted during the Fall/Winter term
- (ii) For medical absences, submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner to the Academic Counselling office of their Faculty of Registration.
- (iii) Submitting appropriate documentation for non-medical absences to the Academic Counselling office in their Faculty of Registration.

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 that are not covered by the Self-Reported Absence Policy must be submitted to the Academic Counselling office of a student's Home Faculty.**

For the policy on Academic Consideration for Student Absences – Undergraduate Students in First Entry Programs, see:

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

and for the Student Medical Certificate (SMC), see:

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

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>

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](#)).

7. Land acknowledgment

We acknowledge that Western University is located on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak and Attawandaron peoples, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum. This land continues to be home to diverse Indigenous peoples (e.g. First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land and vital contributors of our society.

8. Accommodation and Accessibility

Accommodation Policies

Students with disabilities work with Accessible Education (formerly SSD), 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

9. Academic and Virtual Classroom Policies

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

In accordance with policy, <http://www.uwo.ca/its/identity/activatenonstudent.html>, 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.

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:

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

In the event that tests are conducted online, they will use the remote proctoring service Proctortrack.

Proctortrack will require you to provide personal information (including some biometric data). The session will be recorded. By taking this course, you are consenting to the use of this software.

More information about remote proctoring is available in the Online Proctoring Guidelines at the following link:

<https://www.uwo.ca/univsec/pdf/onlineproctorguidelines.pdf>

Completion of this course will require you to have a reliable internet connection and a device that meets the system and technical requirements for Proctortrack. Information about the system and technical requirements are available at the following link:

<https://www.proctortrack.com/tech-requirements/>

Professionalism & Privacy:

Western students are expected to follow the Student Code of Conduct. Additionally, the following expectations and professional conduct apply to this course:

- Students are expected to interact with their instructor and fellow students with courtesy and respect. The instructor will first issue a warning if he observes any behaviour that is or might be

considered offensive. Subsequent infractions will result in a grade penalty. The warning will mention the extent of the penalty for a similar infraction.

- All course materials created by the instructor(s) are copyrighted and cannot be sold/shared
- Recordings are not permitted (audio or video) without explicit permission
- Permitted recordings are not to be distributed without explicit permission
- Students will be expected to take an academic integrity pledge before some assessments
- All recorded sessions will remain within the course site or unlisted if streamed

10. Support Services

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

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 Student Accessibility Services (SAS) at (519) 661-2147 if you have any questions regarding accommodations.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: <https://www.uwo.ca/se/digital/>.

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

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