

1. Course Information

Animal Behaviour – Biology 3436F – Fall 2022

Lectures:	Tuesday/Thursday	1:30-2:30pm	WIRB-1170
Labs:	002: Monday	2:30-5:30pm	CHB 386/ SSC-1032
	003: Wednesday	2:30-5:30pm	CHB 386/ SSC-1000
	004: Friday	8:30-11:30am	CHB 386/ SSC-1000
	005: Tuesday	2:30-5:30pm	CHB 386/ SSC-1000
	006: Thursday	2:30-5:30pm	CHB 386/ SSC-1000

Lecture outlines will be posted twice per week prior to class. These are meant to serve as a guide-only, and should be supplemented in class with your own notes during lecture. The labs unfold less frequently and will generally follow a three-step process: First, you will participate in live animal observations and real data collection, as outlined in the Lab Manual and as directed by the class TAs. These ‘wet labs’ are an essential component of the course that you must attend. Second, you will attend a tutorial session the following week where you receive instruction on how to analyze the data using basic tests and statistics, which you can perform on your own or university computers. Finally, you will interpret your results and write-up your report to hand in, with coaching from the TAs.

List of Prerequisites

The prerequisite for the class is a half or full-course equivalent statistics course chosen from: Biology 2244A/B, Statistical Sciences 2035, 2141A/B, 2244A/B, or Psychology 2810. Further pre- or co-requisites: Biology 2483A. Anti-requisite: Psychology 3221F/G. Unless you have either the requisites 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.

2. Instructor Information

Professor Emma Churchman
Office: Collip 203
Email: echurchm@uwo.ca

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 3436 in the subject line. Other email addresses or forms of online contact will not be responded to.** OWL forums are often a great way for classmates to discuss material and interact with each other. I will monitor these forums, however, if you have an urgent question that requires my attention, 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 day, please send a follow up email to ensure it was received.

This course in its current form was created, and is typically taught by Dr. Graham Thompson. In an effort to keep in line with previous and future course delivery, lectures and labs have been adapted for the 2022 course offering.

3. Course Syllabus, Schedule, Delivery Mode

This course provides a solid and insightful introduction to the field of animal behaviour, as conceptualized through a 'gene's eye' view of evolution. As such, this course may differ from others that you have taken in that it does not emphasize content (things to memorize). Instead, Animal Behaviour encourages a more fundamental understanding of the basic relationship between genotypes, behavioural phenotypes, and the living environment. From these fundamentals, our goal is to gain competence generating and testing evolutionary-minded hypotheses that potentially explain the ultimate function of behavioural variation and, ideally, do so without having to memorize much.

Another aspect of this course is that the topics are not always discrete (as in, Week 1 = Topic 1; Week 2 = Topic 2; etc) but rather, lecture topics are recursive and united through a common evolutionary framework called inclusive fitness theory. This theory has vast explanatory power and, once mastered, can help explain the origin, maintenance, and elaboration of life on Earth, as well as its loss here or elsewhere. The lecture topic schedule is therefore more continuously unfolding, and lectures sometimes blend from one to the next. It is therefore a good idea to stay on-board from the beginning and strive to make connections.

The lectures do, nonetheless, have structure. Some of the more discrete topics we cover include natural selection, adaptations, fitness trade-offs, evolutionary conflicts, mating systems, kinship, parental care, social behaviour, and so-called major evolutionary transitions. At times, we will tread on topics more familiar to the social sciences to provide an evolutionary perspective on human behaviour and our own social proclivities.

Finally, the lecture content is grounded by a series of labs that require you to assemble and analyse data, test straightforward hypotheses using basic statistics, and interpret your results and present them in short lab reports. The three labs involve live fish and crayfish, and examine aspects of courtship, territoriality, and social hierarchies. The lecture material from the course occasionally draws from a textbook, which is recommended, and from a lab manual, which is required.

Course-Level Learning Outcomes

As a result of attending lectures students should be able:

1. To understand how natural selection works and be able to explain this process to anyone.
2. To identify fitness consequences as they apply to focal individuals and their associates.
3. To recognize the potential for evolutionary trade-offs and conflicts, as well as the potential for multi-individual cooperation and cartels.
4. To appreciate the broader environmental and social context of behavioural networks.
5. To recognize short and long-term fitness profiles, reproductive costs and benefits, immediate and delayed fitness returns, as well as direct and indirect fitness effects.
6. To conceptualize evolutionary processes above and below the level of the individual.
7. To relate the theory-based student of animal behaviour to the workings for our own (human) culture and political systems.

As a result of participating in hands-on laboratory activities, students should be able:

1. To recognize and measure natural variation in behavioural traits.
2. To generate and manage community data using spreadsheets.
3. To choose and perform statistical analyses appropriate to the data at hand.
4. To present and interpret results in written form using support from the primary literature.

Lab schedule

Session & Date	Location	Details
Session 1: Sept 12-16	SSC 1000/1032	Computer lab: Stats refresher
Session 2: Sept 19-23	CHB 386	Experiment Lab 1: Fish foraging under predation
Session 3: Sept 26-30	SSC 1000/1032	Computer Lab 1: Data analysis
Oct 3-7		<i>Hand in lab report 1 to your TA</i>
Session 4: Oct 3-7	CHB 386	Experiment Lab 2: Dominance hierarchies in crayfish
Session 5: Oct 17-21	SSC 1000/1032	Computer Lab 2: Data analysis
Oct 24-28		<i>Hand in lab report 2 to your TA</i>
Session 6: Oct 24-28	CHB 386	Experiment Lab 3: Mate choice in guppies
Session 7: Nov 7-11	SSC 1000/1032	Computer Lab 3: Data analysis
Nov 14-18		<i>Hand in lab report 3 to your TA</i>

Teaching Assistant Contact Info

Section	Day	Time	Teaching Assistant	Email
002	Monday	2:30-5:30	Corrine Genier	cgenier@uwo.ca
003	Wednesday	2:30-5:30	Anna Chernyshova	achernys@uwo.ca
004	Friday	8:30-11:30	Thomas Galfano	tgalfano@uwo.ca
005	Tuesday	2:30-5:30	Corrine Genier	cgenier@uwo.ca
006	Thursday	2:30-5:30	Anna Chernyshova	achernys@uwo.ca

4. Course Materials

Required Texts

- Animal Behaviour – Lab Manual (2022 edition; hard-copies available via BookStores)

Recommended Text

- Animal Behavior – Daniel Rubenstein (12th edition; available via BookStores or on reserve at the library)

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. 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 ext. 83800.

Technical Requirements

To participate in this course, you will need a stable internet connection and a computer with basic software. You will need access to Microsoft Word or Pages, Excel or Numbers, and IBM SPSS. SPSS can be accessed on campus computers or <https://mylab.uwo.ca>.

5. Methods of Evaluation

The overall course grade will be calculated as follows:

Assignments (3)	30%	Lab reports, 10% each
Midterm (2 hours, in-person)	30%	October 6 th , 7pm, location TBD
Final Exam (2 hours, in person)	40%	Date/time determined by the registrar

The table below outlines the University-wide grade expectations

A+	90-100	One could scarcely expect better from a student at this level
A	80-89	Superior work which is clearly above average
B	70-79	Good work, meeting all requirements, and eminently satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable
F	<50	Fail

Accommodated Evaluations

Midterm: If students miss the Midterm for a Dean-approved reason, including conflict with another midterm, then the student will write a make-up midterm that will be scheduled on a need-to basis. The make-up midterm will be scheduled as close as possible to the original date, including, possibly, before the original date. There is therefore no strategic advantage to avoiding the midterm. If, in rare cases, the make-up is missed for a Dean-approved reason, your mark may be re-distributed to the final exam, which is cumulative.

Lab Reports: If students fail to submit a lab report, you will be assigned a mark of zero for that report. If a missed report is accommodated by your faculty's Academic Counselling Office, you will simply hand-in your report 48 hours later than normal (without penalty). If under extenuating circumstances approved by the Dean's Office you cannot complete a lab report at all, then a mark of zero will be replaced by EXCU (excused), which shifts the weight of the missed lab report onto other course evaluations. There is therefore no strategic advantage to avoiding the labs or the lab reports. Late reports will be deducted 10% at the time it was due (start of lab session), with an additional 10% per day thereafter. There is therefore no strategic advantage to delaying your hand-in. Remember, there are only three labs, and there is lots of time between acquiring the data and the due date.

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) 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.
- (ii) 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).

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 you feel like your performance in the class is being impacted by your experiences outside of class, please do not hesitate to schedule a Zoom meeting with me, or send me an email
- If something was said in class (by myself or anyone) that made you feel uncomfortable, please contact me
- Please let me know ways to improve the effectiveness of the course for you personally

The pronouns used by:

- The instructor: she/her
- The TAs:
 - Anna:
 - Corrine: she/her
 - Tommy: he/his

8. Land acknowledgment

We acknowledge that Western University is located on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaap.ewak 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.

9. 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](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf)

10. 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.

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, all remaining course content will be delivered online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). Any remaining assessments will also be conducted online as determined by the course instructor.

All of the remote learning sessions (if required) for this course will be recorded. The data captured during these recordings may include your image, voice recordings, chat logs and personal identifiers (name displayed on the screen). The recordings will be used for educational purposes related to this course, including evaluations. The recordings may be disclosed to other individuals participating in the course for their private or group study purposes. Please contact the instructor if you have any concerns related to session recordings.

Electronic devices. Some very basic calculations may be asked of you on the Midterm or Final. It is therefore permissible to use a calculator.

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.

11. 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/>.