ZOO*4070 Animal Behaviour - DRAFT

Fall 2020
Section(s): 01

Department of Integrative Biology
Credit Weight: 0.50
Version 1.00 - September 10, 2020

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1 Course Details

1.1 Calendar Description

This course provides an introduction to the theories and principles of the behaviour of animals. It includes comparative studies of learning, socialization, social interaction, and other components of animal behaviour.

Pre-Requisites: BIOL*2400, (STAT*2040 or STAT*2230)

1.2 Course Description

This course will explore the scientific theories and methods used to understand how and why animals behave the way they do. Using readings of case studies, short on-line video lectures, and on-line Zoom discussions, we will examine ecological and evolutionary perspectives for the diversity of behaviour in wild animals, as well as the genetic and sensory-motor mechanisms behind the development and maintenance of these behaviours. Class-time will be used for writing mini-midterms, team project discussions, and live question-answer sessions over Zoom. Students will be responsible for viewing on-line mini-lectures and supporting material, as well as reading scientific literature assigned to accompany the lecture material. A major component of the course will be an independent small-team project. The nature of the project will be flexible, but each team project will need to apply critical and creative thinking to explore an aspect of animal behaviour in detail and communicate the team's findings to a broader audience.

1.3 Timetable

Lectures: Monday, Wednesday, Friday

11:30AM - 12:20PM

Via Zoom Invitation in Courselink

Lecture times will be used for mini-midterms, team project discussions, and live question-

answer sessions over Zoom.

1.4 Final Exam

There will NOT be a final examination for this course.

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2 Instructional Support

2.1 Instructional Support Team

Instructor: Rob McLaughlin
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Course Co-ordinator: Sheri Hincks
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Office: SSC 3509

2.2 Teaching Assistants

Teaching Assistant: Matthew Fuirst
Email: mfuirst@uoguelph.ca

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3 Learning Resources

3.1 Required Resources

Courselink (Website)

Course website: This course will use of the University of Guelph's course website on D2L (via Courselink). You are responsible for all information posted on the Courselink page for ZOO*4070. Please check it regularly for important announcements, dates, and course materials.

3.2 Recommended Resources

Textbooks (Textbook)

Textbook: Lectures will not follow a specific textbook. There will be required readings. Most readings will come from **Sherman, P.W., and J. Alcock. 2013. Exploring Animal Behavior: Readings from American Scientist (6th edition)Sinauer Associates, Sunderland, MA**. Individual articles (listed below) can accessed on-line through the UG library. Copies of the book or ebook can be ordered through Amazon or Oxford University Press. American Scientist is a popular magazine so the articles are written in an accessible

manner. On-line mini-lectures will provide theory and concepts to help interpret the readings, but will not necessarily discuss the content of the readings in detail. Mini-midterms will require, but will not be restricted to, identifying connections between material covered in on-line lectures and the content of the readings, particularly how the theory and concepts in the lectures apply to the articles.

Optional study guides: The following textbooks could be consulted as study guides:

For Theory and Concepts
1. Davies, N. B., J. R. Krebs, S. A. West. 2012. An Introduction to Behavioural Ecology. Wiley-Blackwell. 4th edition.
2. Dugatkin, L.A. 2013. Principles of Animal Behavior. W.W. Norton & Company. (2nd or 3rd editions).
3. Rubenstein, D. R. and J. Alcock. 2018. Animal Behavior: An Evolutionary Approach. Sinauer Associates. (Earlier editions with the same title were authored by J. Alcock and are also good).

Many of the general concepts and theories introduced in lectures are covered in the textbooks above so you may find them helpful for clarification. However, some specifics covered in the lectures (e.g. examples from different species, mathematical equations) may be missing from one or all of these sources. It is best to not rely on these solely to prepare for tests. Copies of these textbooks will be placed on reserve in the library.

For Experimental Design and the Measurement of Animal Behaviour
1. Dawkins, M. S. 2007. Observing Animal Behaviour: Design and Analysis of Quantitative Data. Oxford University Press. (electronic access via University of Guelph library)
2. Martin, P. and P. Bateson. 2007. Measuring Behaviour: An Introductory Guide. Cambridge University Press.

These texts cover many of the methodological challenges associated with researching and measuring animal behaviour.

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4 Learning Outcomes

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. *evaluate* major theories and concepts used to explain why and how animal's behave the way they do
2. *discriminate* and *integrate* proximate and ultimate perspectives of animal behaviour
3. *apply* the scientific method to study behaviour
4. *create* and *design* an independent project researching a type of behaviour
5. *collect, analyze,* and *evaluate* behavioural data

6. *communicate* science to your peers and to the public
7. *listen* to what classmates say effectively enough to express their ideas and opinions in your own words
8. *assist* classmates in heterogeneous teams to learn the assigned knowledge and skills

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5 Teaching and Learning Activities

5.1 Lecture

Fri, Sep 6

Topics: Course introduction & overview

Week 1

Topics: Animal behaviour and approaches to studying it

Initiation of team formation and project planning (in class)

REQUIRED readings from "Exploring Animal Behavior: Readings from The American Scientist": Why male ground squirrels disperse (pp 38-45)

Week 2

Topics: Evolution & behaviour

Measuring behaviour

Developing your team charter (in class)

REQUIRED readings from "Exploring Animal Behavior: Readings from The American Scientist": Evolution for the good of the group (pp 79- 89)

Week 3

Topics: Altrusim & inclusive fitness

Developing a 5-slide pitch (in class)

Submission of Team Charter, Monday, 28 September

REQUIRED readings from "Exploring Animal Behavior: Readings from The American Scientist": Physiology of helping in scrub... (pp 275- 282)

Week 4

Topics: Eusociality

Systematic Review (in class)

1st mini-midterm Monday, 5 October

Submission of 5-slide pitch, Wednesday, 7 October

REQUIRED readings from "Exploring Animal Behavior: Readings from The American Scientist": Naked mole-rats (pp 107-117)

Week 5

Topics: No class Monday - Thanksgiving holiday

Cooperation

Project discussion/implementation (in class)

REQUIRED readings from "Exploring Animal Behavior: Readings from The American Scientist": Why ravens share (pp 99-106)

Week 6

Topics: Cooperation

Project discussion/implementation (in class)

2nd mini-midterm, Monday 19 October

REQUIRED readings from "Exploring Animal Behavior: Readings from The American Scientist": None

Week 7

Topics: Parental care

Project discussion/implementation (in class)

REQUIRED readings from "Exploring Animal Week Date Topic Behavior: Readings from The American Scientist": Avian siblicide (pp 184-195)

Week 8

Topics: Habitat use

Project discussion/implementation (in class)

3rd mini-midterm, Monday, 2 November

Submission of systematic review bibliography, Friday, 6 November

REQUIRED readings from "Exploring Animal Week Date Topic Behavior: Readings from The American Scientist": None

Week 9

Topics: Territoriality & Foraging

Project discussion/implementation (in class)

REQUIRED readings from "Exploring Animal Week Date Topic Behavior: Readings from The American Scientist": None

Week 10

Topics: Caching & memory

Anisogamy & sexual selection

Project discussion/implementation (in class)

4th mini-midterm, Monday, 16 November

REQUIRED readings from "Exploring Animal Behavior: Readings from The American Scientist": Week Date Topic
The strategies of human mating (pp 196-208)

Week 11

Topics: Alternative reproductive tactics

Sperm Competition

Female Choice

REQUIRED readings from "Exploring Animal Behavior: Readings from The American Scientist": Week Date Topic
Shaping brain sexuality (pp 283-294), Why do bowerbirds build bowers? (pp 233-238)

Week 12

Topics: Project completion

5th mini midterm, Monday, 30 November

Submission of final project, Friday, 4 December

Week 13

Topics: Completion of PEAR assessment of team members (~20 min task to be completed any time between Saturday, 5

December to Friday, 11 December)

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6 Assessments

6.1 Assessment Details

Mini-midterms (50%)
Course Content/Activity: Lectures and readings
Learning Outcome(s) Addressed: 1, 2, 3, 4

Five mini-midterms (10% each):
Monday, 5 October
Monday, 19 October
Monday, 2 November
Monday, 16 November
Monday, 30 November

Students are expected to follow the university's policy on academic integrity. Mini-midterms should be completed individually, with no outside consultation with classmates, friends, etc. The use of help websites such as **Chegg** or **Facebook** study groups to solicit answers to mini-midterm questions is also inappropriate. The course instructors may use similarity checking software such as turnitin.

Term Project (50%)

Course Content/Activity: Lectures, class discussions, and time outside of class
Learning Outcome(s) Addressed: 1, 2, 3, 4, 5, 6, 7, 8

Team charter (5%) – Monday, 28 September
Project pitch (10%) – Wednesday, 7 October
Systematic review bibliography (10%) – Friday, 6 November
Project product (25%) ** – Friday, 4 December
Team member evaluation using PEAR (**) – Saturday, 5 December to Friday, 11 December

** Your grade on the final project product will be adjusted (down, same, or up) based on evaluations of your contributions made by your team members

Students are expected to follow the university's policy on academic integrity. Team contributions are expected here. Team projects should be independent of projects required in any other courses. Recycling of past projects is also unacceptable. The instructional team has access to past poster presentations from the course.

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7 Course Statements

7.1 Course Content

Mini-lectures will be provided asynchronously and will introduce theory, concepts, case studies, and other materials to support the readings and your projects. Synchronous Zoom sessions will be offered during class time for completing mini-midterms, and to support Q+A discussions regarding asynchronous lecture material and your projects.

Mini-midterms will consist of short and long answer questions designed to assess your thinking skills and integration of course material, particularly lecture material and readings. Each mini-midterm will cover course material from the start of the course until that the end of the class prior to the mini-midterm, but will emphasize the most recent material.

The project will be carried by teams of four to five students. It will provide an opportunity for you to research a behaviour of your interest in greater depth. Due to the pandemic, many of you will be living in different locations, and could have varying access to study subjects. Accordingly, the nature of the project can vary from:

1. a hands-on research project involving observation of animals, collection of data, data analysis, and presentation of results;
2. a systematic review of a behaviour of interest, highlighting what is known and knowledge gaps;
3. literature and video research to create a blog, vlog, or popular article highlighting a recent behavioural study and place it in a broader context; or,
4. literature and video research to critique an already published TV episode, video, blog, vlog, or popular article and create of an improved presentation of that behavioural topic.

7.2 Online Behaviour

Inappropriate online behaviour will not be tolerated. Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor or fellow students
- Using obscene or offensive language online
- Copying or presenting someone else's work as your own
- Adapting information from the Internet without using proper citations or references
- Buying or selling term papers or assignments
- Posting or selling course materials to course notes websites
- Having someone else complete your quiz or completing a quiz for/with another student
- Stating false claims about lost quiz answers or other assignment submissions
- Threatening or harassing a student or instructor online
- Discriminating against fellow students, instructors and/or TAs
- Using the course website to promote profit-driven products or services
- Attempting to compromise the security or functionality of the learning management system
- Sharing your user name and password
- Recording lectures without the permission of the instructor

8 Department of Integrative Biology Statements

8.1 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

8.2 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

8.3 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/

8.4 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)

9 University Statements

9.1 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.

9.2 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

9.3 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

9.4 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.

9.5 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

9.6 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

9.7 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.

9.8 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

9.9 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.

9.10 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.