
BIOL 321

Animal Behaviour

Fall Term (2016-17)

CALENDAR DESCRIPTION

An evolutionary approach to the study of animal behaviour. This course explores patterns and process in behaviour, with emphasis on perception, communication, foraging, spacing, reproduction and social behaviour in a variety of animals. An independent project helps students explore methods of studying and analyzing behaviour in a system of their choice.

RECOMMENDATION BIOL 202/3.0. COREQUISITE 6.0 UNITS in BIOL at the 200-level or above.

SCHEDULE

Lectures: Tues 11:30-12:30pm, Wed 1:30-2:30pm, Fri 12:30-1:30pm. KINGSTON HALL 101
Tutorials: Tues 1430, 1600; Thurs 1000, 1430, 1600; Fri 0830, 1000 in BIOSCI 1341

Instructor	Dr. Laurene Ratcliffe
Instructor Contact	ratcliff@queensu.ca , (613) 533-6142, Biosci4319
Office Hours	Open door OR email to confirm appointment
TAs:	TBA
TA Office Hours	Please contact your TA.

Learning Objectives

Biology 321 provides a detailed overview of the fascinating study of animal behaviour from an evolutionary perspective. The central goal is to help students understand how genetic, hormonal and neural mechanisms influence behavioural variation, and to demonstrate how researchers use evolutionary theory to test hypotheses about the selective pressures that shape the way animals behave. Students will be introduced to exciting research in ecology, psychology, physiology, genetics, applied conservation and animal welfare. Tutorial discussions of current primary literature are designed to help improve students' critical thinking and oral communication. Students will also develop research skills by carrying out an independent project, including hypothesis development, study design, data collection and analysis, and write-up in the form of a manuscript for the journal *Animal Behaviour*.

Learning Hours

<i>Teaching method</i>		<i>Average hours per week</i>	<i>Number of weeks</i>	<i>Total hours</i>
In-class hours	Lecture	3	12	36
	Seminar			
	Laboratory			
	Tutorial	1.5	10	15
	Practicum			
	Group learning			
	Individual instruction			
Other	Online activity	1.5	8	12
	Off-campus activity	2	12	24
	Private study	3	12	36
Total hours on task				123

Course Outline: Main Topics

- Studying animal behaviour: hypotheses, approaches and ethical considerations
- Selection and behavioural adaptation
- Behavioural variation: the roles of genes and environment
- Behavioural variation: hormones and neurons
- Learning and cultural transmission
- Communication
- Foraging and anti-predator behaviour
- Aggression
- Sexual selection and mating behaviour
- Social behaviour: kinship and co-operation
- Animal personalities

Textbooks/Readings

Required text: Nordell, S.E. and T. J. Valone. 2014. Animal Behavior: Concepts, Methods, and Applications. Oxford University Press.

Required Tutorial readings will be listed via **onQ**.

Grading Scheme

Component	Weight (%)	Date
Midterm tests (3) (10%, 20%, 20%)	50%	October 5 (Wednesday) November 8 (Tuesday) December 2 (Friday)
Tutorial mini-questions	14% (7x2%)	By week
Research project proposal	4%	DUE Oct 7 (Friday)
Research project	32%	DUE Nov 25 (Friday)

Late Policy

Assignments must be submitted by the posted deadlines, unless special arrangements have been made PRIOR with the Instructor, due to extenuating circumstances. For the Research Proposal, a penalty of 1% (out of 4%) per day late will be applied; for the Research Project report, a penalty of 5% (out of 32%) per day (or per weekend) late will be applied.

Grading Method

All components of this course will be graded using numerical percentage marks. Your course average will then be converted to a final letter grade according to Queen's Official Grade Conversion Scale

Queen's Official Grade Conversion Scale

Grade	Numerical Course Average (Range)
A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	49 and below

Academic Integrity and Queen's Code of Conduct

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and conduct conform to the principles of academic integrity. Information is available in the Arts and Science Calendar (see Academic Regulation 1 - <http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations>, on the Arts and Science website (see <http://www.queensu.ca/artsci/academics/undergraduate/academic-integrity>), and at Biology's website (see <http://biology.queensu.ca/academics/undergraduate/prepare-yourself/>) and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulations on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

Accommodation Policy, Exam Conflicts, and Other Conflicts

Students who feel they need accommodations for disabilities or extenuating circumstances, or have a

conflict between exams or other commitments should consult the Biology Department's website for details about how to proceed (see <http://biology.queensu.ca/academics/undergraduate/prepare-yourself/>). In general, the earlier a course coordinator is apprised of an extenuating circumstance, the more likely an accommodation can be made. Students are encouraged to be proactive in anticipating difficulties, when it is possible to do so.

Students may apply to write a make-up or deferred exam if they have an exam conflict as defined in the Academic Regulations of the Faculty (See Arts and Science Calendar Regulation 8 - <http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations>). In this case, the student should report to the Exams Office first to verify that there is a genuine exam conflict. Biology professors will not consider your situation to be a conflict unless it meets the criteria set out by the Faculty of Arts and Sciences.

Students may request a make-up or deferred exam if they have an exam conflict with off-campus travel associated with a field course (e.g BIOL-307/3.0 or 407/3.0) that is held during the fall or winter terms.

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Accommodation of Disabilities

Queen's University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact the Disability Services Office (DSO) and register as early as possible. For more information, including important deadlines, please visit the DSO website at: <http://www.queensu.ca/hcds/ds/>