

BEHAVIOURAL ECOLOGY
Psychology 3T3E

Time: Tuesday Evening 19:00-22:00 (term 2)
January 5 – April 6, 2010
Location: [ITB/AB102](#)

Instructor: Dr. Sigal Balshine
Contact Info: Office - PC 304
Email: sigal@mcmaster.ca
Office Hours: by appointment only

Web page:

www.science.mcmaster.ca/psychology/undergraduate/courses/behavioural-ecology-.html
or
www.science.mcmaster.ca/psychology/undergraduate/courses.html#level3
or
ELM

TAs: Marla Anderson, andermv@mcmaster.ca, ext: 26033
Karen Cogliati, cogliakn@mcmaster.ca, ext: 26037
Julie Marentette, marentjr@mcmaster.ca, ext: 26042
Adam Reddon, reddonar@mcmaster.ca, ext: 26037
Natalie Sopinka, sopinkn@mcmaster.ca, ext: 26042

TA Office Hours (by appointment): - Mondays 15:30-16:30 (Julie)
Tuesdays 17:00-19:00 (Karen & Adam)
Wednesdays 10:30-11:30 (Marla)
Friday 10:30-11:30 (Natalie)

Textbook: Animal Behavior (2009, 9th edition).
J. Alcock, Sinauer Associates Inc., Sunderland, Massachusetts, (ISBN 978-0-87893-225-20).

Objectives: Behavioural Ecology is a field devoted to understanding animal behaviour in terms of evolution and ecology. The aim of this course is to further build on the theoretical foundations of the 2nd year Animal Behaviour and Learning Course Psych 2TT3. In this course we will cover both basic and advance behavioural ecological theory as well as key research findings in behavioural ecology. During the course we will examine various aspects of animal behaviour and consider why such behaviour evolves and how behaviour may enable animals to adapt to their environments. By the end of the term students should be able to: describe many of the important theories and empirical studies in Behavioural Ecology and understand and discuss critically the research and issues in this discipline. As a field, behavioural ecology emerged from a synthesis of many scientific disciplines including ethology, evolutionary biology, psychology, anthropology, zoology and population genetics. Note, this course is NOT centrally concerned with *Homo sapiens*, and will take a comparative approach to the study of animal behaviour. Students seeking a course that focuses on human behaviour are advised to consider taking a course devoted to human evolution and behaviour such as Psychology 3F3 or Anthropology 2E03.

Evaluation: Grades in this class will be based on two midterm exams, a written research review and proposal, two in-class workshops and a 3-hr registrar-scheduled final exam. Each workshop is worth 2% of your final grade. Because each workshop is interactive no make up is possible. Each of the two in class midterms (January 26, and February 23) will be worth 23% of your final mark and the final exam will be worth 50% of your final grade. The exam and tests will consist of either long (essay), short answer (phrases or paragraphs) and/or multiple-choice questions (with some choice). The questions will be based on the both the readings assigned for class and on the material covered in the lectures. Good marks will require thorough familiarity with and comprehension of the content of both the textbook and the lectures. Please bring a No. 2 pencil to each exam. NOTE: If any exam does not take place on the scheduled date due to weather, facilities, or any other unforeseen circumstance THE EXAM WILL TAKE PLACE AT OUR NEXT MEETING. The research review proposal is due on April 6th and will be worth 23% of your final mark. I will take your best 2 marks out of the 3 assignments (two midterms, one writing assignment).

McMaster's Grading Scale:

90-100	85-89	80-84	77-79	73-76	70-72	67-69	63-66	60-62	57-59	53-56	50-52	0-49
A+	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F

Term tests will assess knowledge and comprehension of lectures prior to the test night and of readings *up to and including* those assigned for the test night. There will be no "make-up tests". If you miss 1 assignment without filing some sort of excusing (e.g. medical) documentation with your Dean of Studies, your term mark will be based on the other 2. If you miss 1 (or more) and *do* file documentation with your Dean, then your grade will be based on the test(s)/assignment and exam that you did completed, with appropriate re-weighting.

The research review/proposal will be based on one of the 8 assigned readings. You can pick the one you liked best, to review (1 page), place it in a theoretical context (1 page) and propose new experiment(s)/research program that are the natural next step or direction to the study you have reviewed. I will provide further details about this research review/proposal before reading week.

Policy Reminder: The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

The instructor reserves the right to adjust final marks up or down, on an individual basis, in light of special circumstances and/or the student's total performance in the course. It is your responsibility to ensure that you have met all prerequisites listed in the McMaster calendar for this course. If you lack any prerequisites for this course, the Department may cancel your registration at any time.

Please note the Statement on Academic Ethics and the Senate Resolutions on Academic Dishonesty as found in the Senate Policy Statements distributed at registration and available in the Senate Office. Any student who infringes one of these resolutions will be treated according to the published policy. Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, specifically Appendix 3, at http://www.mcmaster.ca/senate/academic/ac_integrity.htm
The following illustrates only two forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.

2. Copying or using unauthorized aids in tests and examinations

Tentative Course Schedule

Assigned readings will be available as .pdf files on the class webpage. Lecture notes will also be found there, and will in the future be available before the class. I will try to get the notes up by 4:00 pm each Tuesday afternoon. Feedback on tests and other course-related materials will also be placed on the Psych 3T3 site.

Week	Dates	Topics	Readings
1	January 5	Evolution, Natural Selection Levels of Analysis	Chp. 1 & Chp. 2
2	January 12	Sex and Mating Systems	Chp. 11
3	January 19	Workshop 1. Sex Allocation	Assigned Reading
4	January 26	Midterm Exam 1. Sexual Selection 1. Competition	Chp. 10
5	February 2	Guest Lecturers: Adam Reddon & Karen Cogliati Sexual Selection 2. Mate Choice	Chp. 10
6	February 9	Guest Lecture: Dr. Jeff Galef Sexual Conflict	Assigned Reading
7	February 16	READING WEEK No Class	
8	February 23	Workshop 2. Parental Care	Chp. 12
9	March 2	Guest Lecturer: Dr. Mertice Clark Guest Lecturer: Marla Anderson	Chp. 12
10	March 9	Sibling Rivalry Parent-Offspring Conflict	Assigned Reading
11	March 16	Exam 2. Living in Groups	Chp. 13
12	March 23	Guest Lecturer: Dr. Marian Wong Kinship & Kin Recognition	Chp. 13 Assigned Reading
13	March 30	Cooperation and Conflict in Social Groups Guest Lecturer: Dr. Jim Quinn	Chp. 13
14	April 6	Animal Behaviour in Action Guest Lecturers: Julie Marentette	Assigned Reading

Required Readings

1. Reading for January 5th (Evolution)

Grant PR & Grant BR 2006.
Evolution of character displacement in Darwin's finches.
Science 313: 224-226.

2. Readings for January 19th (Sex Ratio Allocation)

Pike, TW & Petrie M 2005.
Maternal body condition and plasma hormones affect offspring sex ratio in peafowl.
Animal Behaviour, 70, 745-751.

Ellegren H, Gustafsson L & Sheldon BC 1996.
Sex ratio adjustment in relation to paternal attractiveness in a wild bird population.
Proc. Natl. Acad. Sci. USA 93: 11723-11728.

3. Readings for February 9th (Sexual Conflict)

Rowe L, Arnqvist GR, Sih, A & Krupa J 2004.
Sexual Conflict & the evolutionary ecology of mating patterns: water striders as a model system.
Trends in Ecology and Evolution, 9: 289-293.

4. Readings for March 9rd (Parent-offspring conflict and Sibling Rivalry)

Mock, DW 1984.
Siblicidal aggression and resource monopolization in birds.
Science, 225, 731-733.

Kilner, R. 1997.
Mouth colour is a reliable signal of need in begging canary nestlings.
Proceedings of the Royal Society, Series B 264: 963-968.

5. Readings for March 23rd (Kinship and Kin Recognition)

Pfennig, DW 1999.
A test of alternative hypotheses for kin recognition in cannibalistic tiger salamanders.
Behavioral Ecology 10: 436-443.

Mateo J.M. & Johnston, R.E. 2000.
Kin Recognition and the 'armpit effect': evidence of self-referent phenotype matching.
Proceedings of the Royal Society B. 267: 695-700.

6. Reading for April 6th (Animal Behaviour in Action)

Bell, A. 2001.
Effects of an endocrine disrupter on courtship and aggression in male three-spined sticklebacks.
Animal Behaviour 62, 775-780.