

# Animal Behaviour

## Syllabus: BIOC54H3 Winter 2017

Course Instructors: Dr. Rachel Sturge, [rachel.sturge@utoronto.ca](mailto:rachel.sturge@utoronto.ca), SW 563B  
Office hours: Wed and Thurs 9:00 – 10:00 or by appointment  
TAs: Monica Mowery, Catherine Scott and Nishant Singh

Textbook: No required textbook.  
Nordell and Valone, *Animal Behavior: concepts, methods and applications* 2<sup>nd</sup> edition (recommended)

Class meeting time: Lectures Wednesday 14:10 – 16:00 SW 143  
Tutorials TUTORIALS  
TUT001 Wednesday 16:10 – 17:00 BV 363  
TUT002 Thursday 14:10 – 15:00 BV 355  
TUT003 Thursday 15:10 – 16:00 BV 355

### 1) Course Description

This class is a lecture and tutorial course that explores the general themes and important questions in the field of animal behaviour. We will cover subjects that examine how and why non-human animals interact in the way they do with their environment and with each other. Topics will include the underlying genetics of behaviour, behavioural development and learning, sensory perception and communication, habitat selection, foraging, sexual selection, mating systems, parental care, and ecological aspects of social behaviour, among others. This is a quantitative course, and at least a passing familiarity with statistics and mathematics is assumed.

### 2) Learning Outcomes

At the end of this course, students should be able to...

1. Correctly use common biological terms and principles from the study of animal behaviour and use them to interpret the material covered in this course.
2. Apply studied behavioural terms and principles to new situations.
3. Analyze behavioural principles based on the ability to distinguish between facts and inference.
4. Synthesize general principles from different sub-fields of behaviour to solve problems using creative thinking.
5. Read and interpret scientific literature from the field, and use that literature to synthesize persuasive arguments in both debates and in written form.
6. Explain how evolution by natural selection shapes current behaviour and how shared evolutionary relationships (phylogeny) can be used to understand the evolutionary history of behaviour.

### 3) Academic Honesty

All work in this course is covered by the University of Toronto's policies on Academic Misconduct (see below hyperlink), which outlines the behaviours that constitute academic dishonesty, as well as the processes for addressing academic offences. The University treats cases of cheating and plagiarism very seriously, so please **REVIEW THIS MATERIAL** as you are expected to be familiar with it.

<http://www.governingcouncil.utoronto.ca/Assets/Governing+Council+Digital+Assets/Policies/PDF/ppjun011995.pdf>

Note that academic dishonesty includes (but is not limited to) failure to properly acknowledge other people's words, information or ideas (including information in textbooks), making up sources or facts, citing non-accredited sources (such as Wikipedia) as if they were peer-reviewed, submitting your own work in more than one course without the permission of both instructors, obtaining or providing unauthorized assistance on any assignment or test (including the use of unauthorized aids or looking at the answers of another student), misrepresenting your identity or falsifying / altering any documents required by the university (for example, a doctor's note), or putting your name on work that you did not contribute to.

All students should have confidence in their ability to master this course material and earn an acceptable grade. If you are struggling with the material, please come see me or speak with your Teaching Assistant. You should also consider forming study groups as research has shown that students who participate in study groups earn, on average, higher grades in courses than those who do not.

### 4) Course Policies

- Come to class on time and be ready to start as soon as class begins.
- Read all material related to that day's lecture / tutorial BEFORE class, and complete any pre-class assignments in advance.
- Ask questions and discuss the material with other students. Group discussion promotes learning.
- Be an active learner and participate fully in all aspects of the course. Hold yourself and your teammates accountable for all tasks assigned to you / them in any group activity. Be honest with yourself if you are not contributing as fully as you should be, and make positive changes, if necessary.
- If using technology, which includes (but is not limited to) cellphones, tablets and computers, please use them responsibly. The human mind is NOT capable of multitasking (as many scientific studies have shown), and distracted learners are not high-achieving learners. I reserve the right to dock points from any students caught using electronic devices for non-class activities, and also to ban them from future use of these devices while in class.

## 5) Assessment

### a) Methods of instruction

The basic information of this course will be presented through lectures on major topics, student-led literature reviews of recent articles, and group-based active learning exercises. Class attendance (lecture and tutorial) is **mandatory** and prompt arrival is crucial.

### b) Tutorials

We will spend time in tutorial analyzing and discussing scientific papers on topics that relate to each week's lecture. Before **lecture**, students are expected to read the assigned paper and complete, on their own, a pre-lecture reading quiz through Blackboard (worth 5 points towards that week's tutorial grade). In tutorial, students will work in small groups to answer questions related to that week's article. Groups will then be randomly assigned questions and asked to present their findings to the class as a whole. Through these discussions, you will learn how to read scientific literature critically, and how to identify both the limits of a study and the general principles that we can draw from it. Reading scientific literature requires understanding the basics of methodology, putting effort into thinking about the research and the results, and critical thinking skills. In addition, these readings will supplement the lecture material, and the material from these papers will be covered on tests / exams.

In addition to literature discussions, students participate in active learning and group-based exercises aimed at promoting deeper thinking about the concepts introduced in this course. These exercises may include, but are not limited to, observing and describing animal behaviour, as well as completing writing assignments, debates, and presentations. Some of these activities will require that you read additional material or conduct research outside of the classroom. More details regarding these assignments will be given out as the semester progresses.

**No makeup tutorials will be permitted.** All students are expected to attend their own tutorial section, and will be allowed to drop their lowest tutorial score, regardless of the reasons for the missed tutorial. Note this dropped score also includes all university-accepted excused absences (such as illness.) If you will miss more than one tutorial for a university-accepted reason, you must contact your TA or myself as soon as possible so we can discuss alternate accommodations.

### c) Exams

There will be two exams: a midterm exam worth 25% of your final grade, and a cumulative final exam worth 40% of your final grade. All exams will be based on lecture and tutorial material as well as on the assigned literature. Readings supplement the lecture material and are immeasurably helpful in preparing for exams. All exams will consist of multiple choice, short answer and problem-solving questions.

The final exam (worth 40% of your final grade) will take place during the final exam period. It will be cumulative, and will have a similar format to the term tests, but may include a few essay questions as well. You will be given advanced notice on the format of this final exam.

**Makeup midterm exams.** If you miss the midterm due to a university-accepted reason, please contact me within three days of the missed test and provide me with documentation to support your absence. Students with a valid excuse will be given a makeup exam. Students who fail to contact me within three days will earn a score of zero and no makeup exam will be permitted (note that students who are unable to contact me within this time frame due to circumstances beyond their control are exempt from this.)

#### **d) Accessibility**

We welcome students with diverse learning styles and needs at this University and in this course. If you require some sort of accommodation, please see me or contact the AccessAbility Services Office (see below links) as soon as possible. We will work with you to ensure that you are able to meet the course learning objectives successfully. The UTSC AccessAbility Service staff are available by appointment to assess your specific needs, provide referrals, and to arrange appropriate accommodations. All enquiries are confidential.

UTSC AccessAbility: [ability@utsc.utoronto.ca](mailto:ability@utsc.utoronto.ca), (416) 287-7560, SW 302

#### **e) Grading policies**

Students are responsible for all material that is presented in lecture and tutorial. If you miss a class, you are strongly advised to obtain the notes and assignments from another student. Participation in lecture and tutorial will be an important factor in determining borderline grades, so attendance and participation are strongly advised. Please note again that **NO MAKEUP TUTORIALS ARE PERMITTED.** For more details, please refer to the relevant sections of this syllabus.

<b>Category</b>	<b>Percent</b>
Midterm Exam	25%
In class exercises	10%
Final Presentation	10%
Tutorial Assignments	15%
Final Exam (cumulative, during final exam period)	40%

### Late penalties

No late assignments will be accepted for reading quizzes, or for work that is completed in lecture or tutorial. For all other assignments, work that is turned in late will be penalized by 10% per day, starting with 5 minutes after the due date / time, unless the student provides documented proof of the reason for their tardiness.

### One week 'Statue of Limitations'

All grading questions about exams, homework, quizzes, group exercises, literature reviews, etc. must be addressed within one week of the scores being posted online or handed out in class. After this time, no changes will be made to existing grades unless there is a calculation error. Thus, it is essential that you check your grades regularly and contact your TA or instructor within one week if you feel an error has been made or if you are unsure why you lost points.

### **f) Final Presentations**

All students will work in groups to prepare a 10-minute presentation that they will give in the last few weeks of class. The topic should be an elaboration on some topic covered in the course, or an area of animal behaviour that was not covered that interests you. These must be presentations of a specific scientific topic and should include a current review of the topic and also future directions of the field. All presentation topics must be approved by your TA. Students will **INDEPENDENTLY** prepare a short paragraph describing their topic by Jan 25<sup>th</sup>, which will be reviewed by other students in the class. These paragraphs will then be edited and turned in for credit. Students will also prepare an outline of their presentation that will again be peer-reviewed, edited, and turned in for credit. **All students must attend class during all days of presentation as part of their presentation grade.** Please see the deadlines on the following page for additional information.

### Presentation Deadlines

Week of Jan 25 <sup>th</sup>	<ul style="list-style-type: none"><li>• Paragraphs are due in tutorial</li><li>• Students will read each other's work / provide feedback</li></ul>
Week of Feb 1 <sup>st</sup>	<ul style="list-style-type: none"><li>• Paragraphs are due for grading</li></ul>
Week of Feb 15 <sup>th</sup>	<ul style="list-style-type: none"><li>• Outlines are due in tutorial</li><li>• Students will read each other's work / provide feedback</li></ul>
Week of March 1 <sup>st</sup>	<ul style="list-style-type: none"><li>• Outlines are due for grading</li></ul>
Last three weeks of class	<ul style="list-style-type: none"><li>• Presentations will take place in tutorial</li></ul>

## Schedule of Classes

Instructor: Dr. Rachel Sturge (rachel.sturge@utoronto.ca)

Lecture: Wednesday 14:10-16:00 SW 143

### Readings from "Animal Behavior" 2nd edition, Nordell & Valone

Week	Date	Topic	Reading
1	04-Jan	Intro & History of Behaviour	1, 2
2	11-Jan	Behavioural Genetics	3, 4
3	18-Jan	Hormones, nerve cells & development	-
4	25-Jan	Signals & communication <b>Paragraph review in tutorial</b>	5, 6
5	01-Feb	Learning & language <b>Paragraphs due for grading</b>	7
6	08-Feb	Habitat selection	10, 11
<b>Midterm Exam TBA</b>			
7	15-Feb	Foraging <b>Outline review in tutorial</b>	8
8	22-Feb	<b>READING WEEK</b>	
9	01-Mar	Group living <b>Outlines due for grading</b>	9
10	08-Mar	Evolutionary Stable Strategies	-
11	15-Mar	Social Behaviour <b>Final Presentations in tutorial</b>	15
12	22-Mar	Sexual selection & mating systems <b>Final Presentations in tutorial</b>	12, 13
13	29-Mar	Parental Care <b>Final Presentations in tutorial</b>	14
<b>Final Exam</b>		<b>TBA</b>	