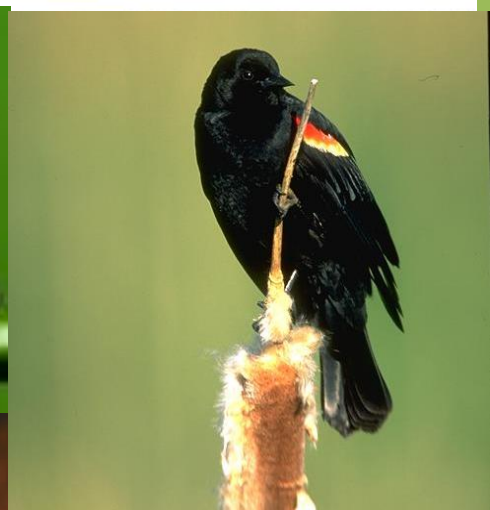


2018 Syllabus

BIO D45: Animal Communication



Mark Norman



Prof. Andrew Mason



Course Overview

This course will examine the mechanisms by which animals produce and receive signals in different sensory modalities, and the factors that govern the evolution and structure of communication signals. We will discuss methods for identifying and quantifying information and consider how these might be applied to the study of animal communication systems. The overall goals of this course are: 1) to demonstrate the importance of communication in the organization of animal behaviour; 2) to introduce some theoretical and empirical tools used in studying the origins and structure of animal communication.

Learning Objectives

In this course you will:

- 1) develop your ability to identify, answer, and communicate questions in any area of scientific enquiry.
- 2) develop your ability to access, evaluate, and interpret factual information from a variety of sources, and use information to make inferences in the context of hypothesis testing.
- 3) develop your ability to read and interpret papers from the primary literature.
- 4) learn the methodologies & approaches used to answer questions in Animal Communication
- 5) understand theory underlying selected areas of Animal Communication

GENERALIZABLE
COMPETENCIES

SUBJECT-SPECIFIC
KNOWLEDGE

Communication is central to the lives of most, if not all animals. How and why animals communicate is thus central to understanding the ecology, behavior, neurobiology, and evolution of animal systems. This course will focus on understanding the basic principles driving the communication system of a species, drawing together topics ranging from the physical properties of the environment, physiology of sensory systems, animal behavior and ecology, using examples from classic and recent publications.

Course Materials

All course Information & communication is via Blackboard.

Lecture/Tutorials Location/Time

AC334 (except where otherwise noted on the schedule)

- Wednesday 14:00 – 16:00
- Thursday 12:00 – 13:00

Course Instructors

Office: SW421H

Professor: Andrew Mason

(amason@utsc.utoronto.ca)

TA: Terrence Chang

(terrence.chang@mail.utoronto.ca)

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Office hours: Mondays 1pm to 3pm, SW421H

Course homepage. The course syllabus, lecture slides, and assignment rubrics will be posted on Blackboard.

Class discussion board. This is an excellent way to connect with your classmates and seek input on your understanding of class material. I will comment on discussions or questions once per week. As always, inclusive and civil discussion is the required standard. Disagreements are fine, personal attacks are not.

Textbook & Readings: Lecture material will be based on:

- *Principles of Animal Communication, 2nd Ed.* 2011. Bradbury & Vehrencamp. ISBN-13: 978-0878930456

Primary Literature Papers & Case Studies. Lectures will be supplemented with more detailed examples drawn from classic and contemporary research in Animal Communication. Citation information/DOI's for the main papers relevant to these examples will be posted on Blackboard.

Lecture slides will be posted on the course homepage as pdf files by the day **after** the lecture (possibly day of...) to allow you to fill in details or refer to figures/tables/references. It is your responsibility to take notes, engage with the material as you hear it, and ask questions to clarify whenever it would help your understanding.

Course Format

Lectures provide background and the theoretical framework underlying a given area of focus. Usually 1 – 2hr sessions on Wednesdays, these sessions are intended to be interactive, with questions, discussion, and challenges encouraged.

Lecture Topics. A tentative schedule of topics is provided at the end of this document. Any additional readings will be posted on Blackboard and updated as the course progresses. This will allow some flexibility to follow up on topics that may emerge from class discussions, or recently published papers.

Tutorials. Tutorial sessions may follow any one of several formats, depending on where we are as the course progresses. Tutorials may focus on: supplementary Web Topics from the textbook website; case studies of topics selected from the primary literature on animal communication; student-led presentations (see optional assignments, below).

Assignments. A component of your mark will be based on a set of brief, structured, written assignments based on papers from the primary literature. There will be four assignments (5% each), and for each one you will be given a list of suggested papers to choose from. Optionally, you may substitute an oral presentation (worth 10%) for two of the written assignments (i.e. you complete **two written** assignments **plus one presentation, instead of four written** assignments). Depending on how much interest there is in the presentation option, it may be a group presentation. If you opt for the presentation, you will need to come up with a paper that is **not** from the list provided for written assignments (I or the TA can help with selection).

Evaluation: best of the two schemes below.

Assignments	20% (4 X 5%, or 2 X 5% + 10%)	20% (4 X 5%, or 2 X 5% + 10%)
Mid-term exam	30%	40%
Final exam (cumulative)	50%	40%

Course Policies & Administration

AccessAbility

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services as soon as possible. AccessAbility Services staff (located in Rm SW302, Science Wing) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations 416-287-7560 or email ability@utsc.utoronto.ca. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

Academic honesty & plagiarism

Academic integrity is one of the cornerstones of the University of Toronto. It is critically important both to maintain our community which honours the values of honesty, trust, respect, fairness and responsibility and to protect you, the students within this community, and the value of the degree towards which you are all working so diligently.

According to Section B of the University of Toronto's [Code of Behaviour on Academic Matters](#), which all students are expected to know and respect, it is an offence for students:

- To use someone else's ideas or words in their own work without acknowledging that those ideas/words are not their own with a citation and quotation marks, i.e. to commit plagiarism;
- To include false, misleading or concocted citations in their work
- To include copyrighted images without permission or attribution

There are other offences covered under the Code, but these are by far the most common ones that are likely to apply in this course. Please respect these rules and the values which they protect.

Turnitin.com

Normally, students will be required to submit all assignments and their final exam to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their work to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com website.

If you are not sure what constitutes plagiarism, see:

www.utoronto.ca/academicintegrity or www.writing.utoronto.ca/advice/using-sources

or talk to Prof Mason, Terrence, or visit the Writing Centre

Missed final exam

Students who miss the final exam must [petition the Registrar](#).

Late assignments

Students who are unable to submit an assignment on time due to illness must notify me by email within 3 working days of the due date. Students must then present to me a completed [UTSC medical certificate](#) which confirms their illness, and medical attention, at the time specified. Students who contract a flu-like illness are advised by University of Toronto policy to avoid attendance during their illness, although they must still contact me to declare that they have contracted a flu-like illness, even if medical attention is not sought. If medical excuses are validated, no late-penalty will be assessed for the assignment. Note however that I will require submission of earlier draft versions of the assignment, as illness on the due date is not sufficient excuse for a lack of progress on the assignment.

Contact

The best ways to contact me are during office hours (Mondays 1pm to 3pm, SW421H), during/after class, and via the course discussion board. The course website will include a discussion board for student interaction, and I will comment on ongoing threads once each week.

My response time to email is relatively slow, and if I receive a course content question that is likely to be of general interest to the class, I will post and answer it on the discussion board. Please try to reserve email contact for course administration issues (e.g., illness, missed classes).

This course is Green!

This course is recognized as a [UTSC Green Course](#) which has steps in place to reduce the amount of course-generated paper.

Join me in committing to minimizing the use of paper in this course:

- think twice before printing lecture slides or papers
- use recycled paper where possible
- print double-sided or with multiple slides per page if you must print!



Tentative Schedule

(meetings in AA334)

Date	Wed. 2-4pm	Date	Thurs. 12 – 1pm
January 10	Introduction to Animal Communication	Jan 11	No class
January 17	Acoustics	Jan 18	<i>Theory & Practice</i>
January 24	Visuals	Jan 25	<i>Theory & Practice</i>
January 31	Chemicals	Feb 1	<i>Theory & Practice</i> Assignment 1
February 7	Other modalities	Feb 8	<i>Theory & Practice</i>
February 14	Midterm (maybe)	Feb 15	<i>No class</i> Assignment 2
READING WEEK (Feb 16 – 21)			
February 21	Break	Feb 22	Break
February 28	Decisions & Information	March 1	<i>Theory & Practice</i>
March 7	Economics of communication	March 8	<i>Theory & Practice</i> Assignment 3
March 14	Signal evolution	March 15	<i>Theory & Practice</i>
March 21	Conflict, Mating	March 22	<i>Theory & Practice</i> Assignment 4
March 28	The rest...	March 29	<i>Theory & Practice</i>
April 4	TBA	April 5	TBA