

Faculty of Science Course Syllabus
Department of Psychology and Neuroscience
Advanced Animal Behaviour (PSYO & NESC 3162)
Fall 2021

Dalhousie University is located in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq. We are all Treaty people.

All students are required to comply with health and safety requirements on campus, and should be considerate of others' health concerns. Non-compliance may be reported under the Code of Student Conduct.

Please note that, as far as Dr. Gadbois is concerned, this class is a safe space. We can all contribute to a tolerant and discrimination-free atmosphere (for race, ethnicity, gender/sexual preference, language, religion, age, disability, etc.).

Instructor: Simon Gadbois sgadbois@dal.ca 902-494-8848
Office hours: Monday, 12:00 - 14:00
Lectures: Monday, Wednesday, Friday 10:30 to 11:30; LSC C238 (Common Area)
Laboratories: N/A
Tutorials: N/A
Course delivery: In-person, non-recorded
Course teaching assistant: Laura Kiiroja. Available by appointment online or in-person.
Laura can be contacted at Laura.Kiiroja@dal.ca.

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**Course Description**

This course focuses on advanced theories and applications of animal behaviour, with a focus on proximate, integrative and applied questions. It offers a more in-depth analysis of topics covered in NESC/PSYO 2160.03 and explores trends and issues in contemporary ethology, animal psychology and behavioural ecology.

FORMATS: Lecture

LECTURE HOURS PER WEEK: 3

**Course Prerequisites**

PSYO/NESC 2000 or NESC 2007 or BIOL 3062.03 or BIOL 3630.03, and PSYO/NESC 2160.03

CROSS-LISTED: PSYO and NESC 3162.03

**Course Exclusion:** N/A

**This course is one of the Animal Behaviour Certificate available courses:**

<https://www.dal.ca/faculty/science/programs/diploma-certificate-programs/certificate-in-animal-behaviour.html>

### Learning Objectives

*General:* This course will focus on advanced theories and applications of animal behaviour, with a focus on *proximate, integrative* and *applied* questions. It will offer a more in-depth analysis of topics covered in NESC/PSYO 2160 and will explore trends and issues in contemporary **animal psychology** and **behavioural biology** (ethology, sociobiology/behavioural ecology).

*Specific:* The approach will emphasize proximate issues in animal social behaviour with a special attention to the neurophysiological, endocrinological, social, affective, conative and cognitive underpinnings of communication and social behaviour. Reference to applied animal learning, conservation and behaviour, human-animal interactions and conflicts, welfare and other contemporary issues in animal behaviour will be made.

At the end of this course, you will be able to:

1. Understand, explain and apply fundamental principles of behavioural biology and comparative psychology to practical problems in conservation, medical, and other real world applied areas.
2. Understand and explain the advanced principles of animal communication and zoosemantics, including inter-specific associations and interactions.
3. Understand and explain the role of the behavioural sciences and neurosciences (e.g., neuroecology) in conservation.
4. Understand and explain the different applications of the behavioural sciences and neurosciences to applied research in animal behaviour, including in the context of the R&D (research and development) model of applied animal research (the focus will be on non-profit applications, e.g., health, environment, and conservation).
5. Synthesize and integrate the methodologies and perspectives of behavioural biology (ethology and behavioural ecology) and comparative (or animal) psychology. For example: Using principles of classical conditioning in wildlife management or captive breeding of endangered species.

### Course Materials

- The following textbook is suggested for students wanting a textbook (this is not mandatory, it is not at the bookstore). Second hand hard copies are likely available for sale online. Note that the ebook version is cheaper:
  - Bradbury, J.W. and Vehrencamp, S.L. (2011). *Principles of Animal Communication*, 2nd Edition. Oxford (formerly a publication of Sinauer).
  - Two secondary books for the course are:
    - Hogan, J. A. (2017). *The Study of Behavior: Organization, Methods, and Principles*. Cambridge University Press.
    - Stevens, M. (2013). *Sensory Ecology, Behaviour and Evolution*. Oxford University Press.
- Other material: Scientific papers on specific topics may be suggested at any time during the term.
- The course is on Brightspace. Lecture notes (PDF files and/or text files) and grades will be posted.
- Note that:
  - Lecture notes are typically posted once a week, before class, but updates can be uploaded after class as well.

- Lecture notes are organized by theme, i.e., the sections are more like chapters, and not organized by lecture.
- You should be annotating the lecture notes provided (outline), or taking your own to supplement the material presented.

### Course Assessments

| Assessment                   | % of final grade | Date                  | Location, time, duration  |
|------------------------------|------------------|-----------------------|---------------------------|
| Midterm                      | 30%              | 15 October 2021       | Regular class, 50 minutes |
| Term project                 | 40%              | 5 November 2021       | See below for some info   |
| Final exam: Fully cumulative | 30%              | Scheduled exam period | TBD by the Registrar      |

### Midterm(s) and final exam:

The exam (mid-term and final) format is based on the **short answer** model. This is therefore a recall-based exam, not a recognition-based exam.

Material is fully *cumulative* for the final exam.

Note that you will be tested on:

- Material from available lecture notes.
- Material presented in class not included in the lecture notes: Your personal notes will matter.
  - Lecture notes are only an outline, Dr. Gadbois does not use “slides” as if they were a teleprompter. This means that missing lecture material translates into missing crucial information for an exam. You should be annotating the outline provided, or taking your own notes to supplement the material presented. For copyright reasons, some material will not be showing on the uploaded slides.

### Term project:

The project consists of a virtual (digital) poster presented in a recorded (live) session (following the 3-minute presentation format). The actual project will consist of two file submissions (both the recorded presentation and the poster will require an electronic submission) and the evaluation will be on the poster itself, and the 3-minute presentation.

The 40% is distributed as follows:

|                                                 |     |
|-------------------------------------------------|-----|
| Poster on species monograph (as standalone)     | 20% |
| 3-minute talk/presentation of poster (recorded) | 20% |

**Course requirements:**

In order to pass this course you need to:

- Obtain a final grade of 50% or more (minimum D)
- Write the midterm and the final exam\*. Please refer to the course policy on missed tests/exams in the section below.
- Note: Any missed exams that are not resolved according to course policy will result in an INC final grade for the course. An INC that is not addressed within a month of the end of a class will result in an F for the course.

\* Academic Calendar regulation 16.1 "In order to complete a course satisfactorily, a student must fulfill all the requirements as set down in the course outline [Syllabus]."

**Other course requirements**

*Although not a course requirement per se, attendance will be taken intermittently, and randomly.*

**Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale**

|     |       |       |       |       |       |       |       |       |       |        |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| F   | D     | C-    | C     | C+    | B-    | B     | B+    | A-    | A     | A+     |
| <50 | 50-54 | 55-59 | 60-84 | 65-69 | 70-72 | 73-76 | 77-79 | 80-84 | 85-89 | 90-100 |

**Course Policies on Missed or Late Academic Requirements****Missed lectures:**

Although there is no direct penalty for missing lectures, it is particularly important that you realize you will be accountable for material covered during the lectures. As noted above, the outlines provided are only an outline.

**Missed tests/exams:**

- No need for a SDA (student declaration of absence) in this class.
- Since SDA's are **not** valid for Final Exams, if you miss the final, only students with a valid and documented excuse will have the following options (at the discretion of Dr. Gadbois, and following consultation with the Assistant Dean of Student Affairs):
  - You write an essay question exam.
  - You take an oral exam (~30 minute recorded session; ~10 questions).
- *There are no actual make-ups for a missed midterm in this course:* Your final exam adds the value of the missed midterm. In other words, your final will weigh more (30% + the value of the missed midterm, in this case, 30% + 30% = 60%).

For long-term or chronic absences please speak with either:

- An advisor at the Student Advising and Access Services if you have accommodations.
- The Assistant Dean of Student Affairs (at the Faculty of Science): Patricia Laws, scieasst@dal.ca.

Remember that the final exam is fully cumulative, and therefore will be covering the material of the full term.

**Missed deadlines**

Documents pertaining to the term project need to be submitted on time. Days missed include weekend days and holidays.

- Missed deadline on the due day: –5% (e.g., project is due at 10 am, you submit at 11 am the same day)
- Day 1 missed: –10% (the project is submitted the day after it is due)
- Day 2 missed: –25%
- Day 3 missed: –50%
- Beyond day 3: 0% is submitted as a grade for the assignment

**Cancelled midterms**

If a midterm is cancelled due to weather or other force majeure events, the new date and time for the midterm will be announced on Brightspace, otherwise, by default, the exam is re-scheduled to the next planned (regular) class.

**Course Policies related to Academic Integrity**

*Please see the Dalhousie regulations: Last page of this document. A plagiarism detection system will be used in this course (for the content of the poster). Make sure you understand the concept of “self-plagiarism”: you are not allowed to recycle papers or other projects submitted in other courses, even partially.*

**Course Content**

This is a topic-based course that uses, among others, themes presented in Bradbury & Vehrencamp (2011), and also Hogan (2017). Note that other topics may be covered and are not included in these books. I will consult with the class early in the term (during the first or second lecture) to decide on a ranking of the topics to be covered from the ones listed below; the first two sections (in italics) are always covered.

1. *General intro: Questions in animal behaviour, the structure of behaviour and “behaviour systems”* [Lecture notes only]
2. *Cognition, cognitivism and post-cognitivism. Theories of information and communication; Communication and signals.* [Lecture notes and chapter 1]
3. Bioacoustics [Chapters 2 & 3]
4. Social odours, pheromones and olfaction [Chapter 6]
5. Short range sensory modalities: Haptics (touch), hydrodynamic reception, electroreception [Chapter 7]
6. Decisions and information [Chapter 8]
7. Signal evolution [Chapter 10]
8. Conflicts and conflict resolution [Chapter 11]
9. Social integration [Chapter 13]
10. Environmental signals [Chapter 14]
11. Communication and social networks [Chapter 15]
12. Generalities on “conservation behaviour” or conservation ethology, the importance of behaviour and ethological methods and behavioural ecotoxicology. [Lecture notes only]
13. Other ethological considerations in conservation ethology: Habitat selection, foraging, anti-predator behaviour, bioacoustics, individuality and personality, demographic factors, other considerations [Lecture notes only]

## University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

### Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

**Information:** [https://www.dal.ca/dept/university\\_secretariat/academic-integrity.html](https://www.dal.ca/dept/university_secretariat/academic-integrity.html)

### Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

**Information:** [https://www.dal.ca/campus\\_life/academic-support/accessibility.html](https://www.dal.ca/campus_life/academic-support/accessibility.html)

### Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

**Code:** [https://www.dal.ca/dept/university\\_secretariat/policies/student-life/code-of-student-conduct.html](https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html)

### Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

**Statement:** <http://www.dal.ca/cultureofrespect.html>

### Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) ([elders@dal.ca](mailto:elders@dal.ca)).

**Information:** [https://www.dal.ca/campus\\_life/communities/indigenous.html](https://www.dal.ca/campus_life/communities/indigenous.html)

**Important Dates** in the Academic Year (including add/drop dates)

[https://www.dal.ca/academics/important\\_dates.html](https://www.dal.ca/academics/important_dates.html)

### University Grading Practices

[https://www.dal.ca/dept/university\\_secretariat/policies/academic/grading-practices-policy.html](https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html)