

Measuring Behaviour Syllabus

Department of Psychology and Neuroscience

NESC/PSYO 3161 Fall 2023

Dalhousie University acknowledges that we are in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People and pays respect to the Indigenous knowledges held by the Mi'kmaq People, and to the wisdom of their Elders past and present. The Mi'kmaq People signed Peace and Friendship Treaties with the Crown, and section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights. We are all Treaty people.

Dalhousie University also acknowledges the histories, contributions, and legacies of African Nova Scotians, who have been here for over 400 years.

Course Instructor(s)

| Name | Email | Office Hours |
|-------------------|--------------------------|---|
| Tamara Franklin | tamara.franklin@dal.ca | 1:00-2:00 Monday 10:00-11:00 Thursday https://outlook.office365.com/owa/calendar/TamaraFranklin@dal.onmicrosoft.com/bookings/ |
| Mackenzie Hartley | mackenzie.hartley@dal.ca | Appointments available upon request |

Course Description

Measuring behaviour is essential in the study of ethology, behavioural neuroscience, developmental, social and clinical psychology. The function of this laboratory course is to teach methods of observing and scoring behavior using qualitative and quantitative methods. Sampling methods, behaviour description and analysis will be done in laboratory and naturalistic settings.

Course Prerequisites

PSYO 2000

Student Resources

The writing centre is an excellent resource and can help you to improve your written assignments. https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Course Structure

Course Delivery

This is an asynchronous online course. If any technology issues occur during quizzes/tests please notify the course instructor via Teams immediately. The quiz/test will be re-scheduled as soon as technical issues are resolved (presumably within 24 hrs). Students connecting to online resources from outside Canada that they are responsible for ensuring awareness and compliance with any applicable laws in the country from which they are connecting.

Course Materials

- Required Textbook: Measuring Behaviour, An Introductory Guide 4th edition. Ed: Melissa Bateson and Paul Martin. 2021. Cambridge University Press. ***Note, there have been previous editions of this book, but they are very different then the current 4th edition***

Online or paperback versions of the textbook can be purchased at the Dal Bookstore.

Content will be provided on Brightspace but a Teams space has also been set up for easy correspondence and to provide access to behavioural videos needed for your independent project.

Assessment

Assignments

| Component | Weight (% of final grade) | Due Date |
|------------------------------------|---------------------------|--------------------------|
| Short Quiz #1 | 3.333 | Sep 14-15, 2023 (15 min) |
| Ethics Test | 10 | Sep 21-22, 2023 (30 min) |
| Short Quiz #2 | 3.333 | Sep 29, 2023 (15 min) |
| Assignment #1 (Scoring) | 10 | Oct 6, 2023 |
| Assignment #2 (IRR) | 5 | Oct 13, 2023 |
| Assignment #3 (eZ Track) | 10 | Oct 27, 2023 |
| Project Proposal | 20 | Nov 10, 2023 |
| Short Quiz #3 | 3.333 | Nov 20-21, 2023 (15 min) |
| Data Organization and Presentation | 15 | Dec 1, 2023 |
| Project Discussion | 20 | Dec 11, 2023 |

Conversion of numerical grades to final letter grades follows the

[Dalhousie Grade Scale](#)

| | | | |
|-------------|------------|------------|-----------|
| A+ (90-100) | B+ (77-79) | C+ (65-69) | D (50-54) |
| A (85-89) | B (73-76) | C (60-64) | F (0-49) |
| A- (80-84) | B- (70-72) | C- (55-59) | |

Course Policies on Missed or Late Academic Requirements

If you have questions while completing your assignments, please contact your TA (Mackenzie Hartley, mackenzie.hartley@dal.ca) at least 24 hours prior to the due date. If the question is relatively short, please use the Teams chat feature. If the question is more involved, please use email with NESC/PSYO 3161 in the subject heading. You will not receive a response to a last-minute email/message. Online meetings with your TA can also be scheduled as needed.

Do not expect a response outside of standard work hours (9-5 on weekdays).

Late Assignments Policy

Written assignments must be submitted to Brightspace before the due date. Late assignments will be penalized 10% if submitted within 24 hours of the due date, 20% if it is submitted within

24 and 48 hours past the due date, and 40% if it is submitted within 48 and 72 hours past the due date. E.g., if you hand in an assignment that is worth 10% within 24 past the due date, the maximum you can receive is 9% towards your final mark. An assignment that is submitted more than 72 hrs after it was due will receive a 0.

It is strongly advised that you finish assignments as early as possible to avoid last minute complications.

You are required to work with a major online service to back up your work (e.g., OneDrive, iCloud, Google Docs, Dropbox etc.). Failure to back up your work is your responsibility.

Description of course components

Ethics Test: This test will be administered through Brightspace and will consist of multiple-choice and short-answer questions. All questions will be based on the assigned reading. See Brightspace for details.

Scoring / Interrater Reliability / ezTrack Assignments: The requirements for these assignments will be provided in more detail on Brightspace. Assignments should be submitted on Brightspace with the following file title: B00?????_Lastname_Firstname_Assn_x.pdf

Short Quizzes: There will be three short quizzes available on Brightspace which are based on assigned readings. See Brightspace for details.

***Note, quizzes are designed to be completed within ~ 7 minutes but 15 minutes are provided. Similarly, the test is designed to be completed within ~ 15 minutes but 30 minutes are provided.

Independent Project-related activities

You will receive the opportunity to work with a complete set of mouse behavioural videos. Access to these videos will be provided in the course Teams page (NOT the Brightspace).

Project proposal: You will write a proposal detailing your research question, hypotheses, rationale, and methods (incl. statistical analyses) related to your chosen set of behavioural videos. A rubric for the project proposal is included on the Brightspace.

Data organization and presentation: You will hand in your spreadsheet(s) showing your raw behavioural measurements prior to any statistical analyses. The spreadsheet should include any needed additional explanations of excluded animals, column names, animal ID/video ID etc. In addition, you will hand in what is essentially the results section of a lab report: written paragraphs describing the results with appropriate statistics reported, and Figures/Tables which will also be referenced in the text. This assignment will be marked according to the rubric on Brightspace.

Project Discussion: You will hand in a discussion of your findings. This will include a description of your interpretation of the results of the statistical analyses, as well as your immediate and broader conclusions including a discussion of how your results extend knowledge in the field. This assignment will be marked according to the rubric on Brightspace.

Course Policies related to Academic Integrity

You may be discussing many aspects of this course with your classmates, but all assignments, quizzes and the test must be done individually. These must reflect your individual ideas. In addition, an originality-checking software will be used in this course. Students are able to request an alternative method of attesting to the authenticity of their work, but you must inform me no later than two weeks from the start of class. For this, you can do one of the following:

1. Submit copies of multiple drafts demonstrating development of the work. Drafts must be handed in as they are finished (e.g., not all at once on the due date).
2. Submit an annotated bibliography

The use of generative AI and large language models are not permitted.

Learning Objectives

- Identify the socio-historical basis of the debate on animal experimentation and the Canadian Council for Animal Care (CCAC) perspective
- Evaluate an experimental proposal in light of the three Rs, as they were defined by Russell and Burch in 1959
- Demonstrate knowledge about the concept of alternatives and their limitations
- Perform a statistical test on inter- and intrarater reliability
- Use open source software to perform manual scoring and automatic tracking of mice in laboratory behavioural tests
- Develop and present a scientifically sound behavioural experiment using rodents
- Perform and interpret statistical tests comparing behaviours between two groups
- Discuss results from a behavioural neuroscience experiment in the context of the current scientific literature
- Organize behavioural data on a spreadsheet
- Visualize behavioural data and describe it in a written report

Course Content

Each week runs Sat - Fri. Assignments/quizzes are almost all due on a Friday except for Quiz 03 (highlighted below). **Deadline is 11:59 PM on the due date.**

| Week | Topic | Date | Assessment | Due date |
|------|--------------------------------|-------------|-------------|----------|
| 1 | Orientation | Sep 5-8 | | |
| 2 | 01 - Introduction | Sep 9 - 15 | Quiz 01 | Sept 15 |
| 3 | 01 - Ethics in Animal Research | Sep 16 - 22 | Ethics Test | Sep 22 |

| | | | | |
|----|---------------------------|----------------|--------------------------------------|----------------|
| 4 | 02- Behavioural Scoring | Sep 23 - 29 | Quiz 02 | Sep 29 |
| 5 | 02 - Reliability | Sep 30 - Oct 6 | Scoring Assignment #1 | Oct 6 |
| 6 | 02 - Automatic Tracking | Oct 7 - 13 | IRR Assignment #2 | Oct 13 |
| 7 | 02 - Automatic Tracking | Oct 14 - 20 | | |
| 8 | 02 - Automatic Tracking | Oct 21 - 27 | ezTrack Assignment #3 | Oct 27 |
| 9 | 03 - Proposal Development | Oct 28 - Nov 3 | | |
| 10 | 03 - Proposal Development | Nov 4 - 10 | Project Proposal | Nov 10 |
| | STUDY BREAK | | | |
| 11 | 03 - Data Collection | Nov 18 - 24 | Quiz 03 | Nov 21 (*Tues) |
| 12 | 03 - Data Presentation | Nov 25 - Dec 1 | Data Spreadsheet and Project Results | Dec 1 |
| 13 | 03 - Data Interpretation | | | Dec 11 |

IMPORTANT NOTE: Your final assignment (Discussion) is due during the exam period on Dec. 11

University Policies and Statements

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 at 1321 Edward St or elders@dal.ca. Additional information regarding the Indigenous Student Centre can be found at: https://www.dal.ca/campus_life/communities/indigenous.html

Internationalization

At Dalhousie, 'thinking and acting globally' enhances the quality and impact of education, supporting learning that is "interdisciplinary, cross-cultural, global in reach, and orientated toward solving problems that extend across national borders." Additional internationalization information can be found at: <https://www.dal.ca/about-dal/internationalization.html>

Academic Integrity

At Dalhousie University, we are guided in all our work by the values of academic integrity: honesty, trust, fairness, responsibility, and respect. As a student, you are required to demonstrate these values in all 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. Additional academic integrity information can be found at: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Student Accessibility Centre is Dalhousie's centre of expertise for matters related to student accessibility and accommodation. If there are aspects of the design, instruction, and/or experiences within this course (online or in-person) that result in barriers to your inclusion, please contact the Student Accessibility Centre (https://www.dal.ca/campus_life/academic-support/accessibility.html) for all courses offered by Dalhousie with the exception of Truro. For courses offered by the Faculty of Agriculture, please contact the Student Success Centre in Truro (<https://www.dal.ca/about-dal/agricultural-campus/student-success-centre.html>)

Conduct in the Classroom – Culture of Respect

Substantial and constructive dialogue on challenging issues is an important part of academic inquiry and exchange. It requires willingness to listen and tolerance of opposing points of view. Consideration of individual differences and alternative viewpoints is required of all class members, towards each other, towards instructors, and towards guest speakers. While expressions of differing perspectives are welcome and encouraged, the words and language used should remain within acceptable bounds of civility and respect.

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 (Strategic Priority 5.2). Additional diversity and inclusion information can be found at: <http://www.dal.ca/cultureofrespect.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. The full Code of Student Conduct can be found at:

https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Fair Dealing Policy

The Dalhousie University Fair Dealing Policy provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at Dalhousie. Additional information regarding the Fair Dealing Policy can be found at:

https://www.dal.ca/dept/university_secretariat/policies/academic/fair-dealing-policy-.html

Originality Checking Software

The course instructor may use Dalhousie's approved originality checking software and Google to check the originality of any work submitted for credit, in accordance with the Student Submission of Assignments and Use of Originality Checking Software Policy. Students are free, without penalty of grade, to choose an alternative method of attesting to the authenticity of their work and must inform the instructor no later than the last day to add/drop classes of their intent to choose an alternate method. Additional information regarding Originality Checking Software can be found at:

https://www.dal.ca/dept/university_secretariat/policies/academic/student-submission-of-assignments-and-use-of-originality-checking-software-policy-.html

Student Use of Course Materials

Course materials are designed for use as part of this course at Dalhousie University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as books, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law. Copying this course material for distribution (e.g. uploading to a commercial third-party website) may lead to a violation of Copyright law.