

# PSYB64H3S

## Introduction to Behavioural Neuroscience

### Course Syllabus

Dr. Stefano Di Domenico

**Instructor Email:** [stefanoddmn@gmail.com](mailto:stefanoddmn@gmail.com) Use this email to schedule office-hour appointments.

**Office Hours:** TBA. Office hours are by appointment only. More information about office hour delivery will be announced soon.

**Teaching Assistants:** TBA

**Teaching Assistant Email:** [2023psyb64@gmail.com](mailto:2023psyb64@gmail.com) Use this email for content-related questions.

**Textbook:** *Discovering Behavioral Neuroscience: An Introduction to Biological Psychology 4<sup>th</sup> Edition* by Laura A. Freberg

**Lectures:** Thursdays 6 pm to 9 pm in SY 110

We will use *Quercus* for sharing lecture material and making announcements.

### Course Description

This course will introduce students to behavioural neuroscience, an interdisciplinary science that seeks to understand the biological substrates of behavior, emotions, and cognition. The course will often focus on the workings of the brain.

### Learning Objectives

**By the end of this course, students should be able to:**

- Describe the major anatomical sections of the nervous system
- Explain the basic principles of imaging and microscopic research methods
- Explain how neurons generate and propagate action potentials
- Describe the major neurotransmitter, neuromodulator, and neurohormone systems
- Explain the basic principles of drug effects
- Explain the basic principles of genetics, epigenetics, and behavioural genetics
- Describe the prenatal development of the nervous system
- Describe the evolution of the nervous system
- Explain the genetics of sex, describe sex differences in brain structure and behaviour, and describe the biological influences of sexual development and behaviour
- Describe the neural mechanisms and correlates of sleep and waking
- Describe the neural mechanisms and correlates of learning and memory
- Describe different neurocognitive disorders in terms of their genetic and neural substrates

## **Notice of Video Recording and Sharing (Download and Re-Use is Prohibited)**

This course, including your participation, may be recorded on video and may be available to students in the course for viewing remotely and after each session.

Course videos and materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation, and are protected by copyright.

Do not download, copy, or share any course or student materials or videos without the explicit permission of the instructor.

For questions about recording and use of videos in which you appear please contact Dr. Di Domenico.

## Tentative Schedule

The following topics will be covered in the course. The weekly schedule is a guideline and some topics will take more or less than a lecture period to complete. Please note the weeks in which the midterm are indicated. The date for final exam will be determined by the registrar. When I have this information it will be posted on Quercus.

Week	Date	Lecture Topic	Readings
<b>Part 1</b> <i>Parts of the Nervous System</i>			
1	Jan 12	Course introduction	Syllabus + Ch. 1
2	Jan 19	Functional neuroanatomy	Ch. 2
3	Jan 26	Cells of the nervous system	Ch. 3
4	Feb 2	Psychopharmacology	Ch. 4
5	Feb 9	<b>MIDTERM TEST 1 REQUESTED</b>	<b>Covers weeks 1 to 4</b>
<b>Part 2</b> <i>Origins of the Nervous System / Survival and Reproduction</i>			
6	Feb 16	Evolution, genetics, and development	Ch. 5
7	Feb 23	<b>NO CLASS</b>	<b>READING WEEK</b>
8	March 2	Homeostasis and motivation	Ch. 9
9	March 9	Sexual behavior	Ch. 10
10	March 16	<b>MIDTERM TEST 2 REQUESTED</b>	<b>Covers weeks 6 to 9</b>
<b>Part 3</b> <i>Basic Topics in Biological Psychology</i>			
11	March 23	Sleep and waking	Ch. 11
12	March 30	Learning and memory	Ch. 12
13	April 6	Neuropsychology	Ch. 15

### Grading Scheme

Of greatest importance to me is the extent to which students can demonstrate their intellectual command of the subject matter of this course *in its entirety* at the end of the term. Consequently, it is essential that the final exam provide a comprehensive (cumulative) assessment of the course. Two midterm tests will provide students an interim assessment of their command of the course material. Both midterm tests will be one hour long and will likely be held during regularly scheduled lecture times. The first midterm test will comprise 20% of your final grade and it will cover Weeks 1 to 4. It will likely be held on February 9, 2023. The second midterm test will also comprise 20% of your final grade and it will cover Weeks 6 to 9. It will likely be held on March 16, 2023. The final exam will comprise 60% of your final grade and it will cover the course in its entirety (Weeks 1 to 13). The final exam will be three hours long. Approximately half of the questions will cover Part 3; the other half of the questions will provide equal coverage of Parts 1 and 2.

## Summary

The first midterm (20% of final grade) will cover Part 1 (Weeks 1-4).

The second midterm (20% of final grade) will cover Part 2 (Weeks 7-9).

A cumulative final exam (60% of final grade) will cover all Parts (Weeks 1-13)

$$= 10\% [\text{Part 1}] + 10\% [\text{Part 2}] + 40\% [\text{Part 3}] = 60\%.$$

**Term Test Policies & Procedures.** The Registrar typically finalizes the term test schedule sometime during the first few weeks of class. As soon as we are provided the schedule for the term test dates, times, and locations, we will post this information on Quercus.

**Final Exam Policies & Procedures.** The scheduling of final exams and the granting of petitions to defer final exams are matters that fall entirely within the jurisdiction of the Registrar's Office. If you have any concerns relating to your final exam attendance, please contact the Registrar.

## Quercus

This course uses the University's learning management system, Quercus, to post information about the course. This includes posting readings and other materials required to complete class activities and course assignments, as well as sharing important announcements and updates. The site is dynamic and new information and resources will be posted regularly as we move through the term, so please make it a habit to log in to the site on a regular, even daily, basis. To access the course website, go to the U of T Quercus log-in page at <https://q.utoronto.ca>. Once you have logged in to Quercus using your UTORid and password, you should see the link or "card" for **PSYB64H3S (2023 Winter) - Introduction to Behavioural Neuroscience**. You may need to scroll through other cards to find this. Click on the **PSYB64H3S (2023 Winter) - Introduction to Behavioural Neuroscience** link to open our course area, view the latest announcements and access your course resources. There are Quercus help guides for students that you can access by clicking on the "?" icon in the left side column.

**SPECIAL NOTE ABOUT GRADES POSTED ONLINE:** Please also note that any grades posted are for your information only, so you can view and track your progress through the course. No grades are considered official, including any posted in Quercus at any point in the term, until they have been formally approved and posted on ACORN at the end of the course. Please contact me as soon as possible if you think there is an error in any grade posted on Quercus.

## Department of Psychology Missed Term Work Policy

For missed term work (assignments and term tests) due to illness, emergency, or other mitigating circumstances, please follow the procedures outlined below.

Note:

- The following reasons are not considered sufficient for missed term work: travel for leisure, weddings, personal commitments, work commitments, human error.
- [Missed Final Exams](#) are handled by the Registrar's Office and should be declared on eService.
- Instructors cannot accept term work any later than five business days after the last day of class. Beyond this date, accommodations are only possible via the Registrar's Office [petition process](#).

The email address to submit missed term work accommodation requests in **PSYB64H3S** is:  
**2023psyb64@gmail.com**

### ILLNESS OR EMERGENCY accommodations:

For missed work due to ILLNESS OR EMERGENCY, complete the following process:

1. Complete the [Request for Missed Term Work Accommodations Form](#).
2. Declare your absence on [ACORN](#) (Profile & Settings > Absence Declaration)
3. Email **both** of the following items to the course email **WITHIN 2 BUSINESS DAYS** of the missed work:
  - a. the [Request for Missed Term Work Accommodations Form](#)
  - \*AND\***
  - b. a screenshot of your Self-Declared Absence on ACORN

Note:

- *If you are unable to submit your request within 2 business days, you must still email your instructor within the 2 business day window to explain the nature of the delay. Exceptions to the 2 business day deadline will only be made under exceptional circumstances.*
- *If your absence is declared on ACORN, we do not require any additional supporting documentation (e.g. medical notes) to support your missed term work accommodation request.*

### ACADEMIC CONFLICT accommodations:

For missed term work due to an ACADEMIC CONFLICT (e.g. two midterms at the same time):

1. Complete the [Request for Missed Term Work Accommodations Form](#).
2. Take screenshots of your course Quercus pages that demonstrate the conflict.
3. Email the form and screenshots to the course email **at least two weeks (10 business days) before the date of the activity**, or as soon as possible if it was not possible to identify the conflict earlier. Requests sent after the activity deadline may not be accommodated.

Note:

- *Multiple assignments due on the same day are not considered conflicts. Students are expected to manage their time effectively to meet assignment deadlines.*
- *Back-to-back tests/quizzes are not considered conflicts. Only overlapping activities are conflicts.*
- *Students are responsible for keeping their course timetables conflict-free. Students who register in two courses with overlapping lecture/tutorial/lab schedules will not be accommodated.*

### RELIGIOUS CONFLICT accommodations:

For missed term work due to a RELIGIOUS CONFLICT:

1. Complete the [Request for Missed Term Work Accommodations Form](#).
2. Email the form to the course email **at least two weeks (10 business days) before the date of the activity**, or as soon as possible if it was not possible to identify the conflict earlier. Requests sent after the activity deadline may not be accommodated.

### **ACCESSABILITY SERVICES accommodations:**

For missed **TERM TESTS** due to ACCESSABILITY REASONS:

- **Contact your AccessAbility consultant** and have them email the course email detailing accommodations required.

For missed **ASSIGNMENTS** due to ACCESSABILITY REASONS:

- If your desired accommodation is **within the scope** of your Accommodation Letter (e.g. your letter includes “extensions of up to 7 days” and you need 3 days):
  1. Complete the [Request for Missed Term Work Accommodations Form](#).
  2. Email the form **\*AND\*** your **Accommodation Letter** to the course email specifying how many days extension you are requesting.
- If your desired accommodation is **outside the scope** of your Accommodation Letter (e.g. your letter includes “extensions of up to 7 days” but you need more time than that):
  1. **Contact your AccessAbility consultant** and have them email the course email detailing the accommodations required.

### **Accommodation Procedure:**

After submitting your documentation, you will receive a response from your instructor or TA. This form does not guarantee that you will be accommodated. The course instructor reserves the right to decide what accommodations (if any) will be made. Failure to adhere to any aspect of this policy may result in a denial of your request. **You are responsible for checking your official U of T email and Quercus course announcements daily**, as accommodations may be time-critical.

For missed assignments, **do not wait for the instructor’s response to resume work on your assignment**. Extensions may be as short as one business day, depending on the nature of the illness/emergency. Complete your assignment as soon as you’re able, and email it to your instructor.

For an **anticipated absence** (e.g. a scheduled surgery or an illness with a prolonged recovery period), if you would like to request accommodations in advance, submit a [Verification of Illness Form](#) completed by your doctor AND the [Request for Missed Term Work Accommodations Form](#) to the course email. Absences can be declared up to 14 days into the future on ACORN.

### **Missed Accommodations**

If an accommodation is granted but a continued illness/emergency prevents you from meeting its requirements, you must repeat the missed term work procedure to request additional accommodations. **Please make it clear in your subject line that you are requesting a second accommodation**. E.g. If you are given an extension but are still sick and need more time, or if you miss a make-up term test, you must submit *another* [Request for Missed Term Work Accommodations Form](#) and declare your extended absence on ACORN. \*Note: In the case of a missed make-up test, an opportunity to write a second make-up test may not necessarily be provided.

## Disability-Related Accommodations

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 Office (<http://www.utoronto.ca/ability/>) as soon as possible.

AccessAbility Services staff (located in Rm AA142, Arts and Administration Building) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. Please contact 416-287-7560 (tel/TTY) or email [ability.utoronto.ca](mailto:ability.utoronto.ca) for more information. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

## Academic Integrity

The University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences.

Potential offences in papers and assignments include using someone else's ideas or words without appropriate acknowledgement, submitting your own work in more than one course without the permission of the instructor, making up sources or facts, obtaining or providing unauthorized assistance on any assignment.

On tests and exams cheating includes using or possessing unauthorized aids, looking at someone else's answers during an exam or test, misrepresenting your identity, or falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

## Religious Accommodations

The University has a commitment concerning accommodation for religious observances. I will make every reasonable effort to avoid scheduling tests, examinations, or other compulsory activities on religious holy days not captured by statutory holidays. According to University Policy, if you anticipate being absent from class or missing a major course activity (like a test, or in-class assignment) due to a religious observance, please let me know as early in the course as possible, and with sufficient notice (at least two to three weeks), so that we can work together to make alternate arrangements.

## Equity, Diversity, Inclusion

The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. U of T does not condone discrimination or harassment against any persons or communities.