# **PSYB64H3 S - Introduction to Behavioural Neuroscience** Winter 2025 Syllabus

### **Course Meetings**

#### PSYB64H3 S

Section	Day & Time	Delivery Mode & Location
LEC01	Thursday, 6:00 PM - 9:00 PM	In Person: IA 1150
LEC02	To Be Announced	Online Asynchronous

Refer to ACORN for the most up-to-date information about the location of the course meetings.

## **Course Contacts**

Course Website: https://q.utoronto.ca/courses/373175

Instructor: Dr. Stefano Di Domenico Email: <u>s.didomenico@utoronto.ca</u> Office Hours and Location: Online: Fridays from 4 pm to 5 pm. By appointment only.

## **Course Overview**

A survey of the biological mechanisms underlying fundamental psychological processes intended for students who are not in a Neuroscience program. Topics include the biological basis of motivated behaviour (e.g., emotional, ingestive, sexual, and reproductive behaviours; sleep and arousal), sensory processes and attention, learning and memory, and language.

### **Course Learning Outcomes**

- 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

Prerequisites: PSYA01H3 and PSYA02H3 Exclusions: NROC61H3, PSY290H Credit Value: 0.5

### **Course Materials**

**Textbook:** Discovering Behavioral Neuroscience: An Introduction to Biological Psychology 5<sup>th</sup> Edition by Laura A. Freberg

## Marking Scheme

Assessment	Percent	Details	Due Date
Midterm 1	30%	Midterm 1 will account for 30% of your final grade and will cover material from Weeks 1 to 4. Midterm 1 is scheduled for February 6, 2024.	2025-02-06
Midterm 2	30%	Midterm 2 will be cumulative, accounting for 30% of your final grade, and will cover material from Weeks 1 to 9. Approximately 70% of the questions will focus on Part 2 (Weeks 6 to 9), while the remaining 30% will cover Part 1 (Weeks 1 to 4). Midterm 2 is scheduled for March 13, 2024.	2025-03-13
Problem Sets	5%	Students will complete five problem sets, each worth 1% of their final grade. These assignments will include short-answer questions requiring written responses, as well as reflective components designed to help you plan your university education, set meaningful goals, and maximize your university experience. There is no specific due date for each assignment, but all assignments must be submitted by March 27, 2024.	2025-03-27
Final Exam	35%	A cumulative final exam will comprise 35% of your final grade and it will cover the course in its entirety (Weeks 1 to 13). Approximately three quarters of the questions will cover Part 3; the other quarter of the questions will provide equal coverage of Parts 1 and 2.	Final Exam Period

Cumulative tests are an essential part of this course because the material in **Behavioral Neuroscience** builds progressively, with each concept forming the foundation for the next. By revisiting earlier topics, cumulative tests encourage you to consolidate and retain knowledge over time, rather than focusing on short-term memorization. Cumulative testing not only strengthens your long-term understanding but also prepares you to integrate and apply knowledge.

#### Late Assessment Submissions Policy

Make-up tests are not offered in this class. However, due to the cumulative nature of the course, if a student misses a midterm, the grade for the missed test will be redistributed to the next one. For example, if a student is unable to write Midterm 1, the portion of Midterm 2 that covers Midterm 1 content will count for an additional 30% toward their final grade. In this case, Midterm 2 would account for 60% of the student's grade. Similarly, if a student is unable to write Midterm 2, the portion of the Final Exam that covers Midterm 2 content will count for an additional 30% toward their final grade. In this case, the Final Exam would make up 65% of the student's grade.

### **Course Schedule**

	Part 1: Parts of the Nervous System			
Week 1 January 9	Course Introduction   Syllabus + Chapter 1			
Week 2 January 16	Functional Neuroanatomy   Chapter 2			
Week 3 January 23	Cells of the Nervous System   Chapter 3			
Week 4 January 30	Psychopharmacology   Chapter 4			
Week 5 February 6	Midterm Test 1   Covers Weeks 1 to 4			
Part 2: Origins of the Nervous System / Survival and Reproduction				
Week 6 February 13	Evolution, Genetics, and Development   Chapter 5			
Week 7 February 20	No Class   Reading Week!			
Week 8 February 27	Homeostasis and Motivation   Chapter 9			
Week 9 March 6	Sexual Behavior   Chapter 10			
Week 10 March 13	Midterm 2   Covers Weeks 6 to 9			
Part 3: Basic Topics in Behavioral Neuroscience				
Week 11 March 20	Sleep and Waking   Chapter 11			
<b>Week 12</b> March 27	Learning and Memory   Chapter 12			
Week 13 April 3	Neuropsychology   Chapter 15			

## **Policies & Statements**

### Video Recording and Sharing (Download and Re-use Prohibited)

This course, including your participation, will be recorded on video and will 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 the recording and use of videos in which you appear, please contact your instructor.

### 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.

### 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 as soon as possible. AccessAbility Services staff (located in Rm IA5105, Sam Ibrahim Building) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations 416-287-7560 or email <u>ability.utsc@utoronto.ca</u>. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.