

Neurochemical Basis of Behaviour (PSY396H1F)

Fall Session, 2023

In-person course

Class time/location: Wednesdays, 10 am – 1 pm in SS2105

Summary

The functional relevance of neurotransmitters, with particular emphasis on their role in mediating behaviour.

Learning Objectives

In this course, you will learn about:

- The structure of neurotransmitter systems;
- The effects and mechanisms of therapeutic and recreational drugs;
- The neurochemical basis of Behaviour and Behavioural disorders;
- Treatment and research approaches.

Our Team

Instructor: Dr. Paul Whissell (paul.whissell@utoronto.ca).

Virtual office hours: Every Tuesday, by appointment, on Zoom.

Teaching Assistant: Sun Gaeun

Recommended Textbook (optional; NOT required)

Psychopharmacology: Drugs, the Brain and Behaviour. 3rd edition. Mayer, J. S. and Quenzer, L.F. Sinauer Associates. Print ISBN: 9781605355559, 1605355550. eText ISBN: 9781605357287, 1605357286.



Assessments

There are four assessments in this course.

The largest contribution to your grade comes from the **term test** and **final exam**. At present, **these two assessments are planned to occur in-person and on-campus**. Please do not take this course if you are unable to attend assessment dates (exceptions granted for illness; see policies below).

The remaining contribution to your grade comes from a **short written assignment** and a **quiz based on articles**.

Marking Scheme and Important Dates

- **30% Term Test on October 11**, based on Lectures 1 – 4
 - 2 hours allotted
 - 20 multiple choice questions (each worth 1 mark) and 8 short written answer questions (each worth 5 marks), total of 60 marks
- **45% Final Exam between December 9 – 20**, based on Lectures 5 – 10
 - Format TBA
- **15% Articles Quiz administered online via Quercus, Due December 6**
 - Not timed, only has a due date
 - Questions based on articles available on online
- **10% Written Assignment submitted online via Quercus, Due December 6**
 - Short written assignment (~1500) on a neurotransmitter system *that could be covered in the course but is currently not included*.
 - Details will be provided on Quercus

Study Guide

To assist you in preparing for your assessments, a study guide will be provided on Quercus. This guide will identify key highlights of lecture content that are likely to be tested. If you can provide detailed answers to the questions in this guide, it is likely you will score at least a B grade (70+) on all assessments. The study guide will be reviewed in pre-test tutorials (dates to be posted on Quercus shortly).

Course Schedule

This is an in-person course with lectures and assessments occurring during a regularly scheduled time (Wednesdays, 10 am – 1 pm). You must be available during this time period. This course should be treated as a synchronous course and should not conflict with other courses you are taking.

Date	Topic	Textbook Chapters
Sept 13	Lecture 01: Introduction; Assignment Posted	3
Sept 20	Lecture 02: Introduction to Neuropharmacology	1 + 2
Sept 27	Lecture 03: Research Methods	4
Oct 4	Lecture 04: Dopaminergic transmission in behaviour	5, 9, 12 + 19
Oct 11	TERM TEST (Lectures 1 – 4)	
Oct 18	Lecture 05: Adrenergic transmission in behaviour	5, 11, 12
Oct 25	Lecture 06: Serotonergic transmission in behaviour	6, 17, 18
Nov 1	Lecture 07: Endocannabinoids and behaviour, Quiz Posted	14
Nov 8	Holiday; No assigned work	
Nov 15	Lecture 08: GABAergic transmission in behaviour	8, 10
Nov 22	Lecture 09: Acetylcholine	11
Nov 29	TBA	NA
Dec 6	Exam Review, Assignment Due, Quiz Due	NA
Dec 9 – 20	FINAL EXAM (Lecture 5 – 10)	

Course Policies

Specific Medical Circumstances

If you become ill and it affects your ability to do your academic work, consult me right away. Normally, I will ask you for documentation in support of your specific medical circumstances. This documentation can be an Absence Declaration (via ACORN) or the University's Verification of Student Illness or Injury (VOI) form. The VOI indicates the impact and severity of the illness, while protecting your privacy about the details of the nature of the illness. You can submit a different form (like a letter from a doctor), as long as it is an original document, and it contains the same information as the VOI. For more information on the VOI, please see <http://www.illnessverification.utoronto.ca>. For information on Absence Declaration Tool for A&S students, please see <https://www.artsci.utoronto.ca/absence>. If you get a concussion, break your hand, or suffer some other acute injury, you should register with Accessibility Services as soon as possible.

Missed Assessments

If you miss the term test, you must provide documentation explaining your absence (see above) and complete a make-up test in a timely fashion. If you do not complete a make-up test, you will receive a grade of 0 for the it. To ensure a make-up test can be completed as soon as possible, please contact the instructor immediately after missing a test. Most make-up tests should be scheduled within one week of the original test and completed within two weeks of the original test.

If you miss the formal final exam, you must write a deferred final exam at a later date. The deferred final exam will be similar in format to the missed final exam. To be eligible for a deferred exam, you will need to file a petition with your College RO immediately following missing the exam.

Late Policies

The standard late penalty is 10% per day late. If exceptional circumstances prevent you from submitting an assessment on time, please contact the instructor to discuss your situation.

Regrade Requests

Inquiries must be made within two weeks of the returned grade. A regrade of your assessment may increase your grade, have no effect or decrease your grade (e.g. if an

adding error is discovered during the re-evaluation). Please let us know if we can help you.

Religious Accommodation

As a student at the University of Toronto, you are part of a diverse community that welcomes and includes students and faculty from a wide range of backgrounds, cultural traditions, and spiritual beliefs. For my part, I will make every reasonable effort to avoid scheduling tests, examinations, or other compulsory activities on religious holy days not captured by statutory holidays. Further 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.

Accessibility Needs

Students with diverse learning styles and needs are welcome in this course. If you have an acute or ongoing disability issue or accommodation need, you should register with Accessibility Services (AS) (www.accessibility.utoronto.ca) at the beginning of the academic year. Without registration, you will not be able to verify your situation with your instructors, and instructors will not be advised about your accommodation needs. AS will assess your medical situation, develop an accommodation plan with you, and support you in requesting accommodation for your course work. Remember that the process of accommodation is private: AS will not share details of your condition with any instructor, and your instructors will not reveal that you are registered with AS.

Intellectual Property

Lectures slides and recordings are the intellectual property of the instructors. Under no circumstances should any of this content be shared online (e.g. via sites such as OneClass, Course Hero or Youtube). The Academic Handbook states: “It is absolutely forbidden for a student to publish an instructor’s notes to a website or sell them” (section 4.5)” Any student found violating this rule will be brought in to the Office of Student Academic Integrity. If you would like to share material with someone, please obtain approval from the content creator first.

Academic Integrity

You must complete all work in this course independently. You may not collaborate with anyone else (though you are encouraged to ask instructors and teaching assistants for help). Your answers must be your own thoughts, expressed in your own words.

All students, faculty and staff are expected to follow the University's guidelines and policies on academic integrity. For students, this means following the standards of academic honesty when writing assignments, collaborating with fellow students, and writing tests and exams. Ensure that the work you submit for grading represents your own honest efforts. Plagiarism—representing someone else's work as your own or submitting work that you have previously submitted for marks in another class or program—is a serious offence that can result in sanctions. Speak to me or your TA for advice on anything that you find unclear. To learn more about how to cite and use source material appropriately and for other writing support, see the U of T writing support website at www.writing.utoronto.ca/. Consult the Code of Behaviour on Academic Matters for a complete outline of the University's policy and expectations. For more information, please see <http://www.artsci.utoronto.ca/osai> and <http://academicintegrity.utoronto.ca/>.

Plagiarism Detection Tools

Normally, students will be required to submit their course essays to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (<https://uoft.me/pdt-faq>). Please see here for more information: <https://teaching.utoronto.ca/ed-tech/teaching-technology/pdt/#pdt1>.

Writing

As a student here at the University of Toronto, you are expected to write well. The university provides its students with a number of resources to help them achieve this. For more information on campus writing centres and writing courses, please visit <http://www.writing.utoronto.ca/>.

Other Resources

- Student Life Programs and Services (<http://www.studentlife.utoronto.ca/>)
- Academic Success Services (<http://www.studentlife.utoronto.ca/asc>)
- Counselling and Psychological Services (<http://www.studentlife.utoronto.ca/hwc>)