

## **PSYC 471: Behavioural Pharmacology**

### **Instructor**

Prof. Mary C. Olmstead, PhD  
[olmstead@queensu.ca](mailto:olmstead@queensu.ca)

To ensure a prompt response to email, please include Psyc471 in the subject line.

### **Acknowledgement of Territory**

To begin, let us acknowledge that Queen's is situated on traditional Anishinaabe and Haudenosaunee territory. We are grateful to be able to live, learn and play on these lands.

To acknowledge this traditional territory is to recognize its longer history, one predating the establishment of the earliest European colonies. It is also to acknowledge this territory's significance for the Indigenous peoples who lived, and continue to live, upon it and whose practices and spiritualities were tied to the land and continue to develop in relationship to the territory and its other inhabitants today. The Kingston Indigenous community continues to reflect the area's Anishinaabek and Haudenosaunee roots. There is also a significant Métis community and there are First people from other Nations across Turtle Island present here today.

To read more about the history of the land, see the Queen's Encyclopedia at <http://www.queensu.ca/encyclopedia/t/traditional-territories>

### **Course Hours**

Fridays 9:30-10:30 via Microsoft Teams

Due to the COVID-19 global pandemic, this entire course will be taught remotely, with weekly synchronous sessions run through Microsoft Teams. Students are encouraged, but not required, to attend the sessions. These will be informal and unstructured, providing students with the opportunity to ask questions about the course material and/or upcoming assignments.

### **Course Description**

This course focuses on understanding the neuropharmacological basis of psychological processes. The course begins with an overview of basic neuropharmacology, including principles of neurotransmission and neurophysiology. This will be followed by a description of the behavioural effects of drugs in humans and other animals. This will lay the groundwork for in-depth discussions of the neuropharmacological mechanisms mediating recreational and prescription drugs.

### **Course Website**

All communication related to this course will occur through OnQ: access is restricted to students who are registered in this course. Course announcements will be sent through Queen's email addresses, so it is important to access this account on a regular basis throughout the term.

## **Textbook**

All students should purchase or have access to the following textbook:

Hancock, S.D. & McKim, W.A. (2018). *Drugs and Behavior: An Introduction to Behavioral Pharmacology*. 8<sup>th</sup> edition. New York NY: Pearson Education Inc.

The text is available through the campus bookstore.

## **Learning Outcomes**

With successful completion of Psychology 471, students will be able to:

- Identify primary areas of research in behavioral pharmacology.
- Outline the biological steps involved in central nervous system neurotransmission.
- Discuss similarities and differences in pharmacological mechanisms of abused drugs.
- Describe pharmacological underpinnings of common psychiatric disorders.
- Effectively communicate the rationale, methodology, results, and implications of a scientific study in neuropharmacology.

## **Technological Requirements**

To best participate in the course, the following technology specifications are encouraged.

*Web browsers:* onQ performs best when using the most recent version of the web browsers, Chrome or Firefox. Safari and Edge are strongly discouraged as these web browsers cause issues with onQ.

*Internet speed:* While wired internet connection is encouraged, we recognize that students may be relying on a wireless connection. A minimum download speed of 10 Mbps and up to 20 Mbps for multimedia is recommended. To test your internet speed, <https://www.speedtest.net/>

For technology support ranging from setting up your device, issues with onQ to installing software, contact ITS Support Centre: <https://www.queensu.ca/its/itsc>

## **Evaluation**

Quizzes	20%
Lecture Presentation	15%
Lecture Feedback	5%
Research Paper Analysis	20%
Group Discussion Project	20%
Science Communication	20%

## Assignment Descriptions

### **Quizzes (20%)**

There are 15 quizzes, one for each chapter in the textbook, that are accessed through OnQ. Each quiz is composed of 10 questions, randomly selected from a database. You will have 30 minutes to complete each quiz once it is initiated. The **top ten** quiz marks will constitute 20% of your final mark (i.e., 2% per quiz).

### **Lecture presentation (15%)**

Each student will prepare **one** lecture that covers material from one chapter of the textbook. Lecture assignments, with corresponding due dates, are listed on a separate page. The lecture should be 15-20 minutes in length and prepared as a voice over powerpoint. The lecture should summarize the main points in the chapter and highlight important terms or definitions. The primary goal of the lecture is to educate your classmates and to prepare them for quizzes or other assignments in this course. It is not necessary to use any references beyond the textbook, although you may want to consult other sources if you are looking for images to include on the slides or for alternative ways to explain complex topics.

Instructions for preparing voiceover powerpoint videos can be found at the following sites:

- [Voice over PowerPoint Office 2013-2016](#)
- [Voice over PowerPoint Office 2010](#)
- [Voice over PowerPoint Office 2011 \(mac\)](#)

### **Lecture Feedback (5%)**

Lecture presentations from each student will be available for the entire class to view. Each student is required to provide feedback on **three** other lectures (although we hope that you will watch most of these!) using a lecture feedback form that is loaded on the course website.

### **Research Paper Analysis (20%)**

Each student will complete **two** assignments, each worth 10%, in which they read 1-3 behavioral pharmacology articles, then respond to a series of questions about the articles. The articles and associated questions will be available over a 24-hour period. Questions will draw on material in the course textbook, but will also require students to critically evaluate the results of each study. Students may complete one or both assignments on their own, or work in groups of 2-5 students to submit an assignment together. Students must set up the groups themselves and those who submit an assignment together will all receive the same mark. It is not necessary to keep the same group for both assignments. In addition, students may complete one assignment on their own and another in a group, if they wish.

### **Group Project (20%)**

Students will work in groups of 4-7 to prepare **one** in-class presentation on recent, controversial topics related to the field of neuropharmacology. The purpose is to use scientific evidence to shed light on topics that are broadly discussed in the public domain. Groups will be randomly selected and topics will be assigned three weeks in advance of each presentation. Presentations should be 15-20 min using slides, video clips, panel discussion, or any other technique (creativity is welcome!) Each group will present their project during one of the scheduled classes, and students who are unable to attend the class in which their group is presenting should inform the instructor in advance (no marks are deducted for absences).

### **Science Communication (20%)**

Each student will complete an assignment in which they communicate findings from a behavioral pharmacology study to a general audience. Topics may include pharmacological treatments for a specific mental health conditions (e.g., obsessive-compulsive disorder), technological advances in understanding epigenetic modification of pharmacological systems, or COVID effects on neurotransmission. The mode of communication may vary from a science reporting article (~1,000 words) to a 5 min TedTalk or podcast. Students may complete the project on their own or in groups of 2-5 students. There are two submission due dates for this assignment (see document with deadlines for specific due dates): students who submit the assignment on the first due date will receive a mark and feedback within 2 weeks of the submission. They will then have the option to revise and resubmit the assignment for the second submission deadline.

### **Grading policy**

If you feel the grade you have received does not reflect the work you turned in, you may ask for your assignment to be graded again by providing written justification within 7 days of receiving your mark. You must explain, in detail, why you think your grade should be adjusted, based on the assignment description and marking guidelines. By asking for your assignment to be regraded, you acknowledge that your grade may be higher or lower than your first mark. The second grade is final.

### **Due Dates**

Please check the syllabus for specific information on each assignment, including requirements for the number of assignments that must be completed. Lecture assignments are listed on a separate page; please check this carefully to ensure that you know the date that YOUR lecture presentation is due. Groups for the Discussion Project will be selected by the instructor three weeks before each presentation is due. Students who require additional supports have the option of completing each assignment up to 72 hours after the due dates listed below. **No extensions will be granted beyond this 72-hour grace period.** Read through the information on academic accommodation and considerations for more details.

<b>Assignment</b>		<b>Due Dates all 11:59 pm EST (Kingston time)</b>
<b>Quizzes</b>		
	Quiz 1-5	Feb. 5 <sup>th</sup>
	Quiz 6-10	March 12 <sup>th</sup>
	Quiz 11-15	April 9 <sup>th</sup>
<b>Lecture Presentation</b>		
	Chapters 1-3	Jan. 29 <sup>nd</sup>
	Feedback	Feb. 5 <sup>th</sup>
	Chapters 4-6	Feb. 12 <sup>th</sup>
	Feedback	Feb 19 <sup>th</sup>
	Chapters 7-9	Feb. 26 <sup>th</sup>
	Feedback	March 5 <sup>th</sup>
	Chapters 10-12	March 12 <sup>th</sup>
	Feedback	March 19 <sup>th</sup>
	Chapters 13-15	March 26 <sup>th</sup>
	Feedback	April 2 <sup>nd</sup>
<b>Research Paper Analysis</b>		
	Assignment 1	
	Opens	Jan 28 <sup>th</sup>
	Closes	Jan 29 <sup>th</sup>
	Assignment 2	
	Opens	Feb. 11 <sup>th</sup>
	Closes	Feb. 12 <sup>th</sup>
	Assignment 3	
	Opens	March 4 <sup>th</sup>
	Closes	March 5 <sup>th</sup>
	Assignment 4	
	Opens	March 18 <sup>th</sup>
	Closes	March 19 <sup>th</sup>
<b>Group Discussion Project</b>		
	Group 1	March 5 <sup>th</sup>
	Group 2	March 12 <sup>th</sup>
	Group 3	March 19 <sup>th</sup>
	Group 4	March 26 <sup>th</sup>
	Group 5	April 2 <sup>nd</sup>
<b>Science Communication</b>		
	Submission 1	Monday, Feb. 22 <sup>nd</sup>
	Submission 2	Monday, April 5 <sup>th</sup>

### **Statements on Accommodation and Academic Consideration**

Queen's University is committed to achieving full accessibility for people with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. The Senate Policy for Accommodations for Students with Disabilities was approved at Senate in November 2016 (see

<https://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslcwww/files/files/policies/senateandtrustees/ACADACCOMMPOLICY2016.pdf>)

Queen's University is also committed to providing academic consideration to students experiencing extenuating circumstances that are beyond their control and are interfering with their ability to complete academic requirements related to a course for a short period of time. The Senate Policy on Academic Consideration for Students in Extenuating Circumstances is available at

<http://www.queensu.ca/secretariat/sites/webpublish.queensu.ca.uslcwww/files/files/policies/senateandtrustees/Academic%20Considerations%20for%20Extenuating%20Circumstances%20Policy%20Final.pdf>

### **Course Policy on Accommodations and Considerations**

This course is built on the principles of universal design, which provide maximum flexibility for students requiring additional supports. For example, students have the option of dropping up to 5 quizzes, they are able to select which Research Paper assignments they complete (2/4), the time frame to complete the quizzes and Research Paper Analysis is automatically extended, and every assignment has a 72-hour grace period in which submissions will be accepted with no penalty.

Even with these accommodations in place, students may experience difficulties during the term that impede their ability to fully participate in a course. We maintain equity across the entire student population, and with our instructional team, by limiting extensions to 72 hours. That allows us to provide timely feedback to the remaining students in the class and to meet our contractual obligations to teaching assistants. **No extensions will be granted beyond this 72-hour grace period.**

In rare situations, the grace periods we provide are inadequate and students are unable to meet academic deadlines within this 72-hours. If this occurs, we encourage students to maintain active engagement in the course by focusing on immediate and upcoming assignments. We also support individual students by taking a global view of their performance across the entire term. Thus, rather than adjusting deadlines on individual assignments, we review the student's progress, in terms of learning outcomes, at the end of the term. In rare cases, we re-weight assignments that are completed; in others, we create a new or revised assignment with an extended deadline. This decision depends on the number of assignments that are missing or late, and how these mapped onto the learning outcomes in the course. An extended deadline would give students one term (four months) to complete the remaining assignments.

Because of these policies, students **are not required to submit** either an Academic Accommodation or Request for Academic Consideration form to the instruction, with the two exceptions noted below:

### 1. Requests for academic consideration between 4 days and 3 months

- Requests for academic consideration between 4 days and 3 months should be made as soon as you require academic consideration.
- All requests for academic consideration between 4 days and 3 months require [supporting documentation](#), which should be submitted within 5 business days of submitting the request or it will be withdrawn.
- All requests for academic consideration for extenuating circumstances between 4 days and 3 months must be submitted before the course has closed/ended.
- Delegates submitting a Request for Academic Consideration for Extenuating Circumstances form and supporting documentation on behalf of a student should contact the Faculty Office to arrange to complete the proper forms.
- If you have questions, please contact the Academic Consideration Team in the Faculty Office at: [asc.consideration@queensu.ca](mailto:asc.consideration@queensu.ca) or 613-533-6000, ext. 75413.

### 2. Request for Excused Absence for Significant Event

Students who are making a request for academic consideration related to a significant event must follow these steps outlined below. If you are participating in an event at the provincial, national, or international level that is either a Queen's Varsity Athletics event or an event to which you were invited as a distinguished guest, you can complete this form. Please submit requests a minimum of 2 weeks before the sanctioned events or as soon as the event is scheduled.

1. Gather the following information:
  - A personal statement about why participation in the event is significant to you/Queen's
  - Specific details about what is being missed (i.e., exactly what courses, what tests, what assignments, etc.)
  - A copy of the invitation to participate/details about the competitions that determine who is invited
  - Any other relevant details about the event (i.e., tournament information, schedules, team details, who is participating)
2. A minimum of two weeks before the sanctioned event, or as soon as the event is scheduled, complete and submit a [Request for Excused Absence for Significant Event Form](#) to either:
  - Queen's Athletics and Recreation senior management team/Athletics Services Coordinator – Retention (athletics and Recreation Centre, 284 Earl Street), for varsity athletic events OR
  - the Vice-Provost and Dean of Student Affairs (Gordon Hall, Room 300, 74 Union Street) for all other significant events
  - BISC Students should submit their requests to the Student Services office at the Bader International Student Centre (BISC).
3. Upload your signed form to the Arts & Science Academic Consideration Portal. If you encounter technical difficulties please reach out to [asc.consideration@queensu.ca](mailto:asc.consideration@queensu.ca)

As soon as possible, follow-up with your instructor(s) either by email or in-person to discuss how you will be making up for the missed academic requirements. This may require you to complete academic requirements prior to being absent for the event.

### **Academic Integrity**

Queen's students, faculty, administrators and staff all have responsibilities for upholding the fundamental values of academic integrity; honesty, trust, fairness, respect, responsibility and courage (see [www.academicintegrity.org](http://www.academicintegrity.org)). These values are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University (see the Senate Report on Principles and Priorities <http://www.queensu.ca/secretariat/policies/senate/report-principles-and-priorities>).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and their behaviour conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar (see Academic Regulation 1 <http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations/regulation-1>), on the Arts and Science website (see <https://www.queensu.ca/artsci/students-at-queens/academic-integrity>), and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

### **Queen's Copyright Information**

"This material is copyrighted and is for the sole use of students registered in Psychology 471. This material shall not be distributed or disseminated to anyone other than students registered in Psychology 471. Failure to abide by these conditions is a breach of copyright, and may also constitute a breach of academic integrity under the University Senate's Academic Integrity Policy Statement."

### **Grade Conversion**

All components of this course will receive a letter grade, using the Queen's Faculty of Arts and Science Official Grade Conversion Scale:

#### *Queen's Official Grade Conversion Scale*

Grade	Numerical Course Average (Range)
A+	90-100
A	85-89



A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	49 and below