

PSYC 475
Psychopharmacology
Winter 2019

Instructor:	Shaona Acharjee	Lecture Location:	ST 129
Phone:	403-383-1738	Lecture Days/Time:	MW 4-5:15pm
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Course Description

The aim of this course is to provide insight into the mechanisms whereby drugs exert their action on the central nervous system to influence biochemical, physiological, and behavioural processes.

Course Learning Outcomes

The Department of Psychology is committed to student knowledge and skill development. The table below lists the key learning outcomes for this course, the program-learning outcomes they facilitate (see psyc.ucalgary.ca/undergraduate/program-learning-outcomes), and the expected level of achievement.

Course Learning Outcomes	Assessment Methods	PLO	Level(s)
Explain the mechanism of drug action and its interaction with the nervous system	Multiple choice questions, short and long questions in exam	1	I
Evaluate methods and findings from behavioural pharmacological studies	Multiple choice questions, short and long questions in exam, assignments and term paper	1,2, 5, 7	A
Outline the theories and mechanisms of major substance of abuse and its treatment	Multiple choice questions, short and long questions in exam, assignments and term paper	1,6	C
Explain the neurobiology of psychiatric disorders and drugs used to treat these disorders	Multiple choice questions, short and long questions in exam, assignments and term paper	1, 5	A
Critically analyze and summarize information on behavioural pharmacology	Multiple choice questions, short and long questions in exam, assignments and term paper	1,2,3,4,5,7	A
Evaluate claims made in the media concerning drug use.	Assignments	2, 4, 5, 6, 7	A

Notes.PLOs = Program-Learning Outcomes: 1 = demonstrate knowledge of psychological sciences, 2 = think critically and solve problems, 3 = conduct research and analyze data, 4 = communicate effectively, 5 = demonstrate information literacy, 6 = understand and implement ethical principles, 7 = apply psychological knowledge and skills. Level of PLO achievement facilitated by this course: I = introductory, C = competency, A = advanced.

Prerequisites

- PSYC 300 and 301 –Research methods and data analysis in psychology **or** PSYC 312 – Experimental design and quantitative methods for psychology
- PSYC 375 – Brain and Behaviour
- Admission to the Psychology major or Honours program / Neuroscience 475

Required Text

Meyer, J., &Quenzer, L. (2018). *Psychopharmacology : Drugs, the brain, and behaviour* (3rd ed.). Oxford University Press.

The text is available in the University Bookstore.

Assessment Methods

The assessment due dates and exams dates are:

1. Assignment #1: Brief report (15%) – due Feb 4
2. Mid-term exam (25%) –Feb 24
3. Assignment #2: Poster (10%) – due March 11
4. Assignment #3: Research Proposal (5%) – due March 20
5. Term paper (20%) – April 12
6. Final exam (25%) – Final exam period

Exams:

There will be two exams: mid-term and final exam, **each** weighing 25% of the final grade. The exams will consist of multiple choice questions, short and long answers. The tests will test for knowledge in the field of study, as well as critical thinking and problem solving abilities. The exams are non-cumulative. No iPods, iPads, computers, books or notes will be allowed during tests.

Mid-term exam (25%, February 4): Chapters included in the mid-term exam are 1, 2, 3, 4, 5, 9, and 12.

Any additional resources provided/discussed in the class will also be included in the exam.

Final exam (25%, during final exam period): Chapters included in the final exam are 6, 11, 13, 14, 18, 19 and 20. Any additional resources provided/discussed in the class will also be included in the exam.

Assignments:

Assignment# 1 - Brief Report (15%): For this assignment (due Feb 4 , 11:59PM), the students will have to write a brief report based on two related scientific articles that will be posted on d2l on the first week of the semester. The report should be not more than two pages (12-font, double spaced). The report should have three sections – (1) background of the research, (2) main findings and conclusions, and (3) its impact in the field. Based on the articles, the report should highlight on how the field of research has progressed, and should emphasize on the connection between the articles while describing the findings

and conclusion section. Assignments will have to be uploaded in the dropbox. Late submission will incur a penalty of 5% per day (including weekends).

Evaluation criteria:

1. Provide background information that will reflect your literature review on the topic (6 marks),
2. Critically analyze and describe the connections/ contradictions between the findings in the two papers (6 marks)
3. How this body of work is relevant in the field of psychology (3 marks)

Assignment# 2 - Poster (10%, due March 11, 11:59PM): The purpose of this assignment is to conceptualize the neurotransmitter pathways that are relevant to addiction. The purpose of this assignment is to create a document that will aid in remembering the pathways, and also learn to present information in a succinct and aesthetically pleasant manner. Students will make a poster of each neurotransmitter pathway. This is a group assignment. Further explanation will be provided prior to Reading week. Assignments will have to be uploaded in the dropbox. Without appropriate documentation, late submission will incur a penalty of 5% per day (including weekends).

Evaluation criteria:

1. Schematically present the neurotransmitter pathways. You can use digital tools or scan a hand-drawn figure. Each figure should have all the required details and be aesthetically pleasing (5 marks).
2. Write a legend to describe each of the pathways (3 marks)
3. Put the presentation in a poster format for easy understanding in an aesthetically pleasant way. (2 marks)

Assignment#3 - Research proposal (5%, due March 20, 11:59PM): The research proposal should briefly discuss the topic that you have chosen for your term paper (see below). It should be written in 12-point font and be double-spaced. Your research proposal should be a maximum of 1.5 pages in length (not including your reference section), and include 3-5 pertinent references. Assignments will have to be uploaded in the dropbox. Without appropriate documentation, late submission will incur a penalty of 5% per day (including weekends).

Evaluation criteria:

1. State the topic you have chosen. (1 mark)
2. Outline the subtopics you will be covering in the paper. (3 marks)
3. Future areas of research on the topic. (1 mark)

Term paper (25%, due April 12, 11:59PM): The term paper is to be written on a topic of your choosing within the field of behavioural pharmacology. It is due on **April 12th**. It can be a maximum of 10 double-spaced pages, not including your reference section. As with the brief reports and research proposal, it should be double-spaced and written in 12-point font. Details regarding the term paper will be provided in class and posted on D2L. Assignments will have to be uploaded in the dropbox. Without appropriate documentation, late submission will incur a penalty of 5% per day (including weekends).

Evaluation criteria:

1. Introduction and basic knowledge in the field. (3 marks)

2. Literature review on topics pertinent to your paper (11 marks)
3. Future areas of research on the topic (3 marks)
4. Conclusion (2 points)
5. Reference in APA format (1 point)

Department of Psychology Criteria for Letter Grades

Psychology professors use the following criteria when assigning letter grades:

A+ grade: *Exceptional Performance.* An A+ grade indicates near perfect performance on multiple choice and short answer exams. For research papers/essays/course projects/presentations, an A+ grade is awarded for exceptional work deserving of special recognition and is therefore not a common grade.

A, A- Range: *Excellent Performance.* Superior understanding of course material. Written work is very strong in terms of critical and original thinking, content, organization, and the expression of ideas, and demonstrates student's thorough knowledge of subject matter.

B Range: *Good Performance.* Above average understanding of course material. Written work shows evidence of critical thinking and attention to organization and editing but could be improved in form and/or content.

C Range: *Satisfactory Performance.* Adequate understanding of course material. Knowledge of basic concepts and terminology is demonstrated. Written work is satisfactory and meets essential requirements but could be improved significantly in form and content. Note: All prerequisites for courses offered by the Faculty of Arts must be met with a minimum grade of C-.

D range: *Marginally meets standards.* Minimal understanding of subject matter. Written work is marginally acceptable and meets basic requirements but requires substantial improvements in form and content. Student has not mastered course material at a level sufficient for advancement into more senior courses in the same or related subjects.

F grade: *Course standards not met.* Inadequate understanding of subject matter. Written work does not meet basic requirements. Student has not demonstrated knowledge of course material at a level sufficient for course credit.

Grading Scale

A+	96-100%	B+	80-84%	C+	67-71%	D+	54-58%
A	90-95%	B	76-79%	C	63-66%	D	50-53%
A-	85-89%	B-	72-75%	C-	59-62%	F	0-49%

As stated in the University Calendar, it is at the instructor's discretion to round off either upward or downward to determine a final grade when the average of term work and final examinations is between two letter grades. To determine final letter grades, final percentage grades will be rounded up or down

to the nearest whole percentage (e.g., 89.5% will be rounded up to 90% = A but 89.4% will be rounded down to 89% = A-).

Tentative Lecture Schedule

Date	Topic	Readings and assignments
W Jan 02	Winter term begins.	
F Jan 11	MWF Lectures Begin	
M Jan 14	Introduction, Principles of pharmacology	Ch 1
W Jan 16	Principles of pharmacology	Ch 1
M Jan 21	Synaptic transmission: cells and organization of the nervous system	Ch 2
W Jan 23	Synaptic transmission Description of assignment #1	Ch 3
M Jan 28	Principles and techniques of psychopharmacology	Ch 4
W Jan 30	Theories of Addiction	Ch 9
M Feb 4	Catecholamine	Ch 5 Assinment#1 Due (12.5% of final grade)
W Feb 6	Psychostimulants: Cocaine	Ch 12
M Feb 11	Psychostimulants: Amphetamine	Ch 12
W Feb 13	Review of mid-term exam; Description of assignment 2 and 3	Review
Feb 17-24	<i>Reading Week. No lectures. University open (except Family Day).</i>	
M Feb 25	Mid-term exam (Ch1,2,3,4,5,9,12)	Mid-term exam (25% of final grade)
W Feb 27	Serotonin	Chapter 6
M Mar 4	Glutamate and GABA	Chapter 8
W Mar 6	Acetylcholine	Chapter 7
M Mar 11	Hallucinogens: LSD, PCP, Ketamine	Chapter 15 Assinment#2 Due (12.5% of final grade), Group assignment
W Mar 13	Hallucinogens: LSD, PCP, Ketamine	Chapter 15
M Mar 18	Alcohol	Chapter 10
W Mar 20	Alcohol	Chapter 10 Assinment#3 Due (5% of final grade)
M Mar 25	Nicotine and caffeine	Chapter 13
W Mar 27	Opioids	Chapter 11
M Apr 1	Marijuana and cannabinoids	Chapter 14
W Apr 3	Marijuana and cannabinoids	Chapter 14
M Apr 8	Affective disorders: antidepressants and mood stabilizers	Chapter 18
W Apr 10	Schizophrenia, and neurodegenerative disorder	Chapter 19, Chapter 20

F Apr 12	Winter Term Lectures End. Last day to withdraw from full courses and Winter Term half courses.	Term Paper Due (20% of the final grade)
Apr 15-27	Winter Term Final Examinations.	
F Apr 19	Good Friday	
Apr. 30	End of Term	

Reappraisal of Graded Term Work <http://www.ucalgary.ca/pubs/calendar/current/i-2.html>

A student who feels that a piece of graded term work (term paper, essay, test, etc.) has been unfairly graded, may have the paper re-graded as follows. The student shall discuss the work with the instructor **within fifteen days** of being notified about the mark or of the item's return to the class. If not satisfied, the student shall **immediately** take the matter to the Director of Undergraduate Studies who will arrange for a reassessment of the work **within the next fifteen days**. Students in faculties without a departmental structure should take the matter to the dean or the associate/assistant dean (Academic/Student Affairs) of the faculty offering the course. The result of that reassessment should be given to the student in writing. ***The reappraisal of term work may cause the grade to be raised, lowered or to remain the same.***

Reappraisal of Final Grade <http://www.ucalgary.ca/pubs/calendar/current/i-3.html>

In the reappraisal of a final grade, the only element that will be considered is the grading of the final assessment that makes up the final mark (e.g., final examination, final project, final paper). An exception may occur when the Instructor of Record evaluates a piece of graded term work at the end of the term; that grade may also be considered in a reappraisal of final grade.

A student wishing a reappraisal of a final grade should first attempt to review the final assessment with the department or faculty offering the course. After which, the student shall obtain a Reappraisal of Final Grade form from ucalgary.ca/registrar (under Student Forms). Students must indicate exactly what error was made in marking the final assessment and/or in computing the final grade. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected.

Students wishing a reappraisal of a final grade (excluding Law courses) must submit their request by the following dates:

Fall Term – March 1

Winter Term – June 30

Spring Intersession – August 15

Summer Term – October 15

Supplemental Examinations: 30 calendar days from the date the examination was written

The reappraisal form shall be submitted to Enrolment Services who will forward it to the department head or dean of the faculty offering the course. Reappraisals of final grades are dealt with by the head of the academic unit in consultation with members of academic staff. Normally, the department/faculty

will respond to a reappraisal request within thirty calendar days of its initiation. After the reappraisal is completed, the department shall return the form to the Registrar's Office who shall inform the student in writing of the decision. ***Students should be aware that the grade being reappraised may be raised, lowered or remain the same. A student may request a reappraisal of final grade only twice in one academic year (September 1 – August 31).***

Plagiarism and Other Academic Misconduct

Intellectual honesty is the cornerstone of the development and acquisition of knowledge and requires that the contribution of others be acknowledged. Consequently, plagiarism or cheating on any assignment is regarded as an extremely serious academic offense. Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Students should examine sections of the University Calendar that present a Statement of Intellectual honesty and definitions and penalties associated with Plagiarism/Cheating/Other Academic Misconduct.

Academic Accommodations

The student accommodation policy can be found at: ucalgary.ca/access/accommodations/policy. Students needing an Accommodation because of a Disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities ucalgary.ca/policies/files/policies/student-accommodation-policy. Students needing an Accommodation based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to the instructor.

Seating During Exams

Instructors and exam invigilators are free to ask students to move seats before an exam begins or even during an exam. Students must comply with this request and refusal to do so may warrant a charge of academic misconduct.

Absence From A Test/Exam

Makeup tests/exams are **NOT** an option without the approval of the instructor. A student may be asked to provide supporting documentation for an exemption/special request for a make-up exam <https://www.ucalgary.ca/pubs/calendar/current/n-1.html>. . Students who miss a test/exam have up to 48 hours to contact the instructor to ask for a makeup test/exam. It's the instructor's discretion if they will allow a make-up exam. Students who do not schedule a makeup test/exam with the instructor within this 48-hour period forfeit the right to a makeup test/exam. At the instructor's discretion, a makeup test/exam may differ significantly (in form and/or content) from a regularly scheduled test/exam. Once approved by the instructor a makeup test/exam must be written within 2 weeks of the missed test/exam during exam make-up hours provided by the department <http://psychology.ucalgary.ca/undergraduate/exam-and-course-information#mues>. If a student cannot write their final exam on the date assigned by the Registrar's Office, they need to apply for a deferred exam <https://www.ucalgary.ca/registrar/exams/deferred-exams>.

Travel During Exams

Consistent with University regulations, students are expected to be available to write scheduled exams at any time during the official December and April examination periods. Requests to write a make-up exam because of conflicting travel plans (e.g., flight bookings) will NOT be considered by the department. Students are advised to wait until the final examination schedule is posted before making any travel arrangements. If a student cannot write their final exam on the date assigned by the Registrar's Office, they need to apply for a deferred exam

<https://www.ucalgary.ca/registrar/exams/deferred-exams>. Students with an exceptional extenuating circumstance (e.g., a family emergency) should contact the Department of Psychology (psyugrd@ucalgary.ca).

Freedom of Information and Protection of Privacy (FOIP) Act

The FOIP legislation disallows the practice of having student's retrieve tests and assignments from a public place. Therefore, tests and assignments may be returned to students during class/lab, or during office hours, or will be made available only for viewing during exam review sessions scheduled by the Department. Tests and assignments will be shredded after one year. Instructors should take care to not link students' names with their grades, UCIDs, or other FOIP-sensitive information.

Acknowledgments and Respect for Diversity

Our classrooms view diversity of identity as a strength and resource. Your experiences and different perspectives are encouraged and add to a rich learning environment that fosters critical thought through respectful discussion and inclusion. The Department of Psychology would also like to acknowledge the traditional territories of the people of the Treaty 7 region in southern Alberta. The City of Calgary is also home to Métis Nation of Alberta, Region III.

Wellness and Mental Health Resources

The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the excellent mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, <https://www.ucalgary.ca/wellnesscentre/services/mental-health-services>) and the Campus Mental Health Strategy website (<http://www.ucalgary.ca/mentalhealth/>).

Course Credits for Research Participation:

Extra Research Participation Course Credit is Not Offered for this Course.

Evacuation Assembly Point

In case of an emergency evacuation during class, students must gather at the designated assembly point nearest to the classroom. The list of assembly points is found at

<http://www.ucalgary.ca/emergencyplan/assemblypoints>

Please check this website and note the nearest assembly point for this course.

Student Organizations

Psychology students may wish to join the Psychology Undergraduate Students' Association (PSYCHS). They are located in Administration 130 and may be contacted at 403-220-5567.

Student Union VP Academic: Phone: 403-220-3911 suvpaca@ucalgary.ca

Student Union Faculty Rep.: arts1@su.ucalgary.ca

Student Ombudsman's Office

The Office of the Student Ombudsmen provides independent, impartial and confidential support for students who require assistance and advice in addressing issues and concerns related to their academic careers. The office can be reached at 403-220-6420 or ombuds@ucalgary.ca

(<http://www.ucalgary.ca/provost/students/ombuds>)

Safewalk

The safewalk program provides volunteers to walk students safely to their destination anywhere on campus. This service is free and available 24 hrs/day, 365 days a year.

Call 403-220-5333.

Important Dates

The last day to drop this course with no "W" notation and **still receive a tuition fee refund** is **January 17, 2019**. Last day for registration/change of registration is **January 18, 2019**. The last day to withdraw from this course is **April 12, 2019**.