

Psychology 471 2013W - Behavioural Pharmacology
January 7 - April 5 2013
Tuesdays 10:00-11:30, Thursdays 08:30-10:00
Room: Kingston Hall, rm 308

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Office Hours: by appointment

Entry requirements:

PSYC 205/3.0 or PSYC 271/3.0 and PSYC 370/3.0 (or PSYC 272/3.0). The course assumes prior obtained knowledge of basic neuroscience and psychopharmacological concepts. Students are expected to remember / recall basic information gained from the prerequisite courses. Those students who do not meet the entry requirements need to spend more time in the beginning on catching up with basic readings, using e.g. reading material used in the entry-courses (e.g. Brain and Behavior I and II).

Course Goals and Objectives:

In the first part of this course, literature on basic brain and pharmacological mechanisms will be discussed. Next, we will focus on current neurochemical hypotheses and pharmacological treatments of various psychiatric disorders, including major depression, bipolar disorder, psychosis, eating disorders, substance abuse, anxiety disorders as well as sleep problems. We will also focus on the effects of substance use (e.g. alcohol, cannabis, MDMA, caffeine) on brain chemistry, mood and cognitive function. In the last part of the course, there will be an introduction to pharmacogenetics, as well as to the role of epigenetic (DNA methylation) processes as a molecular mechanism of psychiatric disorders and pharmacological treatment.

At the end of this course, the student should have an understanding of the neurochemistry of common psychiatric disorders and the mechanisms of action of the most widely used medication for mental disorders and of drugs of abuse. Throughout and by the end of this course the student should demonstrate these skills by giving an oral presentation (seminar) and in writing a paper.

Readings:

Before coming to class, you will be expected to read the 2-3 page summary written by the seminar presenter (see below). Throughout the course, the instructor will also provide additional readings. Links to or references for the readings are available on Moodle (<https://moodle.queensu.ca>) at least one week before the date they will be covered in class. You will be expected to read the summary and the additional reading material before coming to class, in order to be able to participate actively in the class.

Course Assessment:

There are two major assignments in this course: an in-class seminar and a formal paper.

Seminar. You will present individually one seminar from the topics listed on the last page of this syllabus. **Students are strongly encouraged to meet with the instructor during office hours to**

help prepare for their seminar. Seminar presentations should last approximately 25 - 30 min with an additional 5 - 10 minutes for questions. You will be marked on the content, organization, and presentation style of your seminar. The content of the seminar should be based on text books and recent articles from major journals in psychology and psychiatry. You will also submit a 2-3 page summary of your topic (double-spaced) that will be distributed to the class. You must submit this summary to the instructor **at least three full working days before the seminar presentation (i.e. students who have their seminar on a Tuesday AM will submit their summary no later than Thursday 9 AM the week before; students who have their seminar on a Thursday AM will submit the summary no later than the Monday before at 9 AM in the same week.** Late submissions will not be accepted. Once the instructor has approved the summary, she will send it to all the students at the latest 2 days before the class. When submitting your summary, please include your email address on this page so that you can receive feedback on your seminar.

Paper. Your paper may be on any topic related to Behavioural Pharmacology, but must be approved by the instructor. The topic of the paper must be different than your topic from the seminar. The process of writing the paper will be divided into four steps: title and thesis topic (10%); bibliography (10%), outline (10%) and final paper (20%). The due dates for each of these steps are listed below.

The paper should be mainly based on recent primary research and recent review articles from major journals in psychology, (psycho)pharmacology, genetics, biology, neuroscience and/or psychiatry. The paper should be about 10 double-spaced pages (approximately 3000 words), excluding references. The paper is due on **MONDAY, APRIL 8th.** **Late papers will not be accepted except in cases of documented emergencies.**

You will submit any part of your paper to the instructor electronically with the document names as follows:

your last name_ title .doc (docx), your last name_ bibliograph .doc (docx), your last name_ outline .doc (docx), your last name_ paper .doc (docx)

Due dates (5 pm) for each stage of the paper are:

Title and thesis topic	February 1st
Bibliography	February 13nd
Outline	March 13th
Paper	April 8th

Participation. You are expected to come to every class and be actively involved in the discussions and question and answer sessions taking place in the class (based on reading the summaries of the topics and additional readings). Participation marks will be based on attendance and class participation (e.g., asking questions, participating in discussion, in the Q&A session during the last class, etc.).

Evaluation:

Seminar:	40%
<i>Presentation</i>	30%
<i>Handout</i>	10%
Paper:	50%
<i>Title and thesis topic</i>	10%
<i>Bibliography</i>	10%
<i>Outline</i>	10%

Paper 20%
Participation: 10%

Grading Scheme:

In this course, some components will be graded using numerical percentage marks. Other components will receive letter grades, which for purposes of calculating your course average will be translated into numerical equivalents using the Faculty of Arts and Science approved scale:

Arts & Science Letter Grade Input Scheme

Assignment mark	Numerical value for calculation of final mark
A+	93
A	87
A-	82
B+	78
B	75
B-	72
C+	68
C	65
C-	62
D+	58
D	55
D-	52
F48 (F+)	48
F24 (F)	24
F0 (0)	0

Your course average will then be converted to a final letter grade according to Queen's 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

Academic Integrity:

Academic integrity is constituted by the five core fundamental values of honesty, trust, fairness, respect and responsibility (see 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/senateandtrustees/principlespriorities.html>).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments 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/2011-2012-calendar/academic-regulations/regulation-1>), on the Arts and Science website (see <http://www.queensu.ca/artsci/academics/undergraduate/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.

Copyright of Course Materials:

The material used in class, including lecture notes, online course materials, etc is copyrighted and is for the sole use of students registered in PSYC471. This material shall not be distributed or disseminated to anyone other than students registered in PSYC471. 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.

Late Policy:

Presentations must be given on the date on which they are scheduled to be given. **Late assignments (e.g. submission or summary, parts of the paper) will generally not be accepted.** Changes in the date of presentations and late assignments will not be accepted except in cases of documented family or medical emergencies.

Course outline:

Date	Activity (presenter)	Topic covered
January 8	Lecture (instructor)	Organization, introduction and choice of topic for seminar
January 10	Lecture (instructor)	How to prepare a seminar
January 15	Lecture (instructor)	How to write a paper
January 17	Seminar (1 student)	Brain basics (1)
January 22	Seminar (1 student)	Drug basics (1)
January 24	Seminar (1 student)	Experimental techniques in psychopharmacology (1)
January 29	Seminars (2 students)	Neurochemical mechanisms and pharmacological treatment of depression (2)
January 31	Seminars (2 students)	Neurochemical mechanisms and treatment of bipolar disorder (1) and Season Affective Disorder (1)
February 5	Seminars (2 students)	Neurochemical mechanisms and pharmacological treatment of anxiety disorders (1) and sleep problems (1)
February 7	Seminars (2 students)	Drugs to treat pain (barbiturates, general anaesthetics) (2)
February 12	Seminars (2 students)	Neurochemical mechanisms and treatment of psychosis (2)
February 14	Seminars (2 students)	Neurochemical mechanisms and pharmacological treatment of ADHD (1) and aggression problems (1)
February 19		NO CLASS (reading week)
February 21		NO CLASS (reading week)
February 26	Seminar (1 student)	Neurochemistry and pharmacological treatment of autism (1)
February 28	Seminar (1 student)	Neurochemistry and pharmacological treatment of eating disorders (1)
March 5	Seminars (1 student)	Neurochemistry of drug (ab)use: alcohol (1)
March 7	Seminar (1 student)	Neurochemistry of drug (ab)use: cannabis (1)
March 12	Seminar (2 students)	Neurochemistry of drug (ab)use: Psychomotor stimulants (cocaine) (1), MDMA, rave drugs and hallucinogens (1)
March 14	Seminar (2 students)	Caffeine (1) and Nicotine (1)
March 19	Seminar (1 student)	Natural medicines (1)
March 21	Seminar (1 student)	Dietary supplements (1)
March 26	Seminars (1 student)	Sex hormones, drug response and brain function (1)
March 28	Seminars (2 students)	(Pharmaco)genetics (1), Cultural differences in pharmacological treatment response (1)
April 2	Lecture (instructor)	DNA methylation as molecular mechanism of mental disease and treatment
April 4	Students and instructor	Question and Answer session, topic free of choice