



Psychology 471 2015W - Behavioural Pharmacology
January 5 – April 2 2015
Fridays 08:30-11:30
Room: Humphrey rm 132

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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 and common methods in psychopharmacology will be discussed. Next, we will focus on current neurochemical hypotheses and pharmacological treatments of various psychiatric disorders, including mood disorders, 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, nicotine) on brain chemistry, mood and cognitive function. 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 **(a)** have an understanding of the neurochemistry of common psychiatric disorders, **(b)** the mechanisms of action of the most widely used medications for psychiatric disorders and of drugs of abuse and **(c)** factors (cultural, demographic, genetic) that may influence responses to psychotropic medications, and how such factors could influence the outcome of research or clinical efficacy. 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 summaries written by the seminar presenters (see below), and to read the articles provided by the instructor (see Moodle). **Due to the termination of a copyright agreement by Queen's, I cannot post these articles for you, so you will need to download them from the library's website.** Students are expected to have read all articles **prior** to each class, as these are the basis for classroom discussions / debates or in-class exercises. More readings might be added to the reading list throughout the course. The instructor (Linda Booij) will post references to these additional readings on Moodle.

Grading Scheme / Course Assessments:

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 encouraged to meet with the instructor during office hours to help prepare for their seminar. Seminar presentations should last approximately 20 - 25 min with an additional 5 - 10 minutes for questions. You will be asked to prepare slides for your presentation. Powerpoint is the preferred program to use. If you are deciding to use another program than Powerpoint for your presentation (e.g. Prezi, Mac presentation etc.), you are responsible to bring your own laptop and for the setup. You will be marked on the content, organization, and presentation style of your seminar (more details will be given during the first class). The content of the seminar should be based on recent articles from major journals in psychology, (psycho)pharmacology, genetics, biology, neuroscience and/or psychiatry. **The presentation goes beyond the already assigned readings, so you will be expected to search for and present additional literature.** You will also submit a summary of ± 2 pages about your topic (double-spaced) that will be distributed to the class. You must submit this summary to the instructor **at least four full working days before the seminar presentation (i.e., you have to submit the summary *no later than Monday at noon in the same week***. Given that the instructor has to approve and post the summary on Moodle, and your co-students need time to read the summary before Friday's class, Monday at noon the same week is a strict deadline; late submissions will not be accepted. Once the instructor has approved the summary, she will send it to all the students at the latest on Tuesday AM in the week of the class. When submitting your summary, please include your email address on this page so that you can receive feedback on your seminar. Please email your presentation in Powerpoint or PDF format before or at the day of your presentation to the instructor.

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 three steps: title and thesis topic (including a brief rationale- $\pm 1/2$ page) (10%); bibliography and outline (15%), and final paper (25%). The due dates for each of these steps are listed below.

The paper should be mainly based on recent primary research and recent 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 should follow the APA style. The paper is due on **TUESDAY, APRIL 7th**.

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 paper topic February 6th

Bibliography and outline March 6th

Paper April 7th

Please only submit files that are saved and could be opened directly and edited in Microsoft Word (no PDF format, text, pages for Mac, etc..).

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, actively participating in discussions, debates, etc..).

Evaluation:

Seminar:		40%
<i>Presentation</i>	30%	
<i>Handout</i>	10%	
Paper:		50%
<i>Title and thesis topic</i>	10%	
<i>Bibliography & outline</i>	15%	
<i>Paper</i>	25%	
Participation:		10%

Grading Method:

The Psychology Grading Policy, “mixed-marking method,” is outlined on the following webpage:

<http://www.queensu.ca/psychology/Undergraduate/psycdepartmentalpolices/psycgradingpolicy.html>

Statement on 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/regulations/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, and summaries must be submitted *Monday at noon at the latest, the same week (i.e., 4 days before class)*. Changes in the date of presentations or deadline of the summary submission will not be accepted except in cases of documented family or medical emergencies. For the other assignments, other than compassionate

excuses, **10%** will be deducted from the grade for each day that an assignment (e.g. parts of a paper) is late.

Disability Accommodations:

Queen's University is committed to achieving full accessibility for persons 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. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact the Disability Services Office (DSO) and register as early as possible. For more information, including important deadlines, please visit the DSO website at: <http://www.queensu.ca/hcds/ds/>

Date	Activity (presenter)	Topic covered (excl. paper discussions of the assigned literature, class debates and other exercises in class)
January 9 (week 1)	Lectures (instructor)	Organization, introduction and choice of topic for seminar Relevance of psychopharmacology for psychologists How to prepare a seminar Brain & Drug basics exercise (prepare group presentation)
January 16 (week 2)	Lectures (instructor)	Methods in Experimental Psychopharmacology (imaging, genetics, symptom provocation studies) How to write a paper Presentations in subgroups Brain & Drug basics
January 23 (week 3)	Seminar (3 students)	Neurochemical mechanisms and pharmacological treatment of depression (2) Neurochemical mechanisms and pharmacological treatment of Panic Disorder / Generalized Anxiety Disorder (1)
January 30 (week 4)	Seminars (4 students)	Neurochemical mechanisms and pharmacological treatment of psychosis (2) Neurochemical mechanisms and pharmacological treatment of ADHD (1) Neurochemistry and pharmacological treatment of Bipolar disorder (1)
February 6 (week 5)	Seminars (2 students)	Neurochemical mechanisms and pharmacological treatment of Social Anxiety Disorder (1) and Aggression/violence (1) Guest speaker (E. Ismaylova, MSc). <i>Brain Development and epigenetics</i> . Graduate studies after obtaining a Bachelor degree in psychology (discussion with E. Ismaylova)
February 13 (week 6)	Seminar (4 students)	Pharmacological treatment of Pain (barbiturates, general anaesthetics) (2); Neurochemical mechanisms of sleep and pharmacological treatment of sleep problems (1); Gender / sex hormones and drug response (1);
February 27 (week 7)	Seminars (4 students)	Neurochemical mechanisms of Nicotine (1); Alcohol (1); Cannabis (1); Caffeine (1)
March 6 (week 8)	Seminars (3 students)	Natural medicines and dietary supplements (2) Cultural /ethnic differences in pharmacological treatment response (1)
March 13 (week 9)	Seminars (3 students)	Neurochemical mechanisms of MDMA (1); Cocaine (1); Neurochemistry and pharmacological treatment of Eating disorders (1);
March 20 (week 10)		Group Exercise: Design a research project in experimental behavioural pharmacology Guest lecturer (Dr. Janet Menard). <i>Animal Models relevant for Behavioral Pharmacology</i>
March 27 (week 11)	Seminar (2 students)	PTSD (1). Pharmacogenetics (1) DNA methylation as molecular mechanism of mental disorders and treatment (Dr. Linda Booij)