

# PSYC 473 - NEUROBIOLOGY OF PSYCHIATRIC DISORDERS

Instructor: Janet Menard

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Office Hours: Tuesdays, 1:00 – 3:00  
or by appointment

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## COURSE DESCRIPTION

Lectures will focus on current theories on the neurobiology of psychiatric and neurological disorders (e.g., schizophrenia, mood and anxiety disorders, autism). Seminars will focus on the evaluation of animal models for investigating neural mechanisms of psychopathology.

## INTENDED STUDENT LEARNING OUTCOMES

To complete this course, students will demonstrate their ability to:

- 1.! describe the value and limitations of using animal models to study human psychopathology.
- 2.! to understand hypothesis about the neurobiology of psychiatric disorders at multiple levels of analysis (e.g., genetic, epigenetic, molecular, cellular, neural structure and neural system levels)
- 3.! to locate relevant, current literature, and summarize and integrate complex ideas from a broad literature
- 4.! write effectively for different purposes (e.g., short report geared for lay public; review article geared for the scientific community)
- 5.! design and deliver an effective oral presentation (PowerPoint/Prezi/KeyNote)
- 6.! effectively participate in group discussions and peer evaluations

PREREQUISITES: PSYC 205, 271 and 272, or equivalent. There is no required text for the course.

## ASSIGNMENTS AND GRADING

ASSIGNMENT	COMPONENTS	MARK
ORAL PRESENTATION	Peer evaluation	5%
	Instructor Evaluation	25%
CLASS PARTICIPATION	¥! Participation in seminars ¥! Peerevaluations ¥! Reader(X 2)	10%
PRESS RELEASE(PR)	Peer evaluation	5%
	Instructor Evaluation	15%
TERM PAPER		40%

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readability, organization, grammar, spelling, punctuation and correct referencing style). The paper should illustrate how the research findings might further our understanding of the neurobiology of a given psychopathology.

The term paper is due by midnight, Dec 1 (1% deduction for every day a paper is late). Please email your paper to me using the following file name: YourLastName\_TermPaper\_Psyc473.doc

### Examples of term paper topics.

- ✘ Current support for the dopamine theory of schizophrenia
- ✘ GABA involvement in schizophrenia
- ✘ Glutamate hypothesis of schizophrenia
- ✘ Neurodevelopmental aspects of schizophrenia
- ✘ Neurodevelopmental aspects of autism
- ✘ Neurobiology of attention deficit disorder
- ✘ Impact of early life adversity of the development of neural systems that regulate stress reactivity
- ✘ Gene-

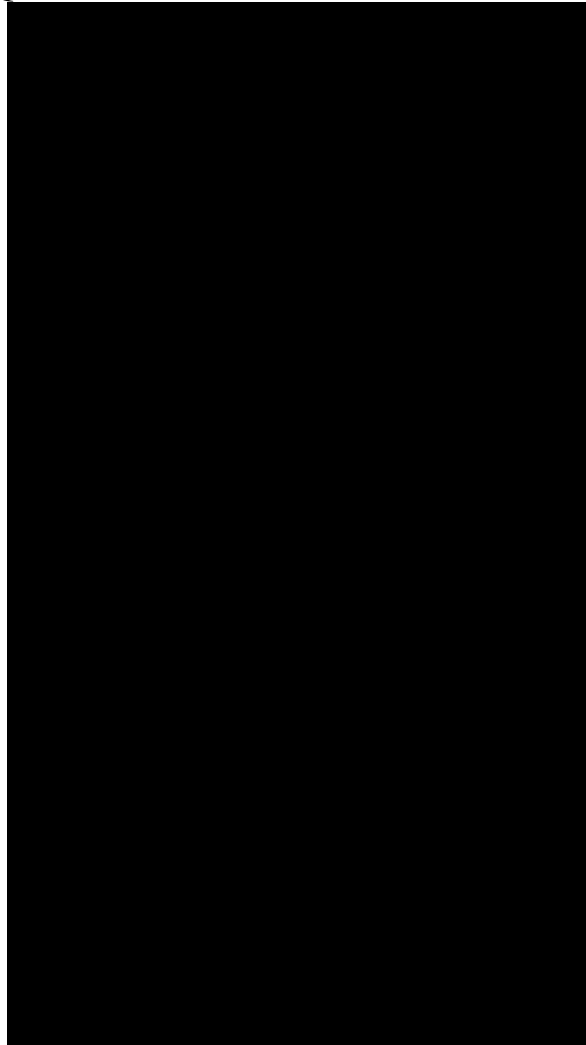
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## MARKING SCHEME

Psych 473 will utilize a “Numbers In, Letters Out” marking scheme: The final grade you receive for the course will be derived by converting your numerical course average to a letter grade, according to Queen’s Official Grade Conversion Scale.

### Queen’s Official Grade Conversion Scale



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### Statement on Academic Integrity

The following statement on academic integrity builds on a definition approved by Senate and is designed to make students aware of the importance of the concept and the potential consequences of departing from the core values of academic integrity. It is highly recommended that this statement be included on all course syllabi. Instructors may also consider including this statement with each assignment.

Academic Integrity is constituted by the six core fundamental values of 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 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.

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DATE	SECTION TOPIC - NEUROBIOLOGY OF SCHIZOPHRENIA	
Wed. Oct. 18	LECTURE: Neurobiology of schizophrenia	
DATE/ PRESENTERS	STUDENT PRESENTATIONS	READERS

Mon. Oct. 23

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Hayashi-Takagi, et al., (2014) PAKs inhibitors ameliorate schizophrenia-associated dendritic spine deterioration in vitro and in vivo during late adolescence. *PNAS*, 111, 6461–6466.

Jiao, et al., (2017) Transmembrane protein 108 is required for glutamatergic transmission in dentate gyrus. *PNAS* 2017, 114, 1177-1182.



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DATE	SECTION TOPIC - NEUROBIOLOGY OF CHILDHOOD PSYCHIATRIC DISORDERS	
Wed. Nov. 1	LECTURE: Neurobiology of childhood psychiatric disorders	
DATE/ PRESENTERS	STUDENT PRESENTATIONS	

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DATE

SECTION