Psychology 371*:

Research Problems in Behavioral Neuroscience Winter Term 2017

Instructor: Hans C. Dringenberg, Ph.D.

Phone: 533-6215

e-mail: dringenb@queensu.ca

Office: Craine Bldg. 432

Office hours: Monday 10:00 - 11:00 (or by appointment)

Teaching Assistants/Lab Instructors: Jeff Rocca email: 11jfr5@queensu.ca

Christina Ou email: c.ou@queensu.ca

Lectures: Time: Monday, 8:30 - 10:00

Thursday, 10:00 – 11:30

Room: Botterell Hall, Room B148

Labs: Time: Lab A: Monday, 11:30 – 14:30

Lab B: Tuesday, 8:30 - 11:30

Room: Craine 420

Text: The required readings for the course consist of review articles and book chapters selected to complement the topics covered in the lectures. Links to the readings are available on the PSYC 371 onQ site.

Assessments: NeuroTopic presentation: 15%

Labs (3): 45%

Participation: 10%

Final exam: 30%

NeuroTopic presentation: One ~20 min seminar presentation summarizing the introduction, methods, results, and conclusions of an experimental paper assigned by the instructor. Included in this presentation is a brief (1 page in enough!, point form acceptable) summary of the paper presented. This summary will be distributed to all students in the course and forms part of the course reading material.

<u>Labs</u>: Three lab assignments (worth 15%, 20%, and 10%). Your lab instructors will provide detail. Please note that lab attendance is mandatory and will contribute to the mark received for this component of the course.

<u>Final exam</u>: The exam will consist of short-answer and essay-type questions. Material from lectures, NeuroTopic presentations, and the required readings will be examined.

<u>Participation</u>: Active contributions to discussions during lectures and NeuroTopic presentations (please note: attendance is not the same as active participation).

SCHEDULE OF TOPICS

Date	Topic	Readings		
SECTION I: THE (RODENT) BRAIN				
Jan. 9	Introduction I: The course	Abbott 2010		
Jan. 12	Introduction II: Rats as model to study brain & behavior	Kolb & Tees 1990		
Jan. 16	Enrichment and brain functions I: Fundamentals	Rosenzweig & Bennett 199		
Jan. 19	Dr. A. Winterborn: Animal use in research and teaching	Handout		
Jan. 23	Enrichment and brain functions II: Applications	Wurbel & Garner 2007		
Jan. 26	Enrichment and brain functions III: The human brain	TBA		
SECTION II:	LEARNING AND MEMORY			
Jan. 30	Memory and space I: Systems and behavior	Squire 2004		
Feb. 2	Memory and space II: Synaptic mechanisms	Morris 2013		
Feb. 6 Feb. 9	NeuroTopic #1: Enrichment and the brain (presentations)presentations continued			
Feb. 13	The emotional brain I: "Fear and Anxiety"	TBA		
Feb. 16	The emotional brain II: Emotion and memory	McGaugh 2000		
Feb. 20-26	READING WEEK: NO CLASSES			
Feb. 27 Mar. 2	NeuroTopic #2: Memory and emotion (presentations) continued			

SECTION III: COMPLEX SYSTEMS AND BRAIN STATES

Mar. 6	Neurogenesis I: History, evidence, and functions	Leuner 2006
Mar. 9	Neurogenesis II: The "Depression Link"	Miller & Hen 2015
Mar. 13	NO CLASS	
Mar. 16	Rhythms of the brain I	Ahmed & Cash 2013
Mar. 20	Rhythms of the brain II	Wagner 2001
Mar. 13	The question of "consciousness"	Vanderwolf 1998
Mar. 27	NeuroTopic #3: Complex brain states (presentations)	
Mar. 30	continued	
Apr. 3	NO CLASS	
Apr. 6	Behavioral neuroscience: big questions, next steps	

Exam period: FINAL EXAM

Academic Integrity

Academic integrity is constituted by the five core fundamental values of honesty, trust, fairness, respect and responsibility (see

http://www.academicintegrity.org/fundamental_values_project/index.php). 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)

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), on the Arts and Science website (see http://www.gueensu.ca/artsci/academics/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.

Web-based academic resources: http://www.asus.queensu.ca/acsfacts

Academic integrity regulations: http://www.queensu.ca/artsci/integrity/instructor/education.html

Disability Accommodations Statement

"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/"

Copyright of Course Materials

This material is copyrighted and is for the sole use of students registered in Psyc 371*. This material shall not be distributed or disseminated to anyone other than students registered in Psyc 371*. 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.