Psychology 371*:
Research Problems in Behavioral Neuroscience
Winter Term 2015

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Office: Craine Bldg. 432
Office hours: Thursday 10:00 - 11:00 (or by appointment)

Teaching Assistants/
Lab Instructors: Jeff Rocca email: 11jfr5@queensu.ca
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Lectures: Time: Tuesday, 10:00 - 11:30
Thursday, 8:30 - 10:00
Room: Botterell Hall, Room B148

Labs: Time: Lab A: Monday, 8:30 - 11:30
Lab B: Monday, 14:30 - 17:30
Room: Craine 420

Text: The required readings for the course consist of review articlesand book chapters selected to complement the topics covered in the lectures. Links to the readings are available on the Psyc 371 Moodle 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.

Labs: 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.

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

Participation: 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. 6	Introduction I: The course	Course Outline
Jan. 8	Introduction II: Rats as model to study brain & behavior	Abbott 2010
Jan. 13	The rodent cortex I: Structure and function	Kolb & Tees 1990
Jan. 15	The rodent cortex II: Models of dysfunction and disease	Vanderwolf 1992
Jan. 20	Dr. A. Winterborn: Animal use in research and teaching	Handout
Jan. 22	**NO CLASS**	
Jan. 27	Enrichment and Brain Functions I: Fundamentals	Rosenzweig & Bennett 1996
Jan. 29	Enrichment and Brain Functions II: Applications	Wurbel & Garner 2007
Feb. 3	NeuroTopic #1: Structure and functions of the neocortex (presentations)…	
Feb. 5	…presentations continued	
SECTION II: LEARNING AND MEMORY		
Feb. 10	Navigation & spatial memory I: Neurobiology	Lee et al. 1998
Feb. 12	Navigation & spatial memory II: Morris water maze	None
Feb. 16-22	**READING WEEK: NO CLASSES**	
Feb. 24	Plasticity I: Learning/memory mechanisms	Morris 2013
Feb. 26	Plasticity II: The dynamic memory trace	McGaugh 2000
Mar. 3	NeuroTopic #2: Memory and plasticity (presentations)	
Mar. 5	… continued	
SECTION III: COMPLEX SYSTEMS AND BRAIN STATES		
Mar. 10	Neurogenesis I: History, evidence, and functions	Leuner 2006
Mar. 12	Neurogenesis II: The “Depression Link”	Jacobs 2002
Mar. 17	Rhythms of the brain I	Ahmed & Cash 2013
Mar. 19	Rhythms of the brain II	Wagner 2001
Mar. 24	The question of “consciousness”	Vanderwolf 1998
Mar. 26	**NO CLASS**	
Mar. 31	NeuroTopic #3: Complex brain states (presentations)	
Apr. 2	…continued	

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.queensu.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/ ”

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