

PSYC 398: Selected Topics in Psychology: Cognitive Neuroscience Course Syllabus

Course Instructor:

Megan Mahoney
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Office: Craine 403
Office Hours: Tuesday 9 – 11am
Or by appointment

Lecture Times:

Monday 2:30 – 4 pm
Thursday 4 – 5:30 pm

Lecture Location:

Dupuis Hall Room 217

Course TA:

Ning Zhang
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Office Hours: By appointment

Course Description

This course explores the cognitive and neural processes that underlie perception, attention, language, motor control, executive function, and memory. The emphasis of this course is the relationship between cognition and the nervous system in both healthy and disordered/diseased states (e.g., Alzheimer's disease, autism spectrum disorders, depression, Parkinson's disease, and schizophrenia). In examining this relationship, it also introduces technologies and methodologies used by cognitive neuroscientists to answer research questions relating to the interface of brain, behaviour and cognition.

Learning Objectives

- Discuss critical concepts and theories that are important in the field of cognitive neuroscience
- Critically assess scientific literature relating to cognitive neuroscience
- Synthesize information across diverse areas of cognitive neuroscience; think about topics in novel ways
- Discuss the advantages and disadvantages to the current technologies and methodologies used in cognitive neuroscience

Required Readings

- Gazzaniga, M., Ivry, R., & Mangun, G. (2013). Cognitive Neuroscience: The biology of the mind 4th Edition, W.W. Norton and Company, NY
- Readings for Assignments 1 and 2 (see assignments for details)

Materials

1. Moodle: Lecture power points and supplementary course readings; course information
2. Turnitin.com: submission of Assignments 1, 2 and 3

Lectures

There are two 90 min lectures each week. Before attending each lecture, you should be familiar with the assigned reading material for that week. In lectures, course material will be presented, but will have supplementary materials to aid in understanding, and provide a more comprehensive understanding of the topics covered. While attending lectures is not mandatory, exam questions will be based on what is emphasized and expanded upon in class. Lecture outlines will be posted to Moodle prior to class, and computers are permitted during lectures.

Evaluation

1. Assignment 1: Journal Article Critique	10%	See the course schedule document for due dates
2. Mid-term exam (Chapters 1-3,5-8)	25%	
3. Assignment 2: Cognitive Neuroscience in the Media	15%	
4. Assignment 3: Research Proposal	20%	
5. Final Exam (Chapter 9-14)	30%	

Due Date

Exam Format

Exams will consist of material from the lectures and the required readings. Question format will be multiple choice and short written responses.

Grading Scheme and Grading Method

In this course, all components will be graded using numerical percentage marks. Your course average will then be converted to a final letter grade according to Queen’s Official Grade Conversion 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 (O)	0

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

Course Schedule

Week	Date	Topic	Readings (Gazzaniga)
1	Jan 5	Introduction and Course Information <i>Introduction to Assignment 1 & Assignment 3</i>	No readings
1	Jan 8	General Overview of Cognitive Neuroscience	Chapter 1 and 2
2	Jan 12	Methods of Cognitive Neuroscience	Chapter 3
2	Jan 15	Methods of Cognitive Neuroscience	Chapter 3
3	Jan 19	Sensation & Perception	Chapter 5
3	Jan 22	Sensation & Perception	Chapter 5
4	Jan 26	<i>Introduction to Assignment 2</i> Object Recognition	Chapter 6
4	Jan 29	Object Recognition	Chapter 6
5	Feb 2	Attention	Chapter 7
5	Feb 5	Attention	Chapter 7
6	Feb 9	Action	Chapter 8
6	Feb 12	Action	Chapter 8
7	Feb 16-20	<i>Reading Week: No class</i>	
8	Feb 23	Emotion	Chapter 10 Pages:438-449,455-465
8	Feb 26	<i>Mid-term Exam</i>	
9	Mar 2	Learning & Memory	Chapter 9
9	Mar 5	Learning & Memory	Chapter 9
10	Mar 9	Language	Chapter 11
10	Mar 12	Language	Chapter 11
11	Mar 16	Cognitive Control	Chapter 12
11	Mar 19	Cognitive Control	Chapter 12
12	Mar 23	Social Cognition	Chapter 13
12	Mar 26	Social Cognition	Chapter 13
13	Mar 30	Consciousness, free will, and the Law	Chapter 14
13	Apr 2	Guest Speaker	Chapter 14
TBA	During Finals	Final Exam	

Psychology Departmental Policies

1. Academic Integrity

Academic Integrity. Academic integrity is constituted by the five core fundamental values of honesty, trust, fairness, respect and responsibility. 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](#), 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 that 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.

Plagiarism. It is your responsibility to be aware of what constitutes plagiarism and/or the departure from academic integrity, and what the consequences of this are. Please see [Regulation 1.2.1](#), and the [handout provided by the Writing Centre](#).

2. Exams and Assignment Policies

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](#).

Special Accommodations. Students who are registered with Queen's Health, Counselling, and Disability Services and require alternative accommodation for exams and/or assignments should please notify Ning Zhang as soon as possible. HCDS does not provide accommodations for exams occurring during regular class time (unlike for exams held during the fall and winter exam period). Therefore, for in-class exams as the instructor, I will provide the accommodation. Students who are registered with Queen's Health, Counselling, and Disability Services and require alternative accommodation for exams and/or assignments should please notify Ning Zhang as soon as possible.

Travel During Exams. According to university regulations, students are expected to be available to write scheduled exams at any time during the official December and April examination periods as well as during any scheduled class times. Requests to write a make-up exam because of conflicting travel plans (e.g., flight bookings) or requests to miss an in class exam due to other plans will NOT be considered except under extraordinary circumstances. Students are advised to wait until the final exam schedules are posted before making any travel arrangement.

Exam Absence. Students who cannot write an exam during the April exam period due to a serious, extenuating circumstance (illness, death in the family) must follow the steps below to be eligible to write a deferred exam during the PSYC department's Make up Exam period.

1. Obtain permission from their instructor to write a deferred exam. This requires notifying your instructor in advance or, under extraordinary circumstances, within 72 hours after, the exam, with appropriate documentation. Appropriate documentation includes a signed letter from a registered health professional, Queens HCDS, or documentation of a death such as a bulletin from a memorial service, obituary (newspaper or online) or funeral home letter. Official documents will be copied and originals returned to the student. *Note* that the PSYC department randomly checks document authenticity and that fraudulent documents will be grounds for a finding of a major departure from academic integrity. Please use the Request for Exam Deferral form and attach your documentation.
2. Complete and return the instructor-signed Permission for an Incomplete Grade form available on the Arts and Science website and return to the UG office.
3. Be available to write the makeup exam the PSYC department's Make up Exam period in April or receive '0' on the exam.

Accommodation after the fact. Once a student has written an exam or submitted an assignment, they may not subsequently be granted accommodation such as being offered a second opportunity to write the exam or assignment or have it count for less than originally specified in the course syllabus (reweighted). Students who cannot perform to the best of their abilities due a serious, extenuating circumstance must inform their instructor before attempting an exam or completing a course to arrange appropriate accommodation. Appeals to change a grade after the fact must be made to the Associate Dean (Studies) and will only be supported by the department in exceptional circumstances.

Note: There are no opportunities for extra-credit or 'bonus' points in this course.

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