Psychology
UNIVERSITY OF TORONTO
SCARBOROUGH

PSYC55H3 S LEC01: Cognitive Neuroscience

Winter 2016

Tuesdays 1pm – 3pm MW140

Instructor:	Dr Andy Lee
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TAs:	Celia Fidalgo
	Dean Carcone
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Website:	Blackboard
Office hours	Thursdays 2 – 3pm SW513
	Fridays 2 – 3pm SW413A

*Please post course/content related questions to relevant blackboard discussion forum for benefit of other students. **All other questions must be sent to this email address. Emails pertaining to PSYC55 sent to Dr Lee's, Ms. Fidalgo's or Mr Carcone's personal accounts will not be answered.**

1. Course Description and Objectives

This course concerns the biological basis of the mind and how mechanisms in the brain shape human existence. The course is a survey of research on how the mind arises from the workings of the brain. For example, how does your brain enable you to vividly remember your first date, recognize a face, or take notes during class? We will investigate how these complex functions are supported by neural processes – from the firing of a single neuron to the dynamic interaction of the many millions of neurons comprising the complex circuits that underlie our minds.

1.1. Course text book
Gazzaniga, Ivry, Mangun (2014). Cognitive Neuroscience: The Biology of the Mind (4th edition): Norton.

2. Course Requirements

2.1. Tests - 70% of overall grade
Although the emphasis will be on material covered during lectures, the tests may contain any material from the relevant textbook readings. As the lectures will always cover some information not

contained in the texts (and vice versa), it is important that you both attend the lectures and do the readings.

Two mid-term tests (20% overall grade each, 40% total) Each test will be composed of multiple-choice questions and **focus on the material in the preceding 4 lectures only**.

Final exam (30% overall grade) This exam will require you to complete a short section of multiple-choice questions on lectures 9 and 10, and write one essay. There will be one essay question for each of the topics covered in lectures 2 to 8, and you will be required to choose and answer one of these. The best strategy for this exam is to make sure you learn the material for lectures 9 and 10, and then select two or three of the earlier lectures that most interest you. That way, you will have a choice of essay questions in the exam and pick the one you think you can write the best essay for.

2.2. Two Critical Analysis papers - 30% of overall grade

The critical analysis papers are designed to improve your ability to critically evaluate empirical research. There are two critical analysis papers, each covering a different topic, as described below.

Critical Analysis Paper 1 (15% overall grade): The first paper will be on a specified article on *Object Recognition*.

Critical Analysis Paper 2: (15% overall grade) The second paper will be on an article on *Cognitive Control*. You will be given a choice of 3 papers to choose from.

The critical analysis papers should include:

1. **A summary** of the primary article and how it relates to assigned topic. This should include a *brief and concise* description of the article. When describing a study, you should focus its rationale and aims, methods, results and a discussion of the conclusions. No more than one half to one full page is recommended.

2. A **commentary or critique** of the article should express *your thoughts* on the topic, not just a regurgitation of a given study's findings. This section is more open-ended and may involve relating the findings to other research articles or a "real life" situation (and discussion of the scientific implications for the real world), describing what you found particularly interesting about the topic, stating whether you were convinced by the results, describing any limitations of the studies, or suggesting ideas for future research. It does not have to be a negative commentary: you may discuss strengths and/or weaknesses of the study. The evaluation of this section of the thought paper will be based on your understanding of the issues covered in the article, your ability to articulate your thoughts on the article, your ability to synthesize the findings with other information, and the depth in which you evaluate the article.

3. **References**: You should cite a **minimum of 2** articles in addition to the primary article to back up any claims you make.

4. **Formatting requirements:** Your papers should be no more than **1000 words**, not including title or reference list. Please use 12-point font, double spacing, 1 inch margins, and Microsoft Office or PDF file format. All references should be listed using APA-style.

A note on plagiarism: Please review this website which describes tips on how not to plagiarize: http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize.

Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site".

For information on Turnitin.com, please see:

http://teaching.utoronto.ca/ed-tech/teaching-technology/turnitin/a-guide-for-students/

http://teaching.utoronto.ca/wp-content/uploads/2015/08/TURNITIN_A-RESOURCE-GUIDE.pdf

The course ID and enrollment password will be given in due course.

Electronic copies of the papers must be submitted to Turnitin.com <u>by the beginning of the specified class.</u> It is not necessary to submit a hard copy.

3. Tentative schedule & reading

Lecture on 'Object Recognition' will be given by guest post-doctoral fellow lecturer Dr Edward O'Neil.

Date	Topic	Reading
January 5	Introduction to the Course; Cells and Circuits	Chapter 2: 22 – 36.
January 12	Anatomy & Methods in Cognitive Neuroscience	Chapter 2: 37 – 59; plus relevant material on 68 – 69. Chapter 3.
January 19	Object Recognition	Chapter 6.
January 26	Motor Control	Chapter 8.
February 2	**Mid-term 1: in class**	
February 9	Learning and Memory	Chapter 9.
February 16	**Reading week**	
February 23	Language & Hemispheric Specialisation **1st critical analysis paper due**	Chapter 4: 121 – 153; plus relevant material on 160. Chapter 11: 469 – 475 plus relevant material on summary page 504.
March 1	Attention	Chapter 7.
March 8	Cognitive Control	Chapter 12.
March 15	**Mid-term 2: in class**	
March 22	Emotion	Chapter 10.
March 29	Cognitive Neuroscience Applied: Dementia, Diagnosis & Rehabilitation **2nd critical analysis paper due**	None
TBD	**FINAL EXAM**	

At the latest, lectures slides will be posted on the course website (in the "Content" section) **by midnight at the latest** the night before the lecture. You may find it useful to print out a copy of the slides and bring it to the lecture for note taking.

Drop dates: March 20ᵗʰ Last day to drop S courses without academic penalty and have them removed from the transcript (on ROSI only). **April 7ᵗʰ** Last day to drop S and Y courses (on eService only) and have them remain on the transcript with a grade of LWD indicating withdrawal without academic penalty. After this date grades are recorded on transcripts whether course work is completed or not (with a '0' assigned for incomplete work) and they are calculated into GPAs.

4. Course Policies

4.1 Missed exams
Students are expected to make every effort to take required mid-terms/exams. Failure to take a mid-term/exam will only be excused with genuine, legitimate reasons, including a documented family emergency, or a documented severe illness. **There will be no make-up tests for the two mid-terms.** If you are unable to attend a mid-term and have a legitimate excuse, the remaining course material will be re-weighted. **There will be one make-up for the final exam for those who are unable to attend the original scheduled date due to a legitimate excuse. Mid-terms/exams that are missed without a genuine, legitimate reason will receive a 0% mark.**

4.2 Late assignments
All assignments are due ***at the beginning of class*** on the specified due date. Except in the case of a documented emergency (see above), **for every 24 hours that the paper is late, 10% will be docked off the final mark. For instance, for the first deadline Feb 23rd, a paper handed in past 1pm on Feb 24th will only receive 90% of the mark the quality of the work deserves, a paper handed in past 1pm on Feb 25th will only receive 80% of the mark the quality of the work deserves, and so forth.** Appropriate documentation is required in all emergency situations.
Unless you have a legitimate, documented emergency, NO EXTENSIONS WILL BE GIVEN.

4.3 Grading

Scale

NUMERICAL MARKS	LETTER GRADE	GRADE POINT VALUE
90 - 100%	A+	4.0
85 - 89%	A	4.0
80 - 84%	A-	3.7
77 - 79%	B+	3.3
73 - 76%	B	3.0
70 - 72%	B-	2.7
67 - 69%	C+	2.3

63 - 66%	C	2.0
60 - 62%	C-	1.7
57 - 59%	D+	1.3
53 - 56%	D	1.0
50 - 52%	D-	0.7
0 - 49%	F	0.0

Guidelines (http://www.writing.utoronto.ca/advice/general/grading-policy):

A+ Outstanding performance, exceeding even the A described below.

A Exceptional performance: strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter with sound critical evaluations; evidence of extensive knowledge base.

B Good performance: evidence of grasp of subject matter; some evidence of critical capacity and analytic ability; reasonable understanding of relevant issues; evidence of familiarity with the literature.

C Intellectually adequate performance: student who is profiting from her or his university experience; understanding of the subject matter and ability to develop solutions to simple problems in the material.

D Minimally acceptable performance: some evidence of familiarity with subject matter and some evidence that critical and analytic skills have been developed.

F Inadequate performance: little evidence of even superficial understanding of the subject matter; weakness in critical and analytic skills; with limited or irrelevant use of literature.

Note: for all written work, consistently poor spelling/grammar will be penalised. Please make use of the UTSC writing centre if you feel you need additional help with writing or want to develop your writing skills further: http://ctl.utsc.utoronto.ca/twc/.

4.4 Contesting a grade

All requests for a re-grade must be submitted **in writing** within two weeks of the day the grade is received. Only requests that include adequate written justification of an error in the original grading will be considered. *A legitimate request will result in the entire exam or assignment being re-graded. Your overall grade may be raised, lowered, or it may stay the same.* If there has been an error in our arithmetic, please let us know and we will immediately recalculate your grade (no written request necessary). **Arbitrary requests for grade increases will not be entertained (e.g., "I need to get into grad school, so could you please give me a higher grade?").**

4.5 Video and Auditory Recording

For reasons of privacy as well as protection of copyright, unauthorized video or audio recording in classrooms is prohibited. This is outlined in the Provost's guidelines on *Appropriate Use of Information and Communication Technology*. Note, however, that these guidelines include the provision that students may obtain consent to record lectures and, "in the case of private use by students with disabilities, the instructor's consent must not be unreasonably withheld."

4.6 Accessibility
Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the Access*Ability* Services Office as soon as possible. I will work with you and Access*Ability* Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC Access*Ability* Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca.

4.7 Academic Integrity
Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (http://www.governingcouncil.utoronto.ca/policies/behaveac.htm) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments:
•   Using someone else's ideas or words without appropriate acknowledgement.
•   Submitting your own work in more than one course without the permission of the instructor.
•   Making up sources or facts.
•   Obtaining or providing unauthorized assistance on any assignment.
On tests and exams:
•   Using or possessing unauthorized aids.
•   Looking at someone else's answers during an exam or test.
•   Misrepresenting your identity.
In academic work:
•   Falsifying institutional documents or grades.
•   Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see http://www.utoronto.ca/academicintegrity/).