



## PSY493H1F – Cognitive Neuroscience

Wednesday 11am-2pm Sidney Smith 1073

### Contact Information

<b>Instructor:</b> Alex Barnett alexander.barnett@utoronto.ca	<b>Teaching Assistant(s):</b> Aedan Li aedanyue.li@utoronto.ca
<b>Office Hours:</b> Wednesday 2-3pm 6018A	<b>Office Hours:</b> By appointment

### Course Description, Goals, and Prerequisites

This is a survey course in cognitive neuroscience. The course focuses on the neural substrates of mental processes including perception, attention, memory, language, plasticity, emotion and social cognition. By the end of the course students will have a basic understanding of the neural processes that support human cognition, research methodology, as well as on-going debates within the field.

#### Prerequisites:

PSY201H1/ECO220Y1/EEB225H1/GGR270H1/POL222H1/SOC202H1/STA220H1/STA238H1/STA248H1/STA288H1/PSY201H5/STA215H5/STA220H5/PSYB07H3/STAB22H3/STAB23H3/S TAB57H3, and PSY260H1/PSYB38H3 or PSY270H1/PSY270H5/PSYB57H3/COG250Y1 or PSY290H1/PSY290H5/PSYB64H3/HMB200H1/PSL300H1. It is your responsibility to ensure that you have met **all** prerequisites listed in the Psychology section of the A&S Calendar for this course.

### Reading Material/Textbook(s)

Banich, M. T., & Compton, R. J. (2018). Cognitive Neuroscience (4th ed.): Cambridge University Press.

\* Additional readings may be assigned later and will be available on Quercus.

### Course Evaluation/Marking Scheme

Assignment	Weight	Date
Midterm 1	25%	Oct 12
Paper Topic	10%	Oct 26
Paper	35%	Nov 23
Midterm 2	25%	Dec 7
Participation	5%	***

### Midterms

The test material will come primarily from the lectures but will also include material from the assigned chapters and readings. Students are responsible for attending lectures and reading the assigned materials, as lectures will not cover all material contained in the readings (and vice versa). These midterm tests are closed book tests.

### **Paper Topic**

Students are responsible for providing a topic for their paper four weeks before the final paper deadline. This is to allow students to plan their paper ahead and make sure their topic is suitable. The TA will provide feedback. Paper topics will be submitted through Quercus no later than 11:59pm on Oct 26.

### **Paper**

Students will write a 2000-2500 word paper and follow APA style formatting. Students can choose between 1) a debate paper in which they will discuss a current debate in cognitive neuroscience, and 2) a research proposal in which students will propose a new original study to address a current gap in the literature. Paper topics will be submitted through Quercus no later than 11:59pm on Nov 23.

### **Quizzes**

Starting Sept 28th, online quizzes through the Quercus course website will be given during some lectures (those in which we do not have another assignment due). Students are responsible for attending each class, reviewing material, and completing the online quizzes.

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## **Course Webpage/Quercus**

This course uses the University's learning management system, Quercus, to post information about the course. This includes posting readings and other materials required to complete class activities and course assignments, as well as sharing important announcements and updates. The site is dynamic and new information and resources will be posted regularly as we move through the term, so please make it a habit to log in to the site on a regular, even daily, basis. To access the course website, go to the U of T Quercus log-in page at <https://q.utoronto.ca>. Once you have logged in to Quercus using your UTORid and password, you should see the link or "card" for PSY493. You may need to scroll through other cards to find this. Click on the PSY493H1 F LEC0101 link to open our course area, view the latest announcements and access your course resources. There are Quercus help guides for students that you can access by clicking on the "?" icon in the left side column. **SPECIAL NOTE ABOUT GRADES POSTED ONLINE:** Please also note that any grades posted are for your information only, so you can view and track your progress through the course. No grades are considered official, including any posted in Quercus at any point in the term, until they have been formally approved and posted on ACORN at the end of the course. Please contact me as soon as possible if you think there is an error in any grade posted on Quercus.

**You are responsible for announcements posted to Quercus, so check this page regularly for updates.**

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## **Course Policies**

### **Missed Tests**

*Missed or unexcused exams will be treated as zeros unless valid documentation is provided. Should midterm 1 or midterm 2 be missed with valid documentation, a make-up exam will be arranged. Students who are absent from academic participation for any reason (e.g., COVID, cold, flu and other illness or injury, family situation) and who require consideration for missed academic work should report their absence through the online absence declaration. The declaration is available on ACORN under the Profile and Settings menu. You have a max of one*

*week from the date of missing the test to contact you and to submit an absence declaration on ACORN.*

### **Late Assignments**

Assignments will be penalized 10% for each day after the deadline, to a maximum of 4 days (40%) after which papers will no longer be accepted. Extensions will only be granted in exceptional circumstances (i.e. illness or family emergency) with valid documentation as described above.

### **Other**

Students are welcome to review their assignments with the course TA. Please note that if you are not satisfied with the way your assignment/midterm exams were graded you should first contact the course TA and discuss with her your concern. You can request a re-grade with specified justification but note that this will require an entire re-grade of the assignment/test and not only the parts where you think you were marked unfairly. As such, your grade could increase, decrease, or remain the same. If you want to request a regrade then you must contact the TA or myself no more than two weeks upon receiving that graded assessment.

### **Classroom Etiquette**

Please treat each other in a respectful manner at all times. All students are expected to uphold the code of student conduct (<https://governingcouncil.utoronto.ca/secretariat/policies/code-student-conduct-december-13-2019>). While you are in class you are expected to be mentally present: PLEASE turn off all non-instructional electronic devices and online distractions. Everyone is entitled to a positive learning environment and your non-learning activities are likely distracting both you and those around you. You are expected to attend classes and take responsibility for learning the material.

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## **Academic Resources**

### **Access & Diversity:**

Students with diverse learning styles and needs are welcome in this course. If you have an acute or ongoing disability issue or accommodation need, you should register with Accessibility Services (AS) at the beginning of the academic year by visiting <http://www.studentlife.utoronto.ca/as/new-registration>. Without registration, you will not be able to verify your situation with your instructors, and instructors will not be advised about your accommodation needs. AS will assess your situation, develop an accommodation plan with you, and support you in requesting accommodation for your course work. Remember that the process of accommodation is private: AS will not share details of your needs or condition with any instructor, and your instructors will not reveal that you are registered with AS.

As a student at the University of Toronto, you are part of a diverse community that welcomes and includes students and faculty from a wide range of cultural and religious traditions. For my part, I will make every reasonable effort to avoid scheduling tests, examinations, or other compulsory activities on religious holy days not captured by statutory holidays. Further to University Policy, if you anticipate being absent from class or missing a major course activity (such as a test or in-class assignment) due to a religious observance, please let me know as early in the course as possible, and with sufficient notice (at least two to three weeks), so that we can work together to make alternate arrangements.

### **Writing:**

As a student here at the University of Toronto, you are expected to write well. The university

provides its students with a number of resources to help them achieve this. For more information on campus writing centres and writing courses, please visit <http://www.writing.utoronto.ca/>.

### Academic Integrity and Plagiarism:

All students, faculty and staff are expected to follow the University's guidelines and policies on academic integrity. For students, this means following the standards of academic honesty when writing assignments, collaborating with fellow students, and writing tests and exams. Ensure that the work you submit for grading represents your own honest efforts. Plagiarism—representing someone else's work as your own or submitting work that you have previously submitted for marks in another class or program—is a serious offence that can result in sanctions. Speak to me or your TA for advice on anything that you find unclear. To learn more about how to cite and use source material appropriately and for other writing support, see the U of T writing support website at <http://www.writing.utoronto.ca>. Consult the Code of Behaviour on Academic Matters for a complete outline of the University's policy and expectations. For more information, please see <https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity> and <http://academicintegrity.utoronto.ca>

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 <https://www.academicintegrity.utoronto.ca/smart-strategies/> ).

### Other Resources

Student Life Programs and Services (<http://www.studentlife.utoronto.ca/>)

Academic Success Services (<http://www.asc.utoronto.ca/>)

Counselling and Psychological Services (<http://www.caps.utoronto.ca/main.htm>)

Course Outline/Schedule				
Lecture	Date	Topic	Readings	Due
1	Sept 14	Neurophysiology	Ch 1	
2	Sept 21	Neuroanatomy + Methods	Ch 3	
3	Sept 28	Vision + Visual Processing	Ch 5 + Haxby 2001	
4	Oct 5	Motor Control + Auditory	Ch 4 + Desmurget et al 1999	
5	Oct 12	<b>Term Test 1</b>		
6	Oct 19	Language	Ch 8 + Andrews et al 2022 JNS	
	Oct 26	Attention	Ch 10 + Chan et al 2015	<b>Paper topic due</b>
7	Nov 2	Executive Function/Cognitive Control	Ch 11	
8	Nov 9	Memory	Ch 9 + Audrain et al 2022	
9	Nov 16	<b>Reading Week</b>		
10	Nov 23	Brain development and Plasticity	Ch 15	<b>Term Paper due</b>

11	Nov 30	Emotion and the social brain + DiNicola & Braga	Ch 12 & Ch 13	
12	Dec 7	<b>Term test 2</b>		

## Communication

Email will be the primary way of communication between TAs and the instructor. Please send emails from your official utoronto email address. When you e-mail, please include the **course number in the subject heading**, save conceptual questions to office hours. Additionally, I will only respond to e-mail that has been forwarded to me from the class TA, so please send all course-related e-mail to the above address. If you have extended questions it's best to come to office hours or request an appointment.

**Please make sure the answer to your questions is not found in this syllabus or in the online resources before emailing the course TA or instructor.**

## Online Lectures

### **Notice of video recording and sharing (download and re-use prohibited)**

This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session.

Course videos and materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation and are protected by copyright. In this course, you are permitted to download session videos and materials for your own academic use, but you should not copy, share, or use them for any other purpose without the explicit permission of the instructor.

For questions about the recording and use of videos in which you appear, please contact your instructor.