



PSYD50: Current Topics in Memory and Cognition

University of Toronto, Scarborough, Winter 2023

Instructor: Prof. Adrian Nestor
Email: adrian.nestor@utoronto.ca

Office Hours: Please see “Announcements” on Quercus for this information.

Prior to contacting the instructor please note that: **I will not respond to Quercus messages; the email subject should include the course name and nature of the inquiry** (i.e., “PSYD50: prosopagnosia”) and **emails should be sent from your UofT email account** – for more details please read the e-mail policy (p. 3).

I. Your instructor



Dr. Nestor is an Associate Professor of Cognitive Neuroscience. He received his Ph.D. in Cognitive Science from Brown University and completed his postdoctoral training at Carnegie Mellon University. His research and teaching interests revolve around the neuroscience of visual cognition, computational modeling, neuroimaging methodology and neurotechnology.

II. Course description, pre-requisites and learning goals

Recognizing an object, reading a word or identifying a face are highly complex perceptual processes, which we seem to master with relatively little effort. Hence, the neural mechanisms supporting such abilities have been the target of considerable research efforts within the cognitive psychology and neuroscience community. This course will introduce students to seminal theories, results and research methods in the study of these abilities and of their neural basis.

Much of the research discussed in this course relies on two brain-imaging modalities, functional magnetic resonance imaging (fMRI) and electroencephalography (EEG), both because of their wide applicability and because of their current prominence in cognitive neuroscience. However, additional methods pertaining to the study of visual impairments, computational modeling, neurophysiology etc. will provide critical evidence to the theories discussed.

The broad goals of the course [along with their main methods of assessment] consist in:

- Extending breadth of knowledge in cognitive psychology/neuroscience, including theoretical perspectives, research findings, and applications [assessed through writing assignments and discussions]
- Fostering familiarity with diverse research paradigms [assessed through writing assignments and discussions].
- Engendering the ability to assess and critique research articles/presentations [assessed through writing assignments and discussions].
- Improve skill in oral and written presentation [through writing assignments and article presentation].



- Fostering critical thinking and creativity [assessed through writing assignments, discussions, and final paper].

Discussions and presentations of research in these areas will be guided by general issues such as:

- a) What is the research hypothesis/goal of a given study?
- b) What is the significance/relevance of a particular hypothesis/theory within a broader research context (i.e., why does it matter?)
- c) What empirical/computational methods are critical to each study?
- d) What are the main strengths and weaknesses of a given study?
- e) How well are the conclusions of a study justified by its findings?
- f) What potential findings would confirm or disprove a given conclusion (i.e., how would you redesign or follow up on a particular study?)

Of note, cognitive neuroscience/psychology is a rapidly evolving scientific discipline. The wealth and the constant influx of novel empirical findings is a challenge for any attempts at a comprehensive theoretical account. In addition, the research process is prone to bias, misconception and, occasionally, to error. Approaching this research with a critical mind, with logical rigor and with justified skepticism is key to understanding the value, the significance and the future promise of this discipline.

Prerequisites: [PSYB55H3 or PSYB57H3] and [(PSYB01H3) or (PSYB04H3) or PSYB70H3] and [PSYB07H3 or STAB22H3 or STAB23H3] and [0.5 credit at the C-level in PSY courses]

Exclusions: PSY470H, PSY471H

III. Course resources

Course readings: research/review articles in the field (no textbook will be required)

Online resources: Quercus

IV. Course grading

Critique of required readings (28%)

Each time a new research topic is introduced (starting with week 2), you are expected to read the required readings for that particular topic. On four of these occasions, of your own choosing, you must also submit a hard copy of your critique of the required readings at the beginning of the class. This critique should present concisely (~1.5 pages; no more than 2 single-spaced pages, no less than 12pt fonts), in point form, issues, questions and observations that arose for you as you worked through the readings. This critique should emphasize the strengths and, in particular, the limitations of the work described in those readings -- you can use the questions listed above in 'Course description' as general guidelines in evaluating a study). [You can bring an additional copy of your assignment to class to use when taking part in the in-class discussions following each lecture.]

All assigned readings will be available as downloadable files through the U of T library. Additionally, current links to the readings will be provided a week in advance (and the relevant slide will become available on Quercus).

Midterm project (32%)

You will be required to give one presentation using presentation software like PowerPoint or Keynote. This presentation should summarize and evaluate a research article relevant for the current topic



of discussion. Your presentation should cover the most important points in the article along with your critical assessment of the article – this assessment can follow the same approach used for the purpose of critique assignments. Each presentation should be about 15 minutes in length.

You are required to obtain the instructor's approval for your selected article at least 4 days in advance. This can be done by emailing the instructor with a link to your article, or by emailing the article as a .PDF attachment.

On the second (or third) week of class I will solicit volunteers for presentations for each research topic. If we cannot fill all of the available slots, I will randomly assign students to present on a particular research topic. Once you have selected your research topic, you will need to conduct a literature search to find an original research article (i.e., not one of the articles we discussed in class) to present.

The day before your presentation you are required to submit by email a complete draft of your slides.

More information about the format of the presentation (e.g., online/in-person) will be made available during the second (or third) week of classes.

Final term paper (40%)

You will submit a final term paper (about 2500 words) by the last day of classes (April 4). This paper should pick a topic of interest in the field of cognitive neuroscience, identify a theoretical position and defend it, to the best of your abilities. You can use the articles we discussed in class as references, but you are expected to include at least as many new as old articles in the reference list of your paper. You must submit an electronic copy to the instructor's email account before the deadline. Topics must be approved by the instructor before the beginning of Week 11. Approval should be obtained through email (please email a short statement of your thesis and topic, no longer than 100 words, for approval).

V. Psychology Department Missed Term Work Policy

For missed term work (assignments and term tests) due to illness, emergency, or other mitigating circumstances, please follow the procedures outlined below.

Note:

- The following reasons are not considered sufficient for missed term work: travel for leisure, weddings, personal commitments, work commitments, human error.
- [Missed Final Exams](#) are handled by the Registrar's Office and should be declared on eService.
- Instructors cannot accept term work any later than five business days after the last day of class. Beyond this date, accommodations are only possible via the Registrar's Office [petition process](#).

The email address to submit missed term work accommodation requests in <course code> is:
< adrian.nestor@utoronto.ca >

ILLNESS OR EMERGENCY accommodations:

For missed work due to ILLNESS OR EMERGENCY, complete the following process:

1. Complete the [Request for Missed Term Work Accommodations Form](#).
2. Declare your absence on [ACORN](#) (Profile & Settings > Absence Declaration)
3. Email **both** of the following items to the course email **WITHIN 2 BUSINESS DAYS** of the missed work:



- a. the [Request for Missed Term Work Accommodations Form](#)
AND
- b. a screenshot of your Self-Declared Absence on ACORN

Note:

- *If you are unable to submit your request within 2 business days, you must still email your instructor within the 2 business day window to explain the nature of the delay. Exceptions to the 2 business day deadline will only be made under exceptional circumstances.*
- *If your absence is declared on ACORN, we do not require any additional supporting documentation (e.g. medical notes) to support your missed term work accommodation request.*

ACADEMIC CONFLICT accommodations:

For missed term work due to an ACADEMIC CONFLICT (e.g. two midterms at the same time):

1. Complete the [Request for Missed Term Work Accommodations Form](#).
2. Take screenshots of your course Quercus pages that demonstrate the conflict.
3. Email the form and screenshots to the course email **at least two weeks (10 business days) before the date of the activity**, or as soon as possible if it was not possible to identify the conflict earlier. Requests sent after the activity deadline may not be accommodated.

Note:

- *Multiple assignments due on the same day are not considered conflicts. Students are expected to manage their time effectively to meet assignment deadlines.*
- *Back-to-back tests/quizzes are not considered conflicts. Only overlapping activities are conflicts.*
- *Students are responsible for keeping their course timetables conflict-free. Students who register in two courses with overlapping lecture/tutorial/lab schedules will not be accommodated.*

RELIGIOUS CONFLICT accommodations:

For missed term work due to a RELIGIOUS CONFLICT:

1. Complete the [Request for Missed Term Work Accommodations Form](#).
2. Email the form to the course **email at least two weeks (10 business days) before the date of the activity**, or as soon as possible if it was not possible to identify the conflict earlier. Requests sent after the activity deadline may not be accommodated.

ACCESSABILITY SERVICES accommodations:

For missed **TERM TESTS** due to ACCESSABILITY REASONS:

- **Contact your AccessAbility consultant** and have them email the course email detailing accommodations required.

For missed **ASSIGNMENTS** due to ACCESSABILITY REASONS:

- If your desired accommodation is **within the scope** of your Accommodation Letter (e.g. your letter includes “extensions of up to 7 days” and you need 3 days):
 1. Complete the [Request for Missed Term Work Accommodations Form](#).
 2. Email the form ***AND*** your **Accommodation Letter** to the course email specifying how many days extension you are requesting.
- If your desired accommodation is **outside the scope** of your Accommodation Letter (e.g. your letter includes “extensions of up to 7 days” but you need more time than that):



1. **Contact your AccessAbility consultant** and have them email the course email detailing the accommodations required.

Accommodation Procedure:

After submitting your documentation, you will receive a response from your instructor or TA. This form does not guarantee that you will be accommodated. The course instructor reserves the right to decide what accommodations (if any) will be made. Failure to adhere to any aspect of this policy may result in a denial of your request. **You are responsible for checking your official U of T email and Quercus course announcements daily**, as accommodations may be time-critical.

For missed assignments, **do not wait for the instructor's response to resume work on your assignment**. Extensions may be as short as one business day, depending on the nature of the illness/emergency. Complete your assignment as soon as you're able, and email it to your instructor.

For an **anticipated absence** (e.g. a scheduled surgery or an illness with a prolonged recovery period), if you would like to request accommodations in advance, submit a [Verification of Illness Form](#) completed by your doctor AND the [Request for Missed Term Work Accommodations Form](#) to the course email. Absences can be declared up to 14 days into the future on ACORN.

Missed Accommodations

If an accommodation is granted but a continued illness/emergency prevents you from meeting its requirements, you must repeat the missed term work procedure to request additional accommodations. **Please make it clear in your subject line that you are requesting a second accommodation**. E.g. If you are given an extension but are still sick and need more time, or if you miss a make-up term test, you must submit *another* [Request for Missed Term Work Accommodations Form](#) and declare your extended absence on ACORN. *Note: In the case of a missed make-up test, an opportunity to write a second make-up test may not necessarily be provided.

VI. Other course policies

Lecture slides

For your convenience, lecture slides and associated materials will be posted at each week (i.e., before the lecture).

You should know that lecture slides are not a suitable substitute for watching and understanding lecture. Lecture slides are not exhaustive and we will regularly cover important material that extends beyond them during lecture. You are responsible for this material with respect to testing.

Instructional materials are only for the purpose of learning in this course and must not be distributed or used for any other reason whatsoever.

Late assignments



A penalty of 10% will be deducted for each 24-hour period that an assignment is late. Extensions will only be granted with proper documentation (see Missed term work below). Please note that Instructors cannot accept term work any later than five business days after the last day of class.

E-mail policy

The email subject should include the course name and nature of the inquiry (i.e., “PSYD50: prosopagnosia”). **Emails should be sent from your UofT email account.** The start of your email should include your full name and student ID number so that we know who you are. An email should contain no more than one question and you should try to explain your current understanding of the concept in the email (which will be affirmed or corrected).

In most cases, e-mails will be answered within 2 business days.

If you are not used to writing emails in an academic context, I encourage you to review this online resource so that you adopt proper email etiquette now and in the future: <<https://tinyurl.com/kysxwtx>>

Office hours

You should consider visiting Prof. Nestor’s office hours if you would like to (1) discuss course content, (2) if you have an issue with course performance or progress, (3) contest a question on a midterm, or (4) you would like to discuss the field of psychology/neuroscience and how to get more involved. With respect to Point 3, contesting a question must occur within two weeks of releasing the exam marks or it will not be considered.

Contesting a grade

All requests for a re-grade must be submitted in writing within two weeks of the day that the grade is posted. Only requests based on adequate written justification regarding an error in the original grading will be considered. Arbitrary requests for grade increases (e.g., ‘I need to get into grad school’) will be dismissed.

Please note that a legitimate request will entail a re-grading of the entire assignment. Hence, your grade may be raised, lowered or left intact.

Syllabus changes

There may be minor changes to the syllabus during the term. You will be notified of these changes ASAP and no changes will be instituted that dramatically affect your ability to properly prepare for an examination (e.g., reading an extra chapter the week before the midterm).

Notice course material sharing (Download permissible; re-use prohibited)

Course 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 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.**



Disability-related accommodations

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 AccessAbility Services Office (<http://www.uts.utoronto.ca/ability/>) as soon as possible.

AccessAbility Services staff (located in Rm AA142, Arts and Administration Building) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. Please contact 416-287-7560 (tel/TTY) or email ability.uts@utoronto.ca for more information.

The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

University's Plagiarism Detection Tool

Normally, students will be required to submit their course essays to the University's plagiarism detection tool 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 tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation website (<https://uoft.me/pdt-faq>).

Academic Integrity

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 in papers and assignments include 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 cheating includes using or possessing unauthorized aids, looking at someone else's answers during an exam or test, misrepresenting your identity, or falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

Equity, Diversity, Inclusion

The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. U of T does not condone discrimination or harassment against any persons or communities.

Masks in the Classroom

While the mask mandate has been paused as of 1 July 2022, the use of medical masks continues to be strongly encouraged at U of T Scarborough in indoor settings where physical distancing is



not possible. We ask everyone to respect each other's decisions, comfort levels, and health needs. Masks are available at all building entrances at U of T Scarborough and in all classrooms.

Note about Quercus

This course uses the University's learning management system, Quercus, to post information about the course. This includes posting 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 PSYD50, Current Topics in Memory and Cognition. You may need to scroll through other cards to find this. Click on the PSYD50, Current Topics in Memory and Cognition 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.



PSYD50: Course Schedule

May be subject to minor revisions with advance notice from the instructor

Week 1 (Jan 10): Introduction to the course; Introduction to brain anatomy and research methods (neuroimaging, neurophysiology etc.)

Week 2 (Jan 17) Object perception 1

Week 3 (Jan 24): Object perception 2/presentations

Week 4 (Jan 31): Face recognition 1

Week 5 (Feb 7): Face recognition 2/presentations

Week 6 (Feb 14): Visual word processing 1

■ **Feb 21:** NO CLASS (Reading week)

Week 7 (Feb 28): Visual word processing 2/presentations

Week 8 (Mar 7): Scene perception 1

Week 9 (Mar 14): Scene perception 2/presentations

Week 10 (Mar 21): Visual cortical organization 1

Week 11 (Mar 28): Visual cortical organization 2/presentations/class discussion

Week 12 (Apr 4): Imagery