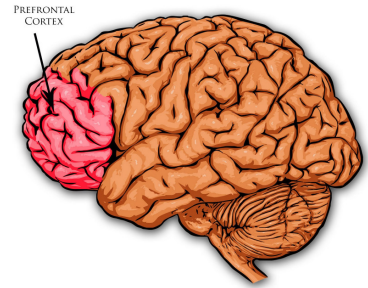


PSYC50: Higher-Level Cognition

0.5 credits

University of Toronto, Scarborough
Spring Term, 2018
Mondays 11AM-1PM
LEC01 (SY 110)



Instructor: Prof. Michael Souza (“sues-uh”)
Email: michael.souza@utoronto.ca
Office: PO103, Room 121 (enter through the side furthest from SW)
Office Hours: Mondays 1-2PM (immediately after class), and by appointment

TAs associated with the poster project:

Ivy Cho | ivy.cho@mail.utoronto.ca | Office hours (OH) information TBA
Tyler Roberts | tyler.roberts@mail.utoronto.ca | Office hours (OH) information TBA

In addition to Prof. Souza, inquiries about the poster project may be directed to Ivy or Tyler. Their office hours are only for the poster project – no reading check or lecture inquiries.

TA associated with reading check viewings:

Matthew McPhee | matthew.mcphee@mail.utoronto.ca | Office hours (OH) information TBA

You may review your reading checks during Matthew’s office hours. His office hours are only for reading checks – no poster project or lecture inquiries.

I. Your course team



Dr. Souza is an Associate Professor (Teaching Stream) in the Department of Psychology. He received his Ph.D. in Psychology from the University of California, Berkeley. His teaching interests revolve around higher-order cognitive functions, cognitive impairments and neurorehabilitation. He is also interested in fostering opportunities that promote student growth and development.



Ivy, is a Master's student in Clinical Psychology. She completed a Bachelor of Science in Neuroscience at the University of Calgary. She is interested in understanding working memory in individuals with bipolar disorder.



Matt is a PhD student in Clinical Psychology. He completed both his BSc and MA at UTSC. His research focuses on neurocognitive correlates, and human laboratory models of, alcohol use disorder risk.



Tyler is a Master’s student in Psychology. He received his BSc in Psychology from MacEwan University in Edmonton, AB. His research focuses on the neural mechanisms and networks associated with a face and scene processing.

II. Course description, pre-requisites and learning goals

Executive functions are a set of mental functions that enable goal-directed behavior. These functions strengthen during typical development and may be affected by numerous factors, including positive or destructive aspects of

nurture (e.g., socioeconomic status), psychological illness, neurological injury, and more. From a content standpoint, this course will provide you with an opportunity to better understand executive functions from theoretical, experimental and applied standpoints. From a process standpoint, you will have an opportunity to strengthen your ability to consume and critique primary research articles, to plan and execute a collaborative research project on an appropriate topic of your choosing, and to build confidence in your scientific voice.

Prerequisites: PSYB57 and one of PSYB07, STAB22, STAB23

After successful completion of this course, you will have:

1. developed a theoretical understanding of what executive functions are and why they are essential for promoting complex, higher-level behavior;
2. developed a conceptual framework for organizing components necessary for executive functions;
3. connected elements of executive functioning with a broad array of real-world behaviors;
4. practiced understanding the core elements of scientific journal articles, and worked to develop thoughtful critiques of these articles;
5. improved your ability to collaborate with colleagues to conduct a review of scientific literature;
6. practiced searching the scientific literature to identify and develop appropriate references to build compelling arguments for a research project;
7. gained confidence in your ability to speak in a scientific discourse to an informed audience.

III. Course readings

This course will not use a textbook. This course will prioritize strengthening your ability to becoming competent in evaluating primary literature and as such, will wholly rely on such articles.

IV. Course webpage

Blackboard Portal will house important course-related announcements, lecture slides (to be posted the day before each lecture), discussion boards to connect with fellow classmates, and course marks. You should check it regularly for course updates.

V. Course requirements and grading

Reading checks (5 @ 5% each = 25% of the course grade)

(Learning outcome #4)

In an effort to build your ability to consume primary research, we will have several 'lower stakes' reading checks on the assigned readings. The reading checks will occur earlier in the course (please see the course schedule) as to help support your ability to effectively consume literature for your research project. The cumulative value of all of the reading checks is comparable to a typical course midterm, and to clarify just how important the development of this skill is for this course (and more generally), they will occur in lieu of one.

The reading checks will be held during normal class time and will start promptly at the beginning of class. They will last no more than 25 minutes in duration, and will include multiple-choice and/or short-answer questions. These questions will tap your understanding of the rationale for the research, core features of the methods, and understanding and interpreting the results. They will also start to load on your ability to critique the work in informed and principled ways. Please note that our second class will specifically focus on preparing you for this.

Cumulative Final Examination (35% of course grade)

(Learning outcomes #1,2,3,4)

The goal of the Final is to test your ability to think about executive functions in conceptual, experimental and applied manners. The Final exam will include material from all content lectures, and two of the readings *after*

the reading break (please see the course schedule). The Final will consist of both multiple-choice (MC) questions and short-answer (SA) questions.

MC *questions* will have five options and these questions may come in various formats, including (but not limited to) questions with diagrams and “all of the above” or “none of the above” options. MC questions will be drawn from both lecture and the readings. MC questions must be answered using the Scantron form; answers indicated on the test booklet but not the Scantron form will not be scored.

SA *questions* may require a several sentence response based on the question complexity, and may also require the creation or analysis of a visual (e.g., diagram). SA questions will be drawn mostly from lecture but questions from the two readings *may* appear here as well. SA questions will be weighted based on relative difficulty, as opposed to how many things you need to say (i.e., a five point question does not necessarily require five thoughts).

Rote memorization of lectures and the readings will not guarantee you a high mark; rather, I expect you to not only learn what things are, but also why they are relevant, how/why they are and might be used, etc. To acclimate you to my question style and to help keep you on task with the lecture materials, sample questions will be posted after each content lecture. I advise you to navigate this material while it is fresh in your mind and to seek assistance from Prof. Souza for any issues that would benefit from clarification or a discussion.

Importantly, the date of the final is not announced by the University until the middle of the term. You should NOT make travel plans until you learn the date of your final exams. You CANNOT take the Final at a different date/time unless you have a verifiable medical reason.

Poster Project (multiple parts constituting a total of 40% of course grade)

(Learning outcomes #2,3,4,5,6)

Together with two partners of your choosing, you will be asked to conduct a research project to further explore current research in a topic related to executive functions. You will be provided with a separate handout that further details this assignment but in short, your group will research a minimum of nine (9) references (minimum of 3 per group member) and detail what you’ve learned into a scientific poster that your group will present in a conference-like format at the end of the course.

Topic proposal (6% of course grade)

A one (1) page document that states the proposed title of your research project, the scope of your research and what motivated its selection from an academic and real-world perspective, how your team plans to tackle the topic collaboratively, and what your audience should expect to learn from it (“learning outcomes”).

Revised proposal + annotated bibliography (9% of course grade)

This component has two parts. (1) You must first revisit your ‘Topic Proposal’ based on the feedback you received. You must thoughtfully address any feedback you have received, either making changes as appropriate or carefully defending an idea/proposal with more support (where appropriate). (2) You must then create an annotated bibliography, which should include a list of APA-formatted references, and a brief paragraph summarizing the value for each article chosen. When the marker reads the revised ‘Topic Proposal’ and annotated bibliography, they should have a perfectly clear understanding of what you want to study, why it is scientifically important, and how your chosen articles help in pursuit of your goal.

Instructor/TA evaluation of your poster presentation (23% of course grade)

There will be two days for poster presentations. On the day you are scheduled to present, you and your group will bring a professionally printed poster to present your work. You will use this poster as a tool to deliver an 11-12 minute talk that equitably splits the work across group members. Your instructor and/or a TA will evaluate your presentation based on a detailed rubric. You will be expected to give your research talk multiple times to accommodate peer-reviewers (see below), but your instructor/TA will only evaluate your talk once.

Peer-review of posters (2% of course grade)

On the day you are not scheduled to present, you will be peer-evaluating the work of your peers using a rubric provided to you. Your mark will be determined on not only completion, but also the detail of feedback you provided to the presenters.

VI. Course policies

Classroom conduct and participation

Our classroom is a place where you should always feel safe and respected. It is also a place that is conducive to learning and intellectual curiosity. Any behaviors compromising this environment will not be tolerated and the student(s) and/or individual(s) will be asked to leave.

I work to create an interactive dynamic during my lectures that engages you to think and contribute. I challenge you to use this time to not only become familiar with the content we are discussing, but to also develop your critical thinking skills along with me.

Lecture slides

For your convenience, lecture slides will usually be posted by 10PM the evening before a lecture. They will be posted in PDF format in two versions only (2 slides and 6 slides per page).

You should know that these lecture slides are not a suitable substitute for attending lecture. Lecture slides are not exhaustive; we will regularly cover important material that extends beyond the slides during lecture. You are responsible for this material and failing to attend to this material will hamper your course performance.

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

E-mail policy

In most cases, e-mails will be answered within 48 hours of receipt (not including weekends). The email subject should include our course name and nature of the inquiry (i.e., "PSYC50: Why are EFs so awesome?"). The start of your email should include your full name and student ID number so that I know who you are. Emails that you send 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).

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

Office hours are a valuable resource for you to learn more about the class and/or important things related to (but outside of) the class. You should consider visiting Prof. Souza's office hours if you would like to (1) discuss course content or course assignments, (2) if you have an issue with course performance or progress, or (3) you would like to discuss the field of psychology/neuroscience and how to get more involved.

Class discussion board on Blackboard

For your convenience, discussion threads will be created to improve information flow in our course.

On the first thread, you will have a space to share interesting and course-relevant articles or media. On the second thread, you will have a space to ask logistical or related questions to Dr. Souza that other students might benefit from knowing (i.e., not of a personal nature). Content questions will not be answered by Prof. Souza on this thread, but he will happily address any such questions before/after class or during office hours. On the third

thread, you may direct questions to your fellow classmates to clarify a concept, form a study group, etc. Please note that you are NOT allowed to post class notes on the discussion board. On the fourth and final thread, you can connect virtually with other classmates who are also in need of a group member for the poster project.

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 a reading check or the Final examination.

Taking reading checks

In my opinion, punctuality to lectures and assessments is a sign of respect to your instructor, teaching assistants and fellow students. Tardy students should not ask the instructor or teaching assistants for what they missed from lecture because they can ask a fellow student. Furthermore, a student will not be allowed to write a reading check if (1) s/he is tardy 10 minutes or more, or (2) a student has already finished and submitted their paper, whichever occurs first. Students in this situation will not be allowed to write and will receive a “0” on the respective check.

When time is called at the end of the reading check, you must immediately stop working and submit your materials. You will not be allowed more time for any reason, including (but not limited to): putting your name or ID on the paper, or filling in or changing an answer. You must also remain completely silent until every exam has been collected. Failure to stop working when time is called or to stay silent until all exams have been collected will result in a zero on the reading check.

Because we will review the reading check answers immediately after they occur, **there will be absolutely no make-ups under any circumstances.** If you miss reading check 1, 2, or 3 due to an excused reason (see next section), the value of that reading check will be split equally across all subsequent (i.e., not already taken) reading checks. In the event that reading check 4 or 5 is missed for an excused reason, the value of that reading check will be added to the Final exam.

Missed Term Work due to Medical Illness or Other Emergency

All students citing a documented reason for missed term work must bring their documentation to the Psychology Course Coordinator in SW427C **within three (3) business days** of the assignment due date. You must bring the following:

- (1.) A completed [Request for Missed Term Work form](http://uoft.me/PSY-MTW) (<http://uoft.me/PSY-MTW>), and
- (2.) Appropriate documentation to verify your illness or emergency, as described below.

Appropriate Documentation:

In the case of missed term work due to **illness**, only an **original copy** of the official [UTSC Verification of Illness Form](http://uoft.me/UTSC-Verification-Of-Illness-Form) will be accepted (<http://uoft.me/UTSC-Verification-Of-Illness-Form>). Forms are to be **completed in full**, clearly indicating the start date, anticipated end date, and severity of illness. The physician’s registration number and business stamp are required.

In the case of **medical emergency**, an original copy of the record of visitation to a hospital emergency room should be provided.

In the case of a **death of a family member**, a copy of a death certificate should be provided.

In the case of a **disability-related** concern, an email communication should be sent directly to the Course Coordinator (psychology-undergraduate@utsc.utoronto.ca) from your Disability Consultant at AccessAbility Services, detailing the accommodations required. The Course Instructor should also be copied on this email.

For U of T **Varsity athletic commitments**, an email communication should be sent directly to the Course Coordinator (psychology-undergraduate@utsc.utoronto.ca) from a coach or varsity administrator, detailing the dates and nature of the commitment. The email should be sent **well in advance** of the missed work.

Documents covering the following situations are **NOT acceptable**: medical prescriptions, anything related to personal travel, weddings/personal/work commitments.

Procedure:

Submit your (1.) [request form](#) and (2.) [medical](#)/other documents in person **within 3 business days** of the missed test or assignment. Forms should be submitted to SW427C **between 9 AM - 4 PM**, Monday through Friday. If you are unable to meet this deadline for some reason, you must contact the Course Coordinator via email (psychology-undergraduate@utsc.utoronto.ca) within the three business day window. Exceptions to the documentation deadline will only be made under exceptional circumstances.

Within approximately one week, you will receive an email response from the Course Instructor / Course Coordinator detailing the accommodations to be made (if any). You are responsible for checking your official U of T email and Blackboard course announcements daily, as accommodations may be time-critical. The Course Instructor reserves the right to decide what accommodations (if any) will be made for the missed work.

Failure to adhere to any aspect of this policy may result in a denial of your request for accommodation.

Note that this policy applies only to missed term work (assignments and midterms). Missed final exams are handled by the Registrar's Office (<http://www.utsc.utoronto.ca/registrar/missing-examination>)

AccessAbility

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 as soon as possible.

AccessAbility Services staff (located in Rm SW302, Science Wing) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations [416-287-7560](tel:416-287-7560) or email ability@utsc.utoronto.ca. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

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/Assets/Governing+Council+Digital+Assets/Policies/PDF/ppjun011995.pdf>) 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; and

- When you knew or ought to have known you were doing it.

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; and
- When you knew or ought to have known you were doing so.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If students have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, they are expected to seek out additional information on academic integrity from their instructors or from other institutional resources.

Note that you may see advertisements for services offering grammar help, essay editing and proof-reading. Be very careful. If these services take a draft of your work and significantly change the content and/or language, you may be committing an academic offence (unauthorized assistance) under the *Code of Behaviour on Academic Matters*.

It is much better and safer to take your draft to the Writing Centre as early as you can. They will give you guidance you can trust. Students for whom English is not their first language should go to the English Language Development Centre.

If you decide to use these services in spite of this caution, you must keep a draft of your work and any notes you made before you got help and be prepared to give it to your instructor on request.

VII. Links you might find useful

UTSC Dates and Deadlines <https://www.utsc.utoronto.ca/registrar/dates-and-deadlines>

Skill building, future planning

Academic Advising,

Career Centre

<http://www.utsc.utoronto.ca/aacc/>

Writing Services

<http://www.utsc.utoronto.ca/twc/>

Presentation Skills

<http://www.utsc.utoronto.ca/ctl/presentation-skills>

Co-op Program

<http://www.utsc.utoronto.ca/askcoop/>

Your well-being

AccessAbility

<http://www.utsc.utoronto.ca/~ability/>

Health and Wellness

<http://www.utsc.utoronto.ca/hwc/>

Test anxiety

[https://www.anxietybc.com/sites/default/files/Test Anxiety Booklet.pdf](https://www.anxietybc.com/sites/default/files/Test%20Anxiety%20Booklet.pdf)

The Department of Psychology

UTSC Psychology

<http://www.utsc.utoronto.ca/psych/>

UTSC Psychology courses

<http://www.utsc.utoronto.ca/psych/courses>

UTSC Experiential Learning

<http://www.utsc.utoronto.ca/psych/experiential-learning>

Psychology lab opportunities

<http://tinyurl.com/jjq25t7>

The Psychology and Neuroscience

Departmental Association

<http://www.thepnda.org/>

PSYC50: Lecture and reading schedule

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

<u>Meetings</u>	<u>Date</u>	<u>Topics of the day</u>	<u>Readings and deadlines</u>
1	08-Jan	Course introduction and goals Framing higher-level cognition and EFs	Robertson (2012)
2	15-Jan	Reading scientific articles [discussion]	Catani (2008)
3	22-Jan	Theories of executive functions (EFs) Reading check #01 (on the Catani article)	<u>Project group forms due in class</u>
4	29-Jan	Working memory	<u>Topic proposal due 01-Feb by 8AM</u> Jaeggi (2008)
5	05-Feb	Inhibitory control Reading check #02 (on the Jaeggi article)	Manesse (2016)
6	12-Feb	Cognitive flexibility Reading check #03 (on the Manesse article)	<u>Annotated bib. due 16-Feb by 8AM</u> Lhermette (1986)
7	19-Feb	NO CLASS - Spring Recess	<i>nothing assigned</i>
8	26-Feb	Planning Reading check #04 (on the Lhermette article)	Manly (2002)
9	05-Mar	Scientific poster presentations [discussion] Reading check #05 (on the Manly article)	<i>nothing assigned</i>
10	12-Mar	Reasoning and problem-solving	Taber-Thomas (2014)
11	19-Mar	Poster presentations - Session #1	<u>Group A presents</u> Group B peer-evaluates
12	26-Mar	Poster presentations - Session #2	Group A peer-evaluates <u>Group B presents</u>
13	02-Apr	Executive functions in "real life" Course synthesis and conclusion	Leonard (2015)
14	TBA	Cumulative Final Examination	Meetings 3-7, 10, 13 Readings from Meetings 10, 13