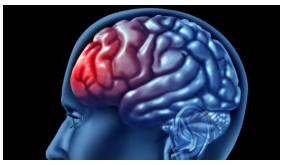
PSYD66: Topics in Human Brain and Behavior

0.5 credits

University of Toronto, Scarborough
Summer Term, 2017
Wednesdays 13:00–15:00
LEC01 (SW316)



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 11AM-12PM, and by appointment

I. Your instructor

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.

II. Course description, pre-requisites and learning goals

The topic of this seminar is "Brain Dysfunction and Recovery." Acquired brain injury (ABI), which is most commonly caused by stroke and traumatic brain injury (TBI), can result in a wide range of neurological complications that can alter cognition, affect, and behavior. Given the enormity of this topic, we cannot possibly cover everything we might want to. As such, we will focus on two topics in detail (this term: attention and language) to better understand their foundations, their associated brain regions and cognitive consequences, and a form of rehabilitation that has shown promise. Content flexibility will be provided through a course project where students identify and research a topic related to brain dysfunction and recovery that suits their interests. From a process standpoint, considerable attention will be given to help you fortify your ability to effectively consume primary research, collaborate with your colleagues, respond thoughtfully to critical feedback, and develop your public speaking ability.

Prerequisites: PSYB65 and one C-level half-credit in PSY

After successful completion of this course, you will have:

1. developed a deeper understanding of how neglect and Broca's aphasia are conceptualized and identified, how damage to particular brain regions can result in these disorders, and how treatment can be approached;
2. conceptualized a variety of ways that recovery can occur after a brain injury (i.e., compensation) across a variety of neurological domains;
3. strengthened your schema for understanding and critiquing original research articles in psychological science;
4. strengthened your schema for planning an effective research project, as well as thoughtfully responding to feedback on the plan for your project;
5. developed and implemented a variety of verbal strategies to present information to others, and to moderate an effective and dynamic discussion;
6. improved your ability to successfully collaborate with likeminded colleagues

III. Course readings

This course will not use a textbook. Rather, we will be prioritizing your ability to extract information from original research articles, and to engage in critical discussions.

IV. Course webpage

Blackboard Portal will house important course-related announcements, lecture slides (where appropriate; to be posted the day before each lecture), paper presentation and PowerPoint project information, discussion boards, course marks, and more. I expect that you will check it regularly throughout the term.

V. Course requirements and grading

Leading a discussion on an assigned journal article (27% of the course grade)

(Learning outcomes #1,2,3,5,6)

Together with one partner of your choosing, you will select one paper from the course schedule to lead a 40-minute class discussion. The paper topics are meant to give a multi-level understanding of brain dysfunction and recovery, and to [hopefully] better meet the diverse interests of our class. In an effort to be fair with respect to topic selection, all pairs will be assigned a number and we will use a random number generator to determine the order of selection. Only one group may cover a given paper. As your order falls in luck's hands, it would be wise to rank order the papers so that you can choose the paper you are most interested in whenever you pick.

The first part of your presentation should last 10 minutes, and should review the important features of the article (i.e., rationale, hypotheses, key methods and results, and interpretations/conclusions). You must take care to review any key tables/figures during your presentation to facilitate audience understanding.

You must use Microsoft PowerPoint (or a comparable program) and you should use very limited text on your slides (not including tables that might be presented). Images should be purposeful (i.e., not cutesy); they should help orient your audience to the ideas that you need to explain as you move along (i.e., how the experiment was run, value of figures/tables). You will need to use your own laptop for this, and you should test your computer hookups the week before your present to ensure that everything works.

The second part of your presentation should last 30 minutes, and will involve you and your partner leading a critical discussion of the study you just reviewed. In addition to your own thoughts and insights into the paper, you will also benefit from discussion questions submitted by your peers. These questions will be submitted to you the Monday before your presentation. You need not address all of these questions; rather, they are meant to serve as inspiration for how you might guide the discussion. Your challenge here is to facilitate – *not dominate* – a thoughtful class discussion where your fellow students are empowered to engage the material along with you.

We will spend a portion of class time reviewing these expectations, as well as discussing various ways to promote successful presentations and discussions. Prof. Souza will use a detailed rubric to evaluate your performance on both components of the presentation detailed above.

Participation (22% of the course grade)

(Learning outcomes #1,2,3,4,5,6)

The beauty of being in a small seminar course is that it provides an important opportunity to engage in group discussion. **Indeed, seminars don't work well without the collective buy-in and participation from all of the members**, and that is exactly the sort of environment that we will be working to cultivate.

Participation will be recognized in the following ways:

Discussion questions submitted via e-mail (1% per paper presentation, totaling 11%)
For each paper presentation **other than your own**, you will be required to submit **two thoughtful discussion questions** directly to Prof. Souza (michael.souza@utoronto.ca). As all weeks have two readings, this means that you will be submitted a total of four (4) discussion questions per week. Your name and student ID number should be at the top of the email, and the questions should be in the body of the email (no attachments will be accepted). **These questions must be submitted by the Monday before the presentation at 12PM sharp.** Professor Souza will then forward all of the questions to the group(s) that will be presenting to help them stimulate discussion.

It is important that you understand that reading these articles well will take you time, as will generating thoughtful discussion questions that probe a deeper understanding of the content matter. Please allocate your time accordingly to ensure that you maximize your ability to be successful in this respect.

The following grading scheme will be used for these questions:

(Score) with corresponding explanation
0 Either no discussion questions were submitted, too few were submitted, or the questions were late.
note: students who submit discussion questions but do not attend class that week will receive a '0' here.
1 Discussion questions were sent but were not particularly thoughtful, and/or lacked evidence of critical thinking (whether or not they are actually discussed in class)
1.5 Thoughtful discussion questions were relatively thoughtful and demonstrated some evidence of critical thinking (whether or not they are actually discussed in class)
2 Thoughtful discussion questions were sent, and offered a great opportunity to stimulate critical thinking in the class (whether or not they are actually discussed in class)

Discussion generated during class (total of 11%)
For each paper presentation **other than your own**, you will be required to contribute to the class discussion. The following grading scheme will be used for your contributions and as you should note, quality is more important than quantity:

(Score) with corresponding explanation
0 Student did not attend class this day, was late, did not speak the entire time, or only agreed/disagreed with what others discussed without providing context (extremely low level of engagement)
1 At least one question was asked or comment provided, but contribution did not engage critical thinking
1.5 At least one question was asked or comment provided, and the idea(s) were contextualized and justified, but the contribution(s) did not strongly engage critical thinking and analysis
2 At least one question was asked or comment provided, and at least one contribution clearly engaged critical thinking and analysis

For both the discussion questions and discussion during the seminar, part marks may be assigned (i.e., 1.25).

Research project PowerPoint presentation (multiple parts, totaling of 51% of course grade)

(Learning outcomes #1,2,3,4,5,6,7)
Together with two partners of your choosing, you will be asked to conduct a research project to further explore a neurological condition caused by brain injury, including the fundamentals of the condition, basic research into the cognitive functioning in those with this condition, and viable treatment approaches. 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 (averaging 3/group member) and detail what you've learned into a PowerPoint presentation that your group will co-present near the end of the course.

Topic proposal (8% of course grade)
A one-page document that provides (1) the working project title, (2) motivation for the topic from an academic and real-world perspective, (3) how you plan to divide the labor among your group members, and (4) learning goals for the audience members. The proposal will be graded with a rubric and detailed feedback will be provided to your group in a timely manner.

Revised proposal + annotated bibliography (12% 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 the feedback you have received, either making changes as appropriate or carefully defending an idea/proposal with more support. (2) You must create an annotated bibliography, which should include a list of APA-formatted references meeting the minimum threshold of nine, and a brief paragraph explaining the goals/value for each research article chosen. When Prof. Souza reads your revised topic proposal and annotated bibliography, he should understand what you want to study, why it matters, how you're dividing the labor, what the audience will be learning, and how your articles contribute to your goals. Note that you must submit your original topic proposal along with this submission.

Instructor evaluation of your PowerPoint presentation (27% of course grade)
On your assigned presentation day, your group will equitably co-present a 12-minute PowerPoint presentation to the class. Your presentation will be evaluated using a detailed rubric by Prof. Souza, and your classmates [who are not presenting that day] will peer evaluate you to provide you with additional detailed feedback on your work. Note that their evaluations will not count towards this part of the grade.

Peer-review of posters (4% of course grade)
On the day your group is not presenting, you will be asked to complete a peer evaluation form for each group presentation that you see. The goal here is to provide positive and constructive feedback to each group to facilitate their recognition of elements where they excelled, and where they can continue to improve. Your mark will be determined based not only on completion, but also the detail of feedback you provided to the presenters (i.e., thoughtful critiques needed for full credit).

VI. Course policies

A respectful learning space
A sizeable amount of this course is designed to create opportunities for building skills that are critical for moving into the "real world" successfully: critical analysis of information, working with others successfully, and developing confidence in your voice. As these are common areas of concern for many individuals (not just students!), our classroom will be vulnerable space. I welcome that vulnerability because it offers the opportunity for growth and improvement, and I hope that you do as well.

As such, I expect you to be respectful to your colleagues at all times. This includes submitting thoughtful discussion questions that the presenters can use to support their presentation, showing up to class on time every day, always using respectful language, and genuinely trying your best every day.

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., "PSYD66: Question about the prism goggles"). 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, (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.

Thread 1: A space to share interesting and course-relevant articles or media.
Thread 2: 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.
Thread 3: A space to 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.
Thread 4: A space to virtually connect with other classmates who are also in need of a group member for the paper presentation.
Thread 5: A space to virtually connect 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 reasonably prepare for a class.

Lecture slides
For your convenience, any 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. In addition to content, there will be several sessions focused on skill-building, and this is only effective if you are in class.

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 to class or late submissions of work
Your fellow presenters deserve your respect and full and undivided attention. For the paper presentations, if you are more than five (5) minutes late to class, you will receive a '0' for the discussion of that presentation. For the PowerPoint presentations, if you are more than five (5) minutes late to class, you will receive a '0' for the peer evaluation component.

The topic proposal and revised proposal are due at the beginning of class (1:10PM sharp). I will allow a five (5) minute grace period beyond that (1:15PM), but beyond that, it will be considered late. Regardless of who might be at fault, the entire group will receive a **10% deduction** per 24 hours that the given submission is late (i.e., if the topic proposal is 36 hours late, there will be a 20% deduction off of the mark received for this component). Get organized, communicate, and please avoid such a situation.

Tardiness to your own presentation is beyond unacceptable. Starting your paper presentation late will have a powerfully negative impact on your ability to do well, and will be reflected in your mark. A failure to present on the day you are assigned to will result in a zero for that part of the mark for both students unless the absence was due to a medical situation (documentation must be provided and will be verified). The same is true for the PowerPoint presentation as well.

Group presentations and projects require a team effort and I expect you to fully contribute and do you best. If you fail to communicate and/or contribute in a reasonable manner, a variety of actions may be taken to resolve the situation. This includes, as one of the worst case scenarios, your removal from the group, an assignment of comparable magnitude to take the place of that part of the mark, and a mark penalty that fits the situation.

Missed Term Work due to Medical Illness or Emergency
All students citing a documented reason for missed term work (this includes assignments and midterm exams) must bring their documentation to the Undergraduate Course Coordinator, Ainsley Lawson, within three (3) business days of the term test / assignment due date. All documentation must be accompanied by the departmental **Request for Missed Term Work form** (http://uoft.me/PSY-MTW).

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/PSY-MED) will be accepted. 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 other emergency, a record of visitation to a hospital emergency room or copy of a death certificate may be considered.

Forms should be dropped off in SW427C between 9 AM - 4 PM, Monday through Friday. Upon receipt of the documentation, you will receive an email response from the Course Instructor / Course Coordinator within three business days. The Course Instructor reserves the right to decide what accommodations (if any) will be made for the missed work.

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

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

AccessAbility
Students with diverse learning styles and needs are welcome in this course. If you have a disability/health consideration that may require accommodations, please approach the AccessAbility Services Office as soon as possible. The UTSC AccessAbility Services staff (S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416-287-7560 or 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
The University highly values scholarship and academic achievement and takes very seriously any suspected or known cases of cheating and plagiarism. Students are highly encouraged to read the guide on **How Not to Plagiarize** (http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize) and to take advantage of **writing resources** on campus (http://www.utsc.utoronto.ca/twc/). In addition, our campus has a general **Code of Conduct** (http://tinyurl.com/oh3ff9n) that all students are expected to follow when interacting with peers, staff of faculty. The keyword here is respect, a good educational context is one in which all parties respect one another's perspective, opinions, and work.

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

Conducting research

UTSC Library	https://utsc.library.utoronto.ca/
Pubmed.org	https://www.ncbi.nlm.nih.gov/pubmed/
Google Scholar	https://scholar.google.ca/

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

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 PDNA	http://www.thepnda.org/

Assigned readings

Dronkers, N.F. (1996). A new brain region for coordinating speech production. *Nature*, *384*, 159-161.

Dronkers, N.F., Plaisant, O., Iba-Zizen, M.T. & Cabanis, E.A. (2007). Paul Broca's historic cases: high resolution MR imaging of the brains of Leborgne and Lelong. *Brain*, *130*, 1432-41.

Marshall, J.C. & Halligan, P.W. (1988). Blindsight and insight in viso-spatial neglect. Nature, 336, 766-7.

Parton, A., Malhotra, P. & Husain, M. (2004). Hemispatial neglect. *Journal of Neurology, Neurosurgery, and Psychiatry*, *75*, 13-21.

Peru, A., Moro, V., Avesani, R. & Aglioti, S., (1997). Influence of perceptual and semantic conflicts between the two halves of chimeric stimuli on the expression of visuo-spatial neglect. *Neuropsychologia*, *35(5)*, 583-9.

Pisella, L., Rode, G., Farne, A., Tilikete, C. & Rossetti, Y. (2006). Prism adaptation in the rehabilitation of patients with visuo-spatial cognitive disorders. *Current Opinion in Neurology*, *19*, 534-42.

Prins, R. & Bastiaanse, R. (2006). The early history of aphasiology: from the Egyptian surgeons (c. 1700 bc) to Broca (). Aphasiology, 20:8, 762-91.

Raboyeau, G., De Boissezon, X., Marie, N., Balduyck, S., Puel, M., Bezy, C., *et al.* (2008). Right hemisphere activation in recovery from aphasia: lesion effect or function recruitment? *Neurology*, *70*, 290-8.

Ringman, J.M., Saver, J.L., WOolson, R.F., Clarke, W.R. & Adams, H.P. (2004). Frequency, risk factors, anatomy, and course of unilateral neglect in an acute stroke cohort. *Neurology*, *63*, 468-474.

Rossetti, Y., Rode, G., Pisella, L., Farne, A., Li, L., Boisson, D., *et al.* (1998). Prism adaptation to a rightward optical deviation rehabilitates left hemispatial neglect. *Nature*, *395*, 166-9.

Schlaug, G., Marchina, S. & Norton, A. (2008). From singing to speaking: why singing may lead to recovery of expressive language function in patients with Broca's aphasia. *Music Perception*, *25(4)*, 315-23.

Yamadori, A., Osumi, Y., Masuhara, S. & Okubo, M. (1977). Preservation of signing in Broca's aphasia. *Journal of Neurology, Neurosurgery, and Psychiatry*, *40*, 221-4.

PSYD66: Couse meeting schedule

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

Meeting	Date	Agenda for the day	Tasks and deadlines
1	03-May	**Course introduction and expectations** **Fundamentals of brain dysfunction**	Quickly review assigned papers Get to know your classmates
2	10-May	**Core foundations for attention and language** **Skill-building: reading journal articles**	Form PAPER groups today
3	17-May	**Skill-building: successful presentations** **Skill-building: effective discussions**	PAPER groups topic lottery today Form PROJECT groups today
4	24-May	**Hemispatial neglect: foundations and laterality** #1 (Parton, 2004) | #2 (Ringman, 2004)	**PROJECT group forms due today** Disc Q's due 22-May @ 12PM
5	31-May	**The left visual field: blind or inattentive?** #3 (Marshall, 1988) | #4 (Peru, 1997)	Disc Q's due 29-May @ 12PM
6	07-Jun	**Prism goggles and recovery of function** #5 (Rosetti, 1998) | #6 (Pisella, 2006)	**Topic proposal due today** Disc Q's due 05-Jun @ 12PM
7	14-Jun	**NO CLASS - Reading week**	*nothing assigned*
8	21-Jun	**Aphasia: a brief history and the insula** #7 (Prins, 2006) | #8 (Dronkers, 1996)	Disc Q's due 19-Jun @ 12PM
9	28-Jun	**Re-examining Broca's patients; they can sing?** #9 (Dronkers, 2007) | #10 (Yamadori, 1977)	**Revised proposal due today** Disc Q's due 26-Jun @ 12PM
10	05-Jul	**Melodic intonation therapy for recovery?** #11 (Raboyeau, 2008) | #12 (Schlaug, 2008)	Disc Q's due 03-Jul @ 12PM
11	12-Jul	**Course synthesis** **Skill-building: successful oral presentations**	*nothing assigned*
12	19-Jul	**Project presentations - Day 01** [All Day 2 presenters are peer-evaluators]	*nothing assigned*
13	26-Jul	**Project presentations - Day 02** [All Day 1 presenters are peer-evaluators]	*nothing assigned*