



Brain Imaging Laboratory (PSYC04H3 S LEC01)

COURSE SYLLABUS – Spring 2017

INSTRUCTORS:

Dr. Andy Lee

Email: andylee@utsc.utoronto.ca

Teaching Assistant: Sathesan Thavabalasingam, M.A.

Email: psyc55.utsc+psyc04@gmail.com

Office Hours and Location: Weeks 1-3, Thursdays @ 3 - 4pm, Science Wing, Room 413B

Dr. Matthias Niemeier

Email: niemeier@utsc.utoronto.ca

Teaching Assistants: Jiaqing Chen, M.A. (EEG); Lawrence Guo, M.A. (TMS)

Email: psyb51@utsc.utoronto.ca

Office Hours and Location: Weeks 4-6, 10-12, Fridays @ 3:15 – 4:15pm, Science Wing, Room 560

Achala Rodrigo, M.A.

Email: achala.rodrido@mail.utoronto.ca

Teaching Assistant: To be confirmed

Email: To be confirmed

Office Hours and Location: Weeks 7-9, Thursdays @ 3-4pm, Science Wing, Room 513

Class Time and Location: Thursdays @ 1:00-3:00pm in Science Wing, Room 316

Tutorials: This course is composed of four separate modules (one for each brain imaging technique) and each module is comprised of three classes. Module-specific syllabi will be distributed at the beginning of each module and will describe the times and locations of required tutorials and readings and how to submit assignments for each module.

Brain Imaging Laboratory is a course designed to familiarize you with cutting-edge techniques used by psychologists to study the neural basis of cognition, perception and motor control. Specifically, you will obtain hands-on experience with data collection, signal processing and statistical analysis for functional magnetic resonance imaging (fMRI), functional near-infrared spectroscopy (fNIRS), electroencephalography (EEG), and transcranial magnetic stimulation (TMS). You will also learn the core principles of experimental designs for brain imaging research and learn how to interpret findings using each of these brain imaging techniques.

Tentative Weekly Topics, Readings and Important Dates

WEEK	DATE	TOPIC
1	January 5	fMRI (Dr. Lee)
2	January 12	fMRI (Dr. Lee) <i>**Data collection at the Centre for Addiction and Mental Health, College Street. NO CLASS AT UTSC**.</i>
3	January 19	fMRI (Dr. Lee) Quiz #1
4	January 26	EEG (Dr. Niemeier)
5	February 2	EEG (Dr. Niemeier) Due: fMRI Assignment
6	February 9	EEG (Dr. Niemeier) Quiz #2
7	February 16	fNIRS (To be confirmed) Due: EEG Assignment
	February 23	<i>READING WEEK (NO CLASS)</i>
8	March 2	fNIRS (To be confirmed)
9	March 9	fNIRS (To be confirmed) Quiz #3
10	March 16	TMS (Dr. Niemeier)
11	March 23	TMS (Dr. Niemeier) Due: fNIRS Assignment
12	March 30	TMS (Dr. Niemeier) Quiz #4 Due Date of TMS Assignment: To be confirmed
	April 4	Last day to drop UTSC S courses 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.

Course Evaluation:

- 20% Quizzes
- 20% Participation and Attendance
- 60% Assignments (four posters, one for each course module)

Poster Grading

A marking rubric will be used to assess the posters. Each poster will be marked out of 15 points:

1. Formatting & Organization (max 3 points)

Are all expected components of the poster present? Is the poster laid out in a clear and logical manner? Has there been good and appropriate use of the different sections of the poster?

2. Accuracy (max 3 points)

Is the content of the poster accurate? Are there any errors in the description of the experimental details? Is the text free of spelling or typographical errors?

3. Clarity (max 4 points)

How clearly written is the text of the poster? Is the text concise? Is it evident that the aims and findings of the experimental study have been understood fully? Are figures/tables appropriate and clear?

4. Originality (max 5 points)

Are the conclusions justified on the basis of the presented data? Is there evidence of critical thinking and original ideas? Has an attempt been made to fit the present work to the wider literature? Has thought been given to possible future experiments?

Questions about Grading: Any questions about grading on quizzes or assignments should be made in writing to your Teaching Assistant within one week of receiving the graded material and should detail the point of contention.

Late Assignments: Late assignments will have 10% deducted for each day beyond the deadline for that assignment unless you have provided legitimate documentation for your late assignment (for example, UTSC Student Medical Certificate).

Missed Quizzes and Assignments: Given the time constraints of this course, there will be NO make-up quizzes without legitimate documentation for a missed quiz. If you miss a quiz or assignment and do not provide legitimate documentation, you will receive a mark of zero for that quiz.

All students citing a documented reason for missed exams or assignments 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.

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

If you provide legitimate documentation for a missed quiz (for example, UTSC Student Medical Certificate completed in full by a physician), you can arrange with the Teaching Assistant for that specific course module to write an alternate version of the quiz during the next available office hours.

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 AccessAbility Services Office as soon as possible. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility 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.

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."

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/>).

Grade Scales

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