

## PSY490H5F - Advanced Topics in Biological Psychology

Wednesday 9:00am – 12:00pm

Room Location: DV 1147 (Davis Building)

### Contact Information

**Prof. Loren Martin**

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Room: CC4008 Tel: 905-828-3956

Office hours: Tuesdays 10:00am-12:00pm

**Teaching Assistant:**

Navdeep Lidhar

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### Course Description

This course will be an intensive seminar focused on novel approaches and techniques for the study of neurobiological behaviour using animal models. The course aims to help students demonstrate an understanding of the principles and scientific methods of biological psychology, as well as appreciate and evaluate neuroscience findings as they apply to clinical conditions.

### Reading Material

**TBA: All readings (and supplemental material) will be posted directly on course website.**

### Course Evaluation

Written summaries/reflections – 25%

Participation and attendance – 15%

Leading discussions – 20% (2 discussion 10% each)

Final paper – 30%

Final quiz – 10%

Details on presentation and assignments will be given on the first day of class.

### Course Webpage

**The website associated with this course is accessible via <http://portal.utoronto.ca>**

Note: You don't need to create a new login for Blackboard; it already knows who you are. You just need your UTORid and password. This is the same login that gets you onto the wireless network with your laptop, and the same one that you use to check your email. If you're confused about your UTORid or don't remember your password, go to: <https://www.utorid.utoronto.ca/>

In order to access course material, monitor course information, and view your grades you must log into Blackboard. If you have any general questions regarding Blackboard, please visit the following help site:

<http://www.portalinfo.utoronto.ca/students.htm>

### IMPORTANT COURSE POLICIES **\*\*PLEASE READ\*\***

#### Missed Test Special Consideration Request Process

Students who miss a test due to circumstances beyond their control (e.g. illness or an accident) can request that the Department grant them special consideration. Students must present their case to the Department (NOT the Instructor)

by submitting a request via the online Special Consideration Request form at:  
<https://utmapp.utm.utoronto.ca/SpecialRequest>.

Students are to submit original supporting documentation (e.g., medical certificates, verification of extenuating circumstances form, etc.) to the Psychology Academic Counselor or drop it in the drop box located outside the Psychology office, Deerfield Hall, 4th Floor. Students have up-to one week from the date of the missed test to submit request. Late submissions will NOT be considered without a letter of explanation specifying and documenting the reasons for the lateness.

Medical certificates or physician's notes must be completed by the Physician and MUST include the statement "This Student [name] was unable to write the test on [date(s)] for medical reasons". This documentation must show that the physician was consulted within one the day of the missed term test. A statement merely acknowledging a report of illness made by the student to the physician is NOT acceptable. For further information on this procedure please see:  
<http://www.utm.utoronto.ca/psychology/undergraduate-studies/missed-testslate-submissions>

If you missed your test/assignment deadline for a reason connected to your registered disability, please be advised that the department will accept documentation supplied by the UTM AccessAbility Resource Centre.

**IMPORTANT:** The Department of Psychology verifies the authenticity of medical certificates by contacting medical offices. Students are NOT to make any changes or alteration to completed medical certificates. Students who submit forged or altered documentation are subject to severe academic penalties.

**If your request is approved by the department, the value of the test will be redistributed to the final examination.**

### **Extension of Time Special Consideration Request Process**

Students who seek to be granted more time to complete their term work beyond the due date without penalty, owing to circumstances beyond their control (e.g., illness, or an accident), must do so by submitting a request directly to the Instructor for the period up to and including the last day of the term. The decision as to whether or not to apply a penalty for the specified period rests with the Instructor.

Students who seek to be granted more time to complete term work beyond the last day of the term must submit their request directly to the Department. This request covers the period following the last day of classes and ends the last day of the exam period. This is done by submitting a request via the online Special Consideration Request form at <https://utmapp.utm.utoronto.ca/SpecialRequest>. You are advised to seek advising by the departmental Undergraduate Counsellor prior to the deadline.

Original supporting documentation (e.g., medical certificates, verification of extenuating circumstances form, etc.) must be submitted to the Psychology Academic Counselor or dropped off in the drop box located outside the Psychology office Deerfield Hall, 4th Floor. Students are expected to submit requests to the Department before the last day of the term, unless demonstrably serious reasons prevent them from doing so. In the event of an illness, medical certificates or doctor's notes must confirm that student was ill on the due date of the assignment (for a one-day extension). For a longer extension, documentation must specify the full duration during which academic work could not be carried out.

For extensions of time beyond the examination period you must submit a petition through the Office of the Registrar.  
<http://www.utm.utoronto.ca/registrar/current-students/petitions>

### **Penalties for Lateness**

**A penalty of 10% per calendar day** (i.e., including week-ends and holidays, during which students are not able to submit term work) up to and including the last day of classes, will be applied by the Instructor. After the last day of classes, the penalty of 10% per calendar day will be applied by the Undergraduate Counsellor on behalf of the Department. No penalty will be assigned if request for special consideration, described above, was successful.

## Academic Guidelines

It is your responsibility to ensure that you have met all prerequisites listed in the UTM Calendar for this course. If you lack any prerequisites you WILL BE REMOVED from the course up until the last day to add a course. Further information about academic regulations, course withdrawal dates and credits can be found in the University of Toronto Mississauga Calendar at: <http://www.erin.utoronto.ca/regcal/>.

You are encouraged to read this material. If you run into trouble and need advice about studying, preparing for exams, note taking or time management, free workshops and advice are available from the Robert Gillespie Academic Skills Centre at 905-828-5406.

## AccessAbility Services

Students requiring academic accommodations for learning, physical, sensory, or mental health disabilities or medical conditions should contact the AccessAbility Office (2037B Davis Building), 905-828-3847. <http://www.utm.utoronto.ca/accessability/>

## Academic Honesty and Plagiarism

Honesty and fairness are considered fundamental to the University's mission, and, as a result, all those who violate those principles are dealt with as if they were damaging the integrity of the University itself. When students are suspected of cheating or a similar academic offence, they are typically surprised at how formally and seriously the matter is dealt with -- and how severe the consequences can be if it is determined that cheating did occur. The University of Toronto treats cases of cheating and plagiarism very seriously. Please take the time to review the Academic Integrity website: <http://www.utm.utoronto.ca/academic-integrity/students.>

Common trends in academic offences:

- Plagiarizing/concocted references
- Collaboration/unauthorized assistance
- Purchasing work
- Recycling work - "double-dipping"
- Resubmitting of altered work for re-grading
- Electronic devices (cell phones) or any unauthorized aids
- Altering medical certificates and UofT documents

From the Code of Behaviour on Academic Matters: "It shall be an offence for a student to knowingly: represent as one's own any idea or expression of an idea or work of another in any academic examination or term test or in connection with any other form of academic work, i.e. to commit plagiarism. Wherever in the Code an offence is described as depending on "knowing", the offence shall likewise be deemed to have been committed if the person ought reasonably to have known." All students must refer to this website to obtain information on what constitutes plagiarism.

<http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize.>

If questions arise after reading the material on the website, consult your instructor.

**Plagiarism will not be tolerated.**

## Equity Statement

The University of Toronto is committed to equity and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect. As a course instructor, I will neither condone nor tolerate behaviour that undermines the dignity or self-esteem of any individual in this course and wish to be alerted to any attempt to create an intimidating or hostile environment. It is our collective responsibility to create a space that is inclusive and welcomes discussion. Discrimination, harassment and hate speech will not be tolerated. If you have any questions, comments, or concerns you may contact the UTM Equity and Diversity officer at [edo.utm@utoronto.ca](mailto:edo.utm@utoronto.ca) or the University of Toronto Mississauga Students' Union Vice President Equity at [vpequity@utmsu.ca](mailto:vpequity@utmsu.ca).

## Academic Rights

You, as a student at UTM, have the right to:

- Receive a syllabus by the first day of class.
- Rely upon a syllabus once a course is started. An instructor may only change marks' assignments by following the University Assessment and Grading Practices Policy provision 1.3.
- Refuse to use turnitin.com (you must be offered an alternative form of submission).
- Have access to your instructor for consultation during a course or follow up with the department chair if the instructor is unavailable.
- Ask the person who marked your term work for a re-evaluation if you feel it was not fairly graded. You have up to one month from the date of return of the item to inquire about the mark. If you are not satisfied with a re-evaluation, you may appeal to the instructor in charge of the course if the instructor did not mark the work. If your work is remarked, you must accept the resulting mark. You may only appeal a mark beyond the instructor if the term work was worth at least 20% of the course mark.
- Receive at least one significant mark (15% for H courses, 25% for Y courses) before the last day you can drop a course for H courses, and the last day of classes in the first week of January for Y courses taught in the Fall/Winter terms.
- Submit handwritten essays so long as they are neatly written.
- Have no assignment worth 100% of your final grade.
- Not have a term test worth 25% or more in the last two weeks of class.
- Retain intellectual property rights to your research.
- Receive all your assignments once graded.
- View your final exams. To see a final exam, you must submit an online Exam Reproduction Request within 6 months of the exam. There is a small non-refundable fee.
- Privacy of your final grades.
- Arrange for representation from Downtown Legal Services (DLS), a representative from the UTM Students' Union (UTMSU), and/or other forms of support if you are charged with an academic offence.

***Please note that this outline may change based on the scheduling of student presentations. A revised outline will be posted on the course website once student presentations are scheduled. The assignment dates are fixed.***

## Course Outline

| Date         | Topic   | Assignments                                       |
|--------------|---|---|
| September 6  | Course outline, Introductions and debate                    |   |
| September 13 | Genetic Strategies for Neuronal Manipulation and monitoring | Swiech et al., 2015; Jennings et al., 2015        |
| September 20 | Optogenetics  | Boyden et al., 2005; Nabavi et al., 2014          |
| September 27 | Chemogenetics and DREADDs                                   | Arnbruster et al., 2007; Gomex et al., 2017       |
| October 4    | New techniques in brain mapping and imaging                 | Chung and Deisseroth, 2013; Gomez et al., 2017    |
| October 11   | <b>Fall Reading Week – No Classes</b>                       |   |
| October 18   | Depression and Stress                                       | Ramirez et al., 2015; Wang et al., 2014           |
| October 25   | Pain and sensation  | Petitjean et al., 2015; Sorge et al., 2015        |
| November 1   | Reward  | Burgos-Robles et al., 2017; Calipari et al., 2017 |
| November 8   | Social Behaviours   | Matthews et al., 2016; Hong et al., 2014          |
| November 15  | Autism  | Kalbassi et al., 2017; Mei et al., 2016           |
| November 22  | Aggression  | Han et al., 2017; Hoopfer et al., 2015            |
| November 29  | Final quiz  | <b>Final paper due</b>                            |

## Assignments

The following is a brief, and potentially incomplete, list of assignments and expectations:

- **Readings:** Weekly readings will be selected from primary journal articles. You will be randomly assigned one of these readings and will act as the discussion leader for that particular paper. All readings will be posted on blackboard. Students are *required* to read all articles *before* each session so that they are prepared to discuss and ask questions about the material. Supplemental readings can be provided upon request for students wishing to gain a quick review of relevant background information.
- **Discussions:** The class will use a discussion format. Weekly discussions will focus on summarizing, interpreting, and critiquing the readings, as well as integrating them into broader themes discussed throughout the course.
- **Discussion Leaders:** At various times throughout the semester, your group will act as discussion leaders for the week. Your job will be to (1) read the material at least 9 days (Mon) before class, (2) meet with me at least 1 day before class to briefly discuss the readings, (3) possibly select additional readings or refine the reading list, and (4) drive our discussion of the weekly readings by briefly summarizing the articles, posing discussion questions, and clarifying details. (Don't worry; I'll be there to help along the way!). Each class discussion will be led by groups of four students, and each group will participate in leading two class discussions. It is not necessary or expected that students will use PowerPoint to lead class discussion unless preferred for the use of figures, illustrations, graphs or tables that are most easily shown as PowerPoint slides. All of the group should contribute to the discussion of both papers.
- **Written Reflections:** For each week that you are *not* the Discussion Leader, write a brief (~1 page) reflection on the weekly readings identifying at least one aspect that you found particularly interesting. In addition, list three questions you have about the readings or important points in the readings that you think we should clarify or discuss in class. I will use these questions to help guide our discussion. Reflections are due the day before our weekly meeting (Tue by 11:59 pm) and you can e-mail them to me directly.
- **News and Views:** The goal of this assignment is to pick one of the selected papers (not the one you discussed) and write a Nature style News and Views column that elaborates on the discovery and explains in general (i.e. lay language) what makes the discovery important and fundamentally advanced the field. In some cases these recent findings capture the imagination and make it into the popular literature. This is a primary goal for "News and Views" features – they allow the general public to understand why this is important work (without having to slog through original and complex primary papers). More details will be available in class.