Psychology
UNIVERSITY OF TORONTO

PSY 260H1 – Learning and Plasticity

Online Asynchronous

Contact Information

Instructor: Dr. Laura Corbit laura.corbit@utoronto.ca	**Teaching Assistants:** Zachary Pierce-Messick zachary.piercemessick@mail.utoronto.ca
Office Hours: Tuesdays 4-5 You can make an appointment to see me any time during the semester. Drop-in virtual office hours will be announced leading up to tests.	**Office Hours**: TBA

Course Description, Goals, and Prerequisites

Course Description: Learning allows our experiences to shape what we know, what we can do and how we interact with our environments. This course will cover concepts, important research findings, and theories related to the conditions that promote or interfere with learning. Current theories of the physiological and anatomical basis of learning and memory, including synaptic plasticity and the role of different brain regions will also be covered. Concepts will be related to a practical understanding and application to real life situations and conditions such as drug addiction, phobias and other disorders.

Course Objectives: By the end of the course students will have:

- knowledge and understanding of the major concepts, theoretical perspectives, empirical findings and historical development of the study of learning and its neural bases.
- understanding of, and the ability to evaluate the basic research methods used in learning and related neuroscience research, including research design, analysis and interpretation.
- the ability to apply critical and creative thinking, skeptical inquiry and the scientific approach to answer questions related to learning and behaviour.
- the ability to identify key concepts and relate these to your own life.

Note about prerequisites: It is your responsibility to ensure that you have met ***all*** prerequisites listed in the Psychology section of the A&S Calendar for this course. If you lack any prerequisites you will be removed. No waivers will be granted.

Prerequisite:
PSY100H1/PSY100Y5/PSYA01H3/COG250Y1
Exclusion:
PSYB38H3
Distribution Requirements: Science
Breadth Requirements: Living Things and Their Environment (4)

Reading Material/Textbook(s)

The following text is recommended to provide additional background but is **not required**. I have chosen this text, in part, because it is available free of charge! Visit the website below and you can download a PDF copy for free. There is also information about how to purchase a hardcopy if you prefer.

https://psychologyoflearning.be/

The following books are useful resources, **they are not, however, required**. Individual chapters may be assigned in which case those chapters will be made available through the course website.

The following is an excellent text on associative learning that I've used in the past. This is available in the library or for purchase.

Bouton, M.E. (2016). Learning and Behavior: A contemporary synthesis, 2nd Edition. Sinauer

The following are useful for the neuroscience content of the course. Both are in the library or available for purchase.

Rudy, J.W. (2013). The neurobiology of learning and memory, 2nd Edition. Sinauer (A PDF of Chapter 11 is available through the library)

Watson, N. V., & Breedlove, S. M. (2019). *The mind's machine: Foundations of brain and behavior*. 3rd Edition. Sinauer. (pp. 392-401 are available through the library)

Course Evaluation/Marking Scheme

Date	Assessment	Weight
May 20	Quiz 1	15%
May 30	FraidyRat Worksheet 1	10%
June 10	Quiz 2	15 %
June 17	FraidyRat Worksheet 2	20%
Exam period	Final online assessment	40%

Course Webpage/Quercus

The website associated with this course is accessible via http://q.utoronto.ca

This site will be used to post course materials (e.g. syllabus, slides, links to lectures), to make announcements, and this is where you will view your grades. Please check here for general course information before contacting the instructor or TAs. It is a good idea to check the site for announcements periodically (every couple of days for summer session) for any updates about the course. *If you have any general questions regarding Quercus, please visit https://q.utoronto.ca/courses/46670).*

Course Policies

What to expect

This course provides an introduction to the empirical study of associative learning and the biological basis of learning and memory. For some of you, this material will not be what you thought Psychology was all about. For others, the material will be intuitive. Either way, you can do well in this course! Behavioural neuroscience is a fast evolving field and so I want you to learn not only about our current knowledge base, but also the logic behind well-designed behavioural experiments so that you can think critically about research that comes long after this course is over. For this reason, I don't want you to simply memorize everything in the lectures. I want you to understand *why* someone did an experiment as much as what they found.

This course will be delivered online, asynchronously. Each week, two sets of short lectures will be made available for you to watch. Links to these and supporting materials will be posted on the course website on Mondays and Wednesdays (there will be less new material in weeks there is a holiday or a quiz). The slides will also be posted to help with note taking. Particularly with the accelerated pace of the summer session, I am also including a practical exercise called FraidyRat so that you have something to do as well as something to watch each week. I hope this helps break things up and gives you a chance to apply some of the concepts learned in class.

Lectures will be assessed in quizzes and FraidyRat will be assessed in worksheets that you will submit via Quercus. The final exam will cover both. Quizzes will be completed through Quercus and will be open book (you can use notes, lecture slides etc). They will be timed but you can complete them any time within a 24 hour window on the quiz date. If you anticipate problems, please contact me early so that we can find a solution.

Staying connected in the course

If something doesn't make sense to you, please ask questions early. I am happy to arrange a meeting and you are welcome to email questions to myself or the TAs. Please also make use of the Discussion board to interact with your peers and help each other with the material.
Please use your utoronto email addresses for all course-related communications, and check this address regularly for any announcements related to this course. Please include PSY260 in the subject line of the email. While I will attempt to answer straightforward questions over email, if you send complex or vague questions over email, you may be asked to bring your question to office hours for discussion. We will try to respond promptly but please allow 48 hours for a response excluding weekends and holidays before sending a reminder. If you ask a question I think other students might be wondering about, I will post your question (anonymously) and my response on the discussion board.

Specific Medical Circumstances

This term the Verification of Illness (also known as a "doctor's note") is temporarily not required. Students who are absent from academic participation for any reason (e.g., COVID, cold, flu and other illness or injury, family situation) and who require consideration for missed academic work should report their absence through the online absence declaration. The declaration is available on ACORN under the Profile and Settings menu. Students should also advise the instructor of their absence. If an absence extends beyond 14 consecutive days, or if you have a non-medical personal situation preventing you from completing your academic work, you should connect with your College Registrar. They can provide advice and assistance reaching out to instructors on your behalf.
https://help.acorn.utoronto.ca/blog/ufaqs/declare-an-absence/

Religious accommodation
As a student at the University of Toronto, you are part of a diverse community that welcomes and includes students and faculty from a wide range of backgrounds, cultural traditions, and spiritual beliefs. For my part, I will make every reasonable effort to avoid scheduling tests, examinations, or other compulsory activities on religious holy days not captured by statutory holidays. Further to University Policy, if you anticipate being absent from class or missing a major course activity (like a test, or in-class assignment) due to a religious observance, please let me know as early in the course as possible, and with sufficient notice (at least two to three weeks), so that we can work together to make alternate arrangements.

Other
If anything else comes up for you over the semester, please schedule a time to talk to me and we will try to find a solution. There may be times when you are unable to complete course work on time due to non-medical reasons. If you have concerns, speak to me. It is also a very good idea to speak with an advisor in your College Registrar's office; they can support you in requesting extensions or accommodations, and importantly, connect you with other resources on campus for help with your situation.

Accessibility Needs
Students with diverse learning styles and needs are welcome in this course. If you have an acute or ongoing accommodation need, you should register with Accessibility Services (AS) (www.accessibility.utoronto.ca) at the beginning of the academic year. Without registration, you will not be able to verify your situation with your instructors, and instructors will not be advised about your accommodation needs. AS will assess your medical situation, develop an accommodation plan with you, and support you in requesting accommodation for your course work. I will work with AS to ensure appropriate accommodation in this course. Remember that the process of accommodation is private: AS will not share details of your condition with any instructor, and your instructors will not reveal that you are registered with AS. Note that registration with AS takes some time and so do this early in the semester if you think you will require their assistance.

Missed Quizzes/Assignments
There will be no make-up quizzes or assignments. If you miss a quiz or assignment deadline you must complete the absence declaration on ACORN as soon as possible and notify me within one week via email. **If you miss a quiz during the semester and provide the absence declaration, the weight of an in-class test will be transferred to the exam.** Extensions for FraidyRat assignments are only possible until the marks and feedback for on-time assignments are released (typically one week later). Once feedback is returned to the class, if we haven't received your assignment, the marks will be allocated to the final exam. If the final exam is missed, a deferred exam will be scheduled for a future date. If you have an ongoing issue that is likely to affect your performance in the course, please contact Accessibility Services and contact me if this is likely to impact your ability to meet course due dates.

Questions about grading
Any questions regarding a grade received in this course must be brought to the attention of the TA as soon as possible and no later than 2 weeks after receiving the grade. The student and TA must first discuss the grade and how it was reached. If the student is not satisfied with the response of the TA, the student can submit an appeal to Dr. Corbit within one week of receiving the response from the TA. You must present a clear argument for why the mark is in error and detail the item(s) that were not assessed accurately. Claims that the assigned marks were simply too low (or too high) will not be considered. A legitimate request will result in a re-grade of the entire work which may result in a higher, lower or identical grade.

Academic Integrity and Plagiarism
All students, faculty and staff are expected to follow the University's guidelines and policies on academic integrity. For students, this means following the standards of academic honesty when writing assignments, collaborating with fellow students, and writing tests and exams. Ensure that the work you submit for grading represents your own honest efforts. Plagiarism—representing someone else's work as your own or submitting work that you have previously submitted for marks in another class or program—is a serious offence that can result in sanctions. Speak to me or your TA for advice on anything that you find unclear. To learn more about how to cite and use source material appropriately and for other writing support, see the U of T writing support website at www.writing.utoronto.ca/ . Consult the Code of Behaviour on Academic Matters for a complete outline of the University's policy and expectations. For more information, please see http://www.artsci.utoronto.ca/osai and http://academicintegrity.utoronto.ca/

Recorded Lectures
Lecture recordings are provided and they are only for the exclusive use of enrolled students, for their personal learning. Lecture recordings are not to be shared in any way beyond enrolled students.

Other Resources
As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These factors may affect your academic performance and/or reduce your ability to participate fully in daily activities. There are many helpful resources available through your college Registrar or through Student Life (studentlife.utoronto.ca). An important part of the University experience is learning how and when to ask for help. Please take the time as early as possible to inform yourself of available resources and do not hesitate to seek assistance to help learn what supports are available.

Student Life Programs and Services (http://www.studentlife.utoronto.ca/)
Academic Success Services (http://www.studentlife.utoronto.ca/asc)
Counselling and Psychological Services (http://www.studentlife.utoronto.ca/hwc)

Course Outline/Schedule

Date	Lecture Topics	FraidyRat	Assignments and Assessments
Week1	Introduction to Learning & Plasticity Pavlovian Conditioning: the basics	1. Download program and make sure it's working 2. Get help if you can't get it to work using the instructions **Handouts 1 & 2**	
Week 2	Classical Conditioning: rules, exceptions and models	3. Begin activities in **Worksheet 1**	Fri. May 20 - Quiz 1
Week 3	Hebbian Learning	4. Complete activities in **Worksheet 1**	Mon. May 30 – FraidyRat Worksheet 1
Week 4	Classical Conditioning – brain substrates	5. Begin activities in **Worksheet 2**	
Week 5	Instrumental Learning		Fri. June 10 – Quiz 2
Week 6	Learning in Health and Disease; Review of Course Concepts	6. Complete **Worksheet 2**	Fri. Jun 17 – FraidyRat Worksheet 2
			Final online assessment (cumulative) in the final examination period

Note: Lecture topics may be updated if more or less time is needed for particular topics based on feedback from the class. Any changes will be posted to the course website.

Details on Assignments

Quizzes (30% (2 x 15%)). The purpose of the quizzes is to test your understanding throughout the course and give you experience with the style of questions that you will find on the final exam.

FraidyRat Worksheets (30%). These worksheets will guide you through experiments you can perform using a computer simulated rat. This is a chance to apply course concepts and see how they apply in an experimental setting.

Final Exam (40%). The final exam will be comprehensive but with heavier weighting of material covered after the last quiz. The style of questions will be similar to those found on the quizzes. Some questions related to FraidyRat will be included too. Further details will be provided closer to the time of the exam.