

NROC61
Learning and Motivation
University of Toronto Scarborough
SUMMER 2017

Instructor: Dr. Anett Schumacher **TAs:** Bilgehan Cavdaroglu
David Nguyen
Sadia Riaz
Dylan Yeates

Course E-mail: nroc61.utsc@gmail.com
Course website resources: Blackboard

Note about communication: *Please post content related questions to relevant blackboard discussion forum for the benefit of other students.* All other questions must be sent to nroc61.utsc@gmail.com, clearly indicating who the correspondence is addressed to. E.g., put the name of the TA in the subject line. Please note that emails pertaining to NROC61 sent to personal email accounts of Dr Schumacher's or the TAs will NOT be answered.

Lectures: Wednesdays 11-1pm, IC 220

Office hours: Wednesday 2-4pm, portable 103 → room 111

Tutorials: Students are required to attend weekly 1hr tutorials.

	Day/Time	Location	TA
TUT1	Thur 9-10am	BV 355	Sadia Riaz
TUT2	Thur 10-11am	BV 355	Dylan Yeates
TUT3	Thur 11-12pm	BV 355	Bilgehan Cavdaroglu
TUT4	Thur 12-1pm	BV 355	David Nguyen

Course Description:

This course explores learning and motivation from a physiological, pharmacological and behavioral perspective, introducing the principal methods and logical inferences used in experiments that use laboratory animals. Thus, the course offers an in-depth exploration of the field of behavioural neuroscience. However, wherever possible, it is shown how these findings can be applied to humans, especially in a clinical setting. Topics covered under learning include: different types of associative learning and their neural basis with a focus on the notion that the mammalian brain is organized into multiple learning and memory systems. Topics covered under the category of motivation include the neural basis of eating, drinking and sleep and the neural correlates of reward and emotion.

Tentative Course schedule:

Week	Dates	Topic
1	May 3 May 4	Course Introduction <i>Tutorial 1</i>
2	May 10 May 11	Pavlovian Conditioning <i>Tutorial 2</i>
3	May 17 May 18	Laws of association <i>Tutorial 3</i>
4	May 24 May 25	Instrumental conditioning <i>Tutorial 4</i>
5	May 31 June 1	Learning and Memory systems <i>Tutorial 5</i>
6	June 7 June 8	Midterm * in class (2hrs) No tutorial
	June 14 June 18	Reading week - no class or tutorial Outline of mini review due
7	June 21 June 22	Central Reward systems <i>Tutorial 6</i>
8	June 28 June 29	Hypothalamus and Motivation 1 <i>Tutorial 7</i>
9	July 5 July 6	Hypothalamus and Motivation 2 <i>Tutorial 8</i>
10	July 12 July 13	Limbic system and emotions <i>Tutorial 9</i>
11	July 19 July 20	Stress and arousal <i>Tutorial 10</i> Mini review Assignment due July 19
12	July 26 July 27	Biological Clocks: Sleep and Wakefulness <i>Tutorial 11</i>
	TBA	Final exam**

* Content listed for Weeks 1 to 5 inclusive will be tested on the midterm.

** Content listed for Weeks 7 to 12 will be on the final exam.

I reserve the right to make alterations to the course content/schedule.

Resources

Main Texts

Handouts will accompany all lectures.

You may also be assigned empirical articles to read for your tutorial presentations. You are strongly encouraged to read them before each tutorial, as they may help you with your exam performance.

Lecture slides and PDFs of papers for assigned reading will be posted on the course website (in the "Content" section) **by 9pm (or before)** on the night before the lecture.

Evaluation

The tests will be based on the materials covered in the lectures and handouts.

1. Midterm Test (30% overall grade)

This test will consist of multiple-choice questions and short answer questions on the material covered in Lectures 1-5.

2. Final exam (35% overall grade)

This test will consist of multiple-choice questions and short and long answer questions on the material covered in Lectures 6-11.

3. Tutorial grade (35 % overall grade)

The tutorials are primarily intended to familiarize students with the general knowledge base of neuroscience, namely the published literature. The format of each tutorial will be:

- 20-30min Discussion/Recap/Questions on the Lecture material
- 1 or 2 x 15min Oral Presentations on pre-assigned primary articles

a. Class presentation of primary article -10 %

One or two empirical articles will be assigned for each tutorial (2-11), **to be presented by 2 students per article**. Each presentation will be **15 minutes** in length – **12 minutes** to present key details of the article (Introduction/Rationale of study/Methods/Results/Discussion/Caveats & Future directions) and **~3 minutes** to answer questions about the article from the class. *The presentation (12min) will be timed, and any content presented beyond this time will not be considered for marking. Therefore, it is important that you get your timings right!* **In the first tutorial, please identify your presentation partner, and sign up for the week that you would like to present. If you do not sign up in the first week, the TA will assign a partner and week on your behalf.** A demonstration of what is expected of you will be provided by your TA in the first tutorial. You can discuss the paper and present the paper together as a team and will be expected to make equal contribution to both the preparation and presentation. A suggested division of labour is for 1 student to do the Introduction/Rationale and Results, while the other does the Methods and Discussion.

At the end, each of you must present a slide answering these questions: 1) Why is the study important? 2) What are the limitations and critique/future directions? You must come up with your own thoughts on these.

Marks will be awarded individually for clarity of presentation, effective use of visual aids/handouts, and the ability to answer questions about the research. There will also be a mark for evidence of co-operation and cohesiveness between the 2 of you. You will also be given the opportunity to make comments on your partner (in confidence), should you feel that there was an unfair division of labour.

On the day of your presentation, please come prepared with a hardcopy of your PowerPoint presentation, or send the TA an electronic copy of your presentation. Your TA will indicate their preference.

*Please note that the content of the articles cannot be discussed with your TAs or myself during tutorials or office hours. Furthermore, to give the same amount of preparation time for everyone, the articles will be released **two weeks** in advance on blackboard.*

b. Mini review – 20%

This assignment is designed for you to make use of the internet referencing services such as *pubmed* (<http://www.ncbi.nlm.nih.gov/pubmed>) in selecting a maximum of 10 current empirical articles and 1-2 review papers on a given topic of choice for you to review. The list of topics will be released after your first tutorial.

The focus of the review should be on ‘current developments’ in the field of systems neuroscience (but not molecular or genetics) with a focus on animal studies (60-70% of the articles) and at least 5 empirical articles must be from the last 6 years (2011-2017), while also demonstrating a good understanding of the research context (based on older studies). The review should not be a simple recitation of facts/experiments, but should critically analyze/evaluate the evidence. The assignment is divided up into two parts, to help guide you in the process of writing the mini review.

- **Mini review outline (5%):** You will be required to generate an outline of your mini review for the TA to assess the appropriateness of the intended topic and content of your mini review, and to give you guidance on the structure. This document must have the following components:
 - **Proposed title of mini-review**
 - **Introduction** – 3-4 sentences summarizing the message/ information you would like to get across to the reader in the introduction, with relevant in-text citations (APA format)
 - **Main body** – structure this section into 3 subsections with subheadings, and briefly discuss what you will be discussing in each section. Provide a list of 2-3 empirical articles (all author names, year of publication, title of the paper, journal, journal volume, page numbers) that you will be discussing in each section.
 - **Conclusion** – briefly describe what your main conclusions are likely to be. A few sentences will suffice here.
- An exact guideline for the mini review outline will be posted on blackboard after your first tutorial.
- The outline document must be submitted to your **tutorial blackboard site** on **11.59pm Sunday 18th June 2017**.
- **Mini review paper (15%):** The paper should be typed double spaced, 12pt Arial font, and should be 7-8 pages in length. In addition to these pages, you must include a cover page (title, candidate name and number), an abstract (up to 200 words) and a reference page. Thus, your final paper will be about 10 pages in length (+ **one** additional page for references). Your TA will not read any content beyond 10 pages. **APA format is required for the submission of this paper.**
- You are also required to grade your own paper, using the mini review rubric posted on blackboard, and submit it together with your paper. Failure to submit the completed rubric will result in a penalty of 1 point off.

- Your review paper is due on **Wednesday 19th July 2017**. The time stamp on blackboard will be used as the official time submitted. In addition, the total word count of your paper is required on your title page.
- **Final papers should be submitted electronically to the blackboard assignment box 1) in your respective tutorial group blackboard site AND 2) turnitin (details in next section).**
- Failure to submit to both Blackboard **and** Turnitin on time will result in a penalty of 0.25 points off.

c. Tutorial attendance and participation – 5 %

Students are expected to attend and participate in weekly tutorials. 2.5% of the overall mark will be awarded for weekly attendance of the 11 mandatory tutorials. The other 2.5% will be awarded for active participation. You will be asked to sign up in your first tutorial as a 'discussant' for a particular research article being presented by another student. Your role would be to prepare at least **2 questions (and answers to the questions)** to ask the student(s) during 'question time'. This will ensure that everyone will have an opportunity to participate, and be fairly evaluated for participation. So that the TAs can assess the quality of the questions, **please email the questions and answers to them by 5pm the day before tutorial (i.e. Wednesday 5pm)**. Failure to send the questions (and answers) on time will result in 0.25 points off. Failure to send answers with your questions will result in 0.5 points off. And failure to send your questions (with answers) to the TA will result in 0.75 points off.

Information about Turnitin:

First, some background information on this program. Turnitin.com is a tool that assists in detecting textual similarities between compared works i.e., it is an electronic resource that assists in the detection and deterrence of plagiarism.

Normally, students will be required to submit their course essays to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site.

Additional information on conditions of use can be viewed at
<http://www.utoronto.ca/ota/turnitin/ConditionsofUse.html>

- Submit your review to Turnitin via the NROC61 lecture website:
 → **Go to "Course Materials", select "Turnitin.com Assessment" and upload your review.**

Course Policies:

Missed Term Work and Midterms due to Medical Illness or Emergency:

All students citing a documented reason for missed term work (this includes presentation, assignments and midterm exam) must bring their documentation to the Psychology Course Coordinator, Ainsley Lawson, **within three (3) business days** of the term test / assignment due date. **All requests must be accompanied by the [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](#) 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. The course instructor should also be copied.
- 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 should be submitted, **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.

Your [request form](#) and [medical](#)/other documents must be submitted 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. 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 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.

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>)

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

Missed presentation:

A grade of zero will be given if you do not give your presentation on the assigned date. Missed presentations will only be rescheduled provided an official notification comes our way from Ainsley Lawson. You should be prepared to give your presentation at any tutorial following the missed date. Your TA will try to give you advance notice but this may not be possible.

Missed exams:

You are expected to make every effort to take required mid-terms/final exam. Absence from a mid-term/exam will only be granted for genuine, legitimate reasons, including a documented family emergency, or a documented severe illness. This does not include reasons of scheduling conflict. **There will be one make-up test for the midterm for those who can supply legitimate documents via the official route described below. Exams that are missed without a genuine, legitimate reason will receive a 0% mark.**

Late Assignments:

Late assignments will be accepted with a penalty of **10% per day**, up until the third day after the assignment is due in. All assignments are due by **11.59pm (midnight) on the due date.**

Contesting a grade:

All requests for a re-grade must be submitted **in writing** within two weeks of the day the grade is received. Only requests that include adequate written justification of an error in the original grading will be considered. *A legitimate request will result in the entire exam or assignment being re-graded. Your overall grade may be raised, lowered, or it may stay the same.* If there has been an error in our arithmetic, please let us know and we will immediately recalculate your grade (no written request necessary). **Arbitrary requests for grade increases will not be entertained (e.g., “I need to get into grad school, so could you please give me a higher grade?”).**

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.”

Copyright of lecture material:

As protection of copyright, unauthorized copying, use, or uploading of any of the lecture slides, lecture handouts produced by Professor Ito is strictly prohibited.

AccessAbility statement:

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/ppj_un011995.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:

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.