

# **NEUR\*2000\*01, Course Outline: Fall 2018**

## **General Information**

**Course Title:** Introduction to Neuroscience

### **Course Description:**

This course offers an introduction to the mammalian nervous system, with emphasis on the structure and function of the human brain. General principles of the function and organization of nervous systems will be discussed, providing both an overview of the subject and a foundation for advanced courses. Topics will include the physical and chemical bases for action potentials, synaptic transmission, and sensory transduction; anatomy; development; sensory and motor pathways; and the neuroscience of brain diseases.

**Credit Weight:** 0.5

**Academic Department (or campus):** Psychology

**Semester Offering:** F18

**Class Schedule and Location:** Tuesdays 10:00 AM - 11:20 AM, Thursdays 10:00 AM - 11:20 AM; RICH 2520

## **Instructor Information**

Instructor Name: Dr. Jennifer Murray

Instructor Email: [jmurr@uoguelph.ca](mailto:jmurr@uoguelph.ca)

Office location: MCKN 4001; ext. 56330; meeting by email arrangement

## **GTA Information**

GTA Name: **TBD**

GTA Email: **TBD**

GTA office location: **TBD**

Other office hours by appointment.

## **Course Content**

### **Specific Learning Outcomes:**

1. LO 1.1 – Depth and Breadth of Understanding (1/2 – introduce/reinforce)
2. LO 1.2 – Inquiry and Analysis (1/2 – introduce/reinforce)
3. LO 2.1 – Information Literacy (2 – reinforce)
4. LO 2.5 – Visual Literacy (1 – introduce)
5. LO 4.2 – Written Communication (1 – introduce)
6. LO 5.3 – Ethical Issues in Research (1/2 – introduce/reinforce)

**Lecture Content:**

The following outlines the expected progression of the course. I reserve the right to revise this schedule of lecture content as I deem necessary. Readings should ideally be conducted in advance of the course lectures.

Date	Topic	Related Readings
Sept 6	Introduction to the Nervous System	Chapter 1
Sept 11	Human Neuroanatomy	Appendix
Sept 13	Electrical Signals	Chapters 2 & 3
Sept 18	Electrical Signals	Chapters 2 & 3
Sept 20	Synaptic Transmission	Chapters 4 & 5
Sept 25	Synaptic Transmission	Chapters 4 & 5
Sept 27	Neurotransmitters & Receptors	Chapter 6
Oct 2	Neurotransmitters & Receptors	Chapter 6 & 7
Oct 4	Plasticity	Chapter 8
Oct 9	NO CLASS	
Oct 11	<b>Quiz 1</b>	
Oct 16	Sensory Systems – Pain	Chapter 10
Oct 18	Sensory Systems – Visual Pathways	Chapter 12
Oct 23	Sensory Systems – Audition	Chapter 13
Oct 25	Motor Systems – Upper Motor Neuron	Chapter 17
Oct 30	Motor Systems – Basal Ganglia	Chapter 18
Nov 1	<b>Quiz 2</b>	
Nov 6	Brain Development	Chapters 22, 23, 24
Nov 8	Brain Development	Chapters 22, 23, 24
Nov 13	Plasticity in Development	Chapter 25
Nov 15	Repair & Regeneration	Chapter 26
Nov 20	Cognitive Function	Chapter 27
Nov 22	Decision Making	Chapter 32
Nov 27	<b>Quiz 3</b>	
Nov 29	Review Session	

**Course Assessments:**

Assignment or Test	Date	Contribution to Final Mark (%)	Learning Outcomes Assessed
<b>Quiz 1</b>	<b>Oct 11</b>	<b>25%</b>	<b>1-5</b>
<b>Quiz 2</b>	<b>Nov 1</b>	<b>20%</b>	<b>1-5</b>
<b>Quiz 3</b>	<b>Nov 27</b>	<b>20%</b>	<b>1-5</b>
<b>Final Exam (cumulative)</b>	<b>Dec 12</b>	<b>35%</b>	<b>1-5</b>

### **Additional Notes:**

The Quizzes and Final Exam will be a mixture of multiple choice and short-answer questions. Questions will be derived from lectures and assigned readings. Short segments of scientific literature provided directly within the quizzes may also be used as a source of questions.

**Final examination date and time: 12 December 19:00-21:00 Location TBD**

**Final exam weighting: 35% Cumulative**

[Examination Regulations](#)

### **Course Resources**

#### **Required Text:**

*Neuroscience* (6<sup>th</sup> Edition, 2018) Edited by Dale Purves, George J. Augustine, David Fitzpatrick, William C. Hall, Anthony-Samuel LaMantia, Richard D. Mooney, Michael L. Platt, and Leonard E. White. Published by Sinauer Associates, Oxford University Press.

1 copy on 2-hour reserve.

#### **Other Resources:**

**iClicker** software will be incorporated throughout the semester to poll student learning in the class during lectures. Your participation in this is fully voluntary, however, as it is a very useful tool for reinforcing understanding, I will incentivize its use as a form of ***extra credit***. The way this will work is as follows: At the end of the semester, credits earned using iClicker for general participation and answer accuracy can replace up to **2% of the overall course grade**. The number of accurately-answered questions required for full replacement will be based on the highest number of accurately-answered questions within the class. For instance, if 68 questions are answered accurately by one individual in the class by the end of the semester, then 68 accurately-answered questions are required for replacing a full 2% of the course grade. In this example, if you answered 34 questions correctly, then you can replace up to 1% of your course grade. As this is *not a compulsory activity* in the class, there will be no accommodations made for any missed questions for any purpose.

iClickers can be purchased in the bookstore or an app can be downloaded on your phone. More information about iClicker will be provided in the first lecture.

**CourseLink** will be used to provide the Supplementary Readings for each Unit. Additionally, a Forum under the Discussions tab has been started labelled 'Questions & Answers'. Use this to engage with your peers in the classroom. You are welcome to initiate Threads within that Forum. Often, one student's struggle with a topic can help reveal gaps in the knowledge of others, and an exchange of ideas improves the experience of learning for everyone. Your participation in this is fully voluntary, however, as it is a very useful tool for reinforcing understanding, I will incentivize this peer engagement as a form of ***extra credit***. The way this

will work is as follows: the TAs and myself will monitor student engagement. At the end of the semester, engagement in class discussions will be quantified and replace up to **1% of the overall course grade** in a method similar to that described for iClicker. This quantification will depend in large part on the number of Threads and Replies in which you participate (numbers we can see in CourseLink). However, quality of discussion *will* count, and anyone observed to be abusing the system (e.g., repeated copy/pasting or comments with no added content) will forfeit the extra credit solely at my discretion. Again, this is *not compulsory*, but I recommend you 'change your notification settings' in the Subscriptions sub-tab of Discussions in order to be informed of engagement opportunities in which to participate.

## **Course Policies**

### **Grading Policies**

Your final grade is determined by 3 in-class quizzes and 1 final exam. The final exam is cumulative.

Dates/deadlines and method of evaluation are not negotiable.

If a student does not write Quiz 1, Quiz 2, or Quiz 3 because of acute medical, academic or personal reasons, its % value will be **automatically added** to the % value of the Final Exam. No Instructor consent is required for this re-distribution of grading.

The rules and regulations for writing/grading quizzes described above **do not apply to the Final Exam**. If the Final Exam is not written for any reason, the BA/BSc counselling office should be contacted directly. At the University of Guelph, Instructors cannot change dates or times of final examinations.

### **[Undergraduate Grading Procedures](#)**

### **Course Policy regarding use of electronic devices and recording of lectures:**

Electronic recording of classes is **expressly forbidden** without consent of the instructor. When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.

## **University Policies**

### **Academic Consideration**

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for

Academic Consideration: [Academic Consideration, Appeals and Petitions](#)

## **Academic Misconduct**

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:

[Academic Misconduct Policy](#)

## **Accessibility**

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact [Student Accessibility Services](#) as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 54335 or email [accessibility@uoguelph.ca](mailto:accessibility@uoguelph.ca) or the [Student Accessibility Services Website](#)

## **Course Evaluation Information**

Please refer to the [Course and Instructor Evaluation Website](#) .

## **Drop date**

The last date to drop one-semester courses, without academic penalty, is **FRIDAY, November 2, 2018**. For regulations and procedures for Dropping Courses, see the [Schedule of Dates in the Academic Calendar](#).  
[Current Undergraduate Calendar](#)