

# **PSYC\*6800, Course Outline: Winter 2022**

## **General Information**

**Course Title:** PSYC\*6800 – Neurobiology of Learning

**Course Description:** This course surveys basic principles and concepts in the neurobiology of learning and memory. Neuroanatomical, neurochemical, cellular, and molecular mechanisms underlying various learning and memory processes will be explored, with an emphasis on recent experimental findings. We will meet weekly in a seminar format for discussions and student presentations.

**Credit Weight:** 0.5

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

**Semester Offering:** W22

**Class Schedule and Location:** Wednesdays, 11:30-2:20 PM; MCKN 205

## **Instructor Information**

Instructor Name: Dr. Boyer Winters

Instructor Email: bwinters@uoguelph.ca

Office location and office hours: MCKN 3005; ext. 52163; Meeting by arrangement; e-mail at all times

## **GTA Information**

GTA Name: N/A

GTA Email: N/A

GTA office location and office hours: N/A

## **Course Content**

### **Specific Learning Outcomes:**

By the end of this course, successful students should be able to:

1. Engage critically with scientific studies in the field of the neurobiology of learning and memory, demonstrating this skill through:

- a. Student-led seminars in which they clearly present the rationale, methods/results, and interpretations of a published article, providing their own critical evaluation of these components.
  - b. Flexible thinking about the presented article in a 5-min question and answer period following the seminar presentation.
2. Demonstrate critical and creative scientific writing skills by integrating insight acquired from thorough readings of the literature and the above seminar experience to produce a mock grant proposal. Students will design a novel scientific study to address an outstanding question in the field of neurobiology of learning and memory, providing clear experimental design and analysis details, as well as a review of pertinent background literature.
  3. Explain, with the use of relevant empirical data, various learning and memory concepts and their putative neurobiological bases (e.g., memory consolidation).
  4. Describe and critically evaluate different methodological approaches to the study of the neurobiology of learning and memory.
  5. Demonstrate refined presentation skills resulting from observation and administration of PowerPoint seminars.

**Lecture Content:**

Schedule of topics and dates:

<u>Date</u>	<u>Reading(s)</u>	<u>Presenter(s)</u>
Jan 12	None – Brief organizational meeting to discuss assignments, etc. for the semester	BW
Jan 19	Chapters 1 and 9 <u>Assign speakers and seminar topics for weeks 3-6 and 8-11</u>	Lecture from BW – “Making Memories”
Jan 26	Chapters 15, 16, and 17 – Presentations and/or discussion	TBA
Feb 2	Chapters 18, 19, 2, and 3 – Presentations and/or discussion	TBA
Feb 9	Chapters 4, 5, and 6 – Presentations and/or discussion	TBA
Feb 16	Chapters 10, 11, 13, and 14 – Presentations and/or discussion	TBA
Feb 21-25	WINTER BREAK – NO CLASS	

<u>Date</u>	<u>Reading(s)</u>	<u>Presenter(s)</u>
March 2	Article Presentations/discussion	
March 9	Article Presentations/discussion	
March 16	Article Presentations/discussion	
March 23	Article Presentations/discussion	
March 30	Review week	Class discussion
April 6	Study/write week	None

### Course Assignments and Tests:

Assignment or Test	Due Date	Contribution to Final Mark (%)	Learning Outcomes Assessed
Oral Presentation #1	TBD	30%	1,3,4,5
Oral Presentation #2	TBD	30%	1,3,4,5
Written Assignment	April 11, by 11:59pm; Dropbox on CourseLink	30%	1-4
Class Participation	Weekly	10%	1,3,4

### Additional Notes:

#### Method of Evaluation

#### A) Two PowerPoint presentations: 30% each; to be assigned in second class (Jan 19).

Each student will perform two oral presentations. The first of these will be a 30-min presentation of a chapter in the Rudy text (see attached schedule). For full marks, each student should seek to integrate the chapter material with related studies that may not necessarily be cited in the Rudy text, and which extend the main concepts of the assigned chapter in some significant way. The point of this first presentation is not necessarily to present EVERYTHING in the assigned chapter, but to convey the central theoretical ideas while providing empirical support for or against these ideas.

The second talk will be a 20-min presentation of a recent research article chosen by the student. There are very few constraints on the nature of the article you can choose, just that it must in some way relate to the Neurobiology of Learning and Memory. Although not necessary, I recommend you choose a topic that is related to your own research. The presentation should

provide relevant background information, details of methods and results, and a critical discussion of the chosen article. Please clear the article with me AT LEAST two weeks prior to your presentation day so I can provide the class with the article to read.

**B) Written assignment: 30%; due electronically on April 11.**

The specific nature of this written component will be discussed and determined amongst the class in the first few weeks of the term.

**C) Contributions to class discussions: 10%**

Students are expected to attend class and participate in discussions.

**Final examination date and time:** N/A

**Final exam weighting:** N/A

**Course Resources**

**Required Texts:** Rudy, J.W. (2014). The Neurobiology of Learning and Memory. 3<sup>rd</sup> Edition. Sinauer Associates, Inc

**Other Resources:**

Web site: lecture notes will be available on line before each class. Just logon to [CourseLink](#) using your U of G email username and password.

**Course Policies**

**Grading Policies**

**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:

[Grounds for Academic Consideration](#)

### **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. 56208 or email [accessibility@uoguelph.ca](mailto:accessibility@uoguelph.ca) or see the website: [Student Accessibility Services Website](#)

## **Student Feedback Questionnaire**

These questionnaires (formerly course evaluations) will be available to students during the last 2 weeks of the semester: March. 28<sup>th</sup> – April 08<sup>th</sup>. Students will receive an email directly from the Student Feedback Administration system which will include a direct link to the questionnaire for this course. During this time, when a student goes to login to Courselink, a reminder will pop-up when a task is available to complete.

[Student Feedback Questionnaire](#)

## **Drop date**

The last date to drop one-semester courses, without academic penalty, is April 8, 2022. For regulations and procedures for Dropping Courses, see the Academic Calendar:

[Current Graduate Calendar](#)