

# **PSYC\*2410, Course Outline: Winter 2016**

## **General Information**

**Course Title:** Behavioural Neuroscience I

### **Course Description:**

Can the human brain ever fully understand itself? Psychology and Neuroscience involve the scientific study of behaviour and the nervous system, respectively. In this course, we will consider both of these pursuits from the integrative perspective of biopsychology, or behavioural neuroscience. The ultimate effect of nervous system function is to produce and control behaviour. This course deals with the link between psychological processes and the brain. As such, we will consider evolutionary, genetic, anatomical, pharmacological, synaptic, neurochemical, and developmental bases of aspects of human and animal behaviour. Throughout, we will emphasize the behavioural relevance of the biological and physiological mechanisms under discussion.

Format: Lectures.

**Credit Weight:** 0.5

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

**Semester Offering:** W16

**Class Schedule and Location:** Tuesdays and Thursdays, 4:00-5:20 PM; MACN 105

## **Instructor Information**

Instructor Name: Dr. Boyer Winters

Instructor Email: bwinters@uoguelph.ca

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

## **GTA Information**

TBA

## **Course Content**

### **Specific Learning Outcomes:**

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

1. Identify gross anatomical structures of the mammalian brain and describe their basic functions.
2. Recognize various genetic and pharmacological factors that influence brain function and behaviour.
3. Critically evaluate various methods used to study the intersection between brain and behaviour.
4. Apply the above concepts to understanding the neural bases and possible therapies for human brain disorders.
5. Recognize the major neurobiological features of the mammalian sensory and motor systems.

### **Lecture Content:**

#### **Schedule of topics and dates.**

The following is an outline of how the course will proceed. However, if necessary, I reserve the right to progress more slowly than indicated.

Jan 12	Chpt 1.	Brief Orientation, questions and answers, introduction
Jan 14	Chpt 1/3.	Intro (cont'd)/Anatomy and Functions of the Central Nervous System
Jan 19	Chpt 3.	Anatomy and Functions of the Central Nervous System
Jan 21	Chpt 3.	Anatomy and Functions of the Central Nervous System
Jan 26	Chpt 2.	Evolution
Jan 28	Chpt 2.	Genetics of Behaviour
Feb 2	Chpt 2.	Genetics of Behaviour
Feb 4	Chpt 4.	Excitable cell membranes
Feb 9	Chpt 4.	Neuronal action potentials

Feb 11		<First midterm exam>
Feb 15-19		***Winter Break: No Classes***
Feb 23	Chpt 4.	Synapses and synaptic transmission
Feb 25	Chpt 4.	Pharmacological and genetic manipulation of behavior
Mar 1	Chpt 4.	Pharmacological and genetic manipulation of behavior
Mar 3	Chpt 4.	Pharmacological and genetic manipulation of behavior
Mar 8	Chpt 11.	Learning, Memory and Amnesia
Mar 10	Chpt 11.	Learning, Memory and Amnesia
Mar 15	Chpt 11.	Learning, Memory and Amnesia
Mar 17		<Second midterm exam>
Mar 22	Chpt 11.	Learning, Memory and Amnesia
Mar 24	Chpt 9.	Development of the central nervous system
Mar 29	Chpt 9.	Development of the central nervous system
Mar 31	Chpt 9.	Development of the central nervous system
Apr 5	Chpt 8.	Motor system
Apr 7	Chpt 8.	Motor system

**Labs:**

N/A

**Seminars:**

N/A

**Course Assignments and Tests:**

Assignment or Test	Due Date	Contribution to Final Mark (%)	Learning Outcomes Assessed
Midterm #1	Feb 11, 2016, in class	20%	1-5
Midterm #2 (non-cumulative)	March 17, 2016, in class	35%	1-5
Final Exam (cumulative)	Apr 12, 2016, TBA	45%	1-5

**Additional Notes (if required):**

Midterms and final exam will be multiple choice or a mix of multiple choice and short answer.

**Final examination date and time:** Tuesday, Apr 12, 2016; 19:00-21:00; location TBA

**Final exam weighting:** 45%

**Course Resources**

**Required Texts:**

J. P. Pinel. Biopsychology. New York: Allyn and Bacon, 8<sup>th</sup> or 9<sup>th</sup> Edition.

There are several copies of the textbook on reserve in the library.

**Recommended Texts:**

**Lab Manual:**

N/A

**Other Resources:**

Web site: lecture notes will be available online before each class. Just logon to CourseLink using your U of G email username and password.

Instructor – Student Communication: You can email me at any time. I will set up an e-mail class list that I will use to communicate important information to you (e.g., exam marks). I will use your U of G email address as default.

**Field Trips:**

N/A

**Additional Costs:**

N/A

**Course Policies****Grading Policies**

If you miss an exam, please inform me AS SOON AS POSSIBLE, so that a make-up can be arranged.

**Course Policy on Group Work:**

N/A

**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.

### **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 the Centre for Students with Disabilities as soon as possible.

For more information, contact CSD at 519-824-4120 ext. 56208 or email [csd@uoguelph.ca](mailto:csd@uoguelph.ca) or see the website: [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 March 11<sup>th</sup>, 2016. For regulations and procedures for Dropping Courses, see the Academic Calendar: [Current Undergraduate Calendar](#)