

# School of Arts & Science PSYCHOLOGY DEPARTMENT PSYC 215

# Biological Psychology

**Winter 2017** 

### **COURSE OUTLINE**

The course description is online @ http://camosun.ca/learn/calendar/current/web/psyc.html

Ω Please note: the College electronically stores this outline for five (5) years only. It is strongly recommended you keep a copy of this outline with your academic records. You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

#### 1. Instructor Information

| (a) | Instructor:   | Dr. Michael Pollock             |
|-----|---------------|---------------------------------|
| (b) | Office Hours: | Mon 12:00-1:50; Tues 12:00-2:20 |
| (c) | Location:     | Fisher 308B                     |
| (d) | Phone:        | 250-370-3111                    |
| (e) | Email:        | pollockm@camosun.ca             |
| (f) | Website:      | http://online.camosun.ca        |

#### 2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

Upon completion of this course the student will be able to:

- Summarize the history of biopsychology, and the relationship of biopsychological theories and methods to the broader field of psychology.
- 2. Compare the most important research methods used in biopsychology.
- 3. Discuss the basic concepts, supporting the evidence for the interaction of evolution, genetics and experience in the development of behaviour.
- 4. Label and summarize the basic structures and functions of the human nervous system.
- 5. Explain the processes involved in neural conduction and synaptic transmission.
- Label images of the human visual system and explain basic visual processes in the central nervous system.
- 7. Discuss the mechanisms of perception, consciousness, awareness and attention.
- 8. Describe the functioning of the human sensorimotor system.
- Summarize the processes involved in the development of the human nervous system and the
  ways in which the human brain attempts to cope with brain damage with an emphasis on
  neuroplasticity.
- 10. Discuss human learning, memory and amnesia as they relate to the human brain.
- 11. Summarize human sexual development, human sexual dimorphism and the effects of hormones on human development and behaviour.
- 12. Describe a model of drug addiction and a general model of the effects of various drugs on the neuronal function.
- 13. Discuss various disorders of cognition and emotion with regard to the human brain.
- 14. Summarize the effects of stress and emotions on human neurophysiology.
- 15. Discuss the neurophysiology of schizophrenia, depression and anxiety and attempts to treat these disorders.

#### 3. Required Materials

Pinel, John P. J. (2014). Biopsychology. (9th ed.). Toronto: Pearson.

#### 4. Course Content and Schedule

Neuroscience is a relatively new field of study, but could its findings eventually provide an explanation for all of our behavior by reducing our thoughts and feelings down to the workings of the brain? This course familiarizes students with the current major findings and limitations associated with biopsychology - the study of how biological knowledge can be applied to psychological topics. In the process of trying to understand the biological mechanisms of the mind, topics will range from the microscopic (e.g., genetics, the electrophysiology of neurons, and neurochemistry) to the macroscopic (e.g., functional neuroanatomy

and how the different parts of the nervous system interact). This course is a must for anyone interested in understanding the biological underpinnings of our minds.

|      | COURSE SCHEDULE |  |                                   |  |  |  |
|------|-----------------|--|-----------------------------------|--|--|--|
| Week | Date            | Lecture  | Assigned readings                 |  |  |  |
| WK 1 |                 | Introduction & Course Overview                                       |                                   |  |  |  |
|      | Jan 9 M         | Lecture: Introduction and course overview                            |                                   |  |  |  |
|      | Jan 11 W        | Lab: Online quiz demonstration                                       |                                   |  |  |  |
| WK 2 |                 | Biopsychology & its Methods Ch.1 & 5.1                               |                                   |  |  |  |
|      | Jan 15 S        | Online quiz due: Biopsychology & its Methods                         |                                   |  |  |  |
|      | Jan 16 M        | Lecture: Topic #1 - How can you know which bid true?                 | opsychological claims are         |  |  |  |
|      | Jan 18 W        | Lab: In-class quiz - Biopsychology & its Methods                     |                                   |  |  |  |
| WK3  |                 | Behavioral Genetics  | Ch.2.3 & 2.5                      |  |  |  |
|      | Jan 22 S        | Online quiz due: Behavioral Genetics                                 |                                   |  |  |  |
|      | Jan 23 M        | Lecture: Topic #2 - How much of your personali                       | ty is due to genetics?            |  |  |  |
|      | Jan 25 W        | Lab: In-class quiz - Behavioral Genetics                             |                                   |  |  |  |
| WK 4 |                 | Electrophysiology  | Ch.3.2 & 4.1-4.4                  |  |  |  |
|      | Jan 29 S        | Online quiz due: Electrophysiology                                   |                                   |  |  |  |
|      | Jan 30 M        | Lecture: Topic #3 - How does your mind arise frobrain cells?         | om the electrical activity of     |  |  |  |
|      | Feb 1 W         | Lab: In-class quiz - Electrophysiology                               |                                   |  |  |  |
| WK 5 |                 | Midterm #1   |                                   |  |  |  |
|      | Feb 6 M         | Lecture: Midterm Review #1   |                                   |  |  |  |
|      | Feb 8 W         | Lab: Midterm Exam #1   |                                   |  |  |  |
| WK 6 |                 | Reading Break  |                                   |  |  |  |
|      | Feb 13 M        | No classes   |                                   |  |  |  |
|      | Feb 15 W        | No classes   |                                   |  |  |  |
| WK 7 |                 | Neurochemistry & Neuropharmacology                                   | Ch.4.5-4.7, 15.3, & 18.1-<br>18.2 |  |  |  |
|      | Feb 19 S        | Online quiz due: Neurochemistry & Neurophari                         | macology                          |  |  |  |
|      | Feb 20 M        | Lecture: Topic #4 - How do chemicals/drugs alter your state of mind? |                                   |  |  |  |
|      | Feb 22 W        | Lab: In-class quiz - Neurochemistry & Neuroph                        | armacology                        |  |  |  |
| WK8  |                 | PNS & Brainstem  | Ch.3.1, 3.3, 3.5, 3.6, & 14.5     |  |  |  |

|       | Feb 26 S | Online quiz due: DNS & Projectom   |  |  |
|-------|----------|--|--|--|
|       |          | Online quiz due: PNS & Brainstem   |  |  |
|       | Feb 27 M | Lecture: Topic #5 - What are the functions of your peripheral nervous system & brainstem structures? |  |  |
|       | Mar 1 W  | Lab: In-class quiz - PNS & Brainstem   |  |  |
| WK 9  |          | Forebrain  | Ch.3.6, 7.1, 7.3, 8.2, 8.4, 9.2, 15.4, & 17.1-17.4 |  |
|       | Mar 5 S  | Online quiz due: Forebrain   |  |  |
|       | Mar 6 M  | Lecture: Topic #6 - What are the functions of your forebrain structures?                             |  |  |
|       | Mar 8 W  | Lab: In-class quiz - Forebrain   |  |  |
| WK 10 |          | Midterm #2   |  |  |
|       | Mar 13 M | Lecture: Midterm Review #2   |  |  |
|       | Mar 15 W | Lab: Midterm Exam #2   |  |  |
| WK 11 |          | Lateralization   | Ch.16 & 17.4                                       |  |
|       | Mar 19 S | Online quiz due: Lateralization  |  |  |
|       | Mar 20 M | Lecture: Topic #7 - How do the two sides of you  | ur brain differ in function?                       |  |
|       | Mar 22 W | Lab: In-class quiz - Lateralization  |  |  |
| WK 12 |          | Perception   | Ch.6.4, 6.6, 7.3, 7.5, &<br>11.7                   |  |
|       | Mar 26 S | Online quiz due: Perception  |  |  |
|       | Mar 27 M | Lecture: Topic #8 - How do your conscious experiences arise from your brain?                         |  |  |
|       | Mar 29 W | Lab: In-class quiz - Perception  |  |  |
| WK 13 |          | Action   | Ch.8.2-8.5, 8.8, & 18.4                            |  |
|       | Apr 2 S  | Online quiz due: Action  |  |  |
|       | Apr 3 M  | Lecture: Topic #9 - How do your voluntary actions arise from your brain?                             |  |  |
|       | Apr 5 W  | Lab: In-class quiz - Action  |  |  |
| WK 14 |          | Memory   | Ch. 11   |  |
|       | Apr 9 S  | Online quiz due: Memory  |  |  |
|       | Apr 10 M | Lecture: Topic #10 - How does your brain allow you to relive previous conscious experiences?         |  |  |
|       | Apr 12 W | Lab: In-class quiz - Memory  |  |  |
|       | TBA      | Exam: Final Exam   |  |  |

#### 5. Basis of Student Assessment (Weighting)

(This section should be directly linked to the Intended Learning Outcomes.)

Course component
Participation: 2%
Online Quizzes: 5%
In-class Quizzes: 33%
Midterm Exam #1: 18%
Midterm Exam #2: 18%
Final Exam: 24%

## 6. Grading System

(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)

# Standard Grading System (GPA)

| Percentage | Grade | Description   | Grade Point<br>Equivalency |
|------------|-------|---|----------------------------|
| 90-100     | A+    |   | 9                          |
| 85-89      | Α     |   | 8                          |
| 80-84      | A-    |   | 7                          |
| 77-79      | B+    |   | 6                          |
| 73-76      | В     |   | 5                          |
| 70-72      | B-    |   | 4                          |
| 65-69      | C+    |   | 3                          |
| 60-64      | С     |   | 2                          |
| 50-59      | D     | Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite. | 1                          |
| 0-49       | F     | Minimum level has not been achieved.  | 0                          |

## **Temporary Grades**

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy E-1.5 at **camosun.ca** for information on conversion to final grades, and for additional information on student record and transcript notations.

| Temporary<br>Grade  | Description   |
|---|---|
| I   | Incomplete: A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.  |
| IP  | In progress: A temporary grade assigned for courses that, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. (For these courses a final grade will be assigned to either the 3 <sup>rd</sup> course attempt or at the point of course completion.) |
| Compulsory Withdrawal: A temporary grade assigned by a Dean when an i after documenting the prescriptive strategies applied and consulting with pe deems that a student is unsafe to self or others and must be removed from practicum, worksite, or field placement. |   |

## 7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

#### **LEARNING SUPPORT AND SERVICES FOR STUDENTS**

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services, or the College web site at <a href="mailto:camosun.ca">camosun.ca</a>.

### STUDENT CONDUCT POLICY

There is a Student Conduct Policy which includes plagiarism.
It is the student's responsibility to become familiar with the content of this policy.
The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED