

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

<b>Course Code and Number:</b> BIO 385		<b>Number of Credits:</b> 3 <a href="#">Course credit policy (105)</a>																	
<b>Course Full Title:</b> Neurobiology																			
<b>Course Short Title (if title exceeds 30 characters):</b>																			
<b>Faculty:</b> Faculty of Science		<b>Department (or program if no department):</b> Biology																	
<b>Calendar Description:</b> An introduction to human neuroanatomy and neurophysiology. This course investigates the neural structures and activities underlying various human behaviours and system functions as well as the neural pathology underlying various brain disorders.																			
<b>Prerequisites (or NONE):</b>		BIO 111, BIO 112, and BIO 201.																	
<b>Corequisites (if applicable, or NONE):</b>																			
<b>Pre/corequisites (if applicable, or NONE):</b>		BIO 202.																	
<b>Equivalent Courses (cannot be taken for additional credit)</b> Former course code/number: Cross-listed with: Equivalent course(s): <i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>		<b>Transfer Credit</b> Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Transfer credit requested (OReg to submit to BCCAT): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if yes, fill in transfer credit form) Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> .																	
<b>Total Hours: 45</b> <b>Typical structure of instructional hours:</b> <table border="1"> <tr> <td>Lecture hours</td> <td>45</td> </tr> <tr> <td>Seminars/tutorials/workshops</td> <td></td> </tr> <tr> <td>Laboratory hours</td> <td></td> </tr> <tr> <td>Field experience hours</td> <td></td> </tr> <tr> <td>Experiential (practicum, internship, etc.)</td> <td></td> </tr> <tr> <td>Online learning activities</td> <td></td> </tr> <tr> <td>Other contact hours:</td> <td></td> </tr> <tr> <td><b>Total</b></td> <td><b>45</b></td> </tr> </table>		Lecture hours	45	Seminars/tutorials/workshops		Laboratory hours		Field experience hours		Experiential (practicum, internship, etc.)		Online learning activities		Other contact hours:		<b>Total</b>	<b>45</b>	<b>Special Topics</b> Will the course be offered with different topics? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, different lettered courses may be taken for credit: <input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit <i>Note: The specific topic will be recorded when offered.</i>	
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<b>Total</b>	<b>45</b>																		
		<b>Maximum enrolment (for information only):</b> 36 <b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> every other year																	
<b>Department / Program Head or Director:</b> Allan Arndt		<b>Date approved:</b> February 2017																	
<b>Faculty Council approval</b>		<b>Date approved:</b> March 3, 2017																	
<b>Campus-Wide Consultation (CWC)</b>		<b>Date of posting:</b> n/a																	
<b>Dean/Associate VP:</b> Lucy Lee		<b>Date approved:</b> March 3, 2017																	
<b>Undergraduate Education Committee (UEC) approval</b>		<b>Date of meeting:</b> June 16, 2017																	

### Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Identify the complex anatomical features of the nervous system
2. Examine the development of the nervous system.
3. Discuss the pathophysiology of nervous system disorders.
4. Explore the basic principles of nervous system pharmacology and describe the mode of action of specific drugs.
5. Discuss the role of the nervous system in sleep disorders and addiction.

### Prior Learning Assessment and Recognition (PLAR)

☒ Yes ☐ No, PLAR cannot be awarded for this course because

### Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)

This course will adopt a standard lecture format with discussion of relevant papers, case studies, and demonstrations and may include an online component depending upon format (see student evaluation).

**Grading system:** Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☐

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

### Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)

Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1. Crossman, Neary	Neuroanatomy	<input checked="" type="checkbox"/>	Elsevier	2014
M.F. Bear, B. W.				
2. Connors, M. A.	Neuroscience: Exploring the brain	<input checked="" type="checkbox"/>		
Paradiso				
3. R. S. Snell	Clinical Neuroanatomy	<input checked="" type="checkbox"/>		
4. E. N. Marieb, K. Hoehn	Human Anatomy and Physiology	<input checked="" type="checkbox"/>		
5. Robbins and Cotran	Pathologic Basis of Disease	<input checked="" type="checkbox"/>		

### Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)

### Typical Evaluation Methods and Weighting

Final exam:	35%	Assignments:	25%	Midterm exams (2):	25%	Practicum:	%
Quizzes/tests:	15%	Lab work:	%	Field experience:	%	Shop work:	%
Other:	%	Other:	%	Other:	%	Total:	100%

**Details (if necessary):**

### Typical Course Content and Topics

- a) Examine the histological features of the nervous system,
- b) Examine the key embryological principles related to the nervous system,
- c) Examine the anatomy and the neurotransmitters of the autonomic nervous system,
- d) Identify the major neuroanatomic structures and examine the neurophysiological networks and pathways associated with:
  - o Spinal Cord
  - o Brainstem
  - o Cerebellum
  - o Cerebral Cortex
  - o Diencephalon
  - o Basal Ganglia
  - o Limbic System
- e) Examine the histological features of the nervous system,
- f) Explore the pathophysiological principles of common nervous system diseases,
- g) Explore the basic principles of nervous system Pharmacology and outline mechanisms of action for common nervous system medications,
- h) Identify physiological principles and architecture of sleep and sleep disorders,
- i) Identify the main pathways and neurotransmitters involved in addiction.