

ORIGINAL COURSE IMPLEMENTATION DATE: REVISED COURSE IMPLEMENTATION DATE: May 2008 September 2022 January 2028

COURSE TO BE REVIEWED (six years after UEC approval): Course outline form version: 05/18/2018

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

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

Course Code and Number: BIO 385	Number of Credits: 3 Course credit policy (105)							
Course Full Title: Neurobiology	·							
Course Short Title:								
(Transcripts only display 30 characters. Departments may recommend a short title if one is needed. If left blank, one will be assigned.)								
Faculty: Faculty of Science		Department (c	or program if no department): Biology					
Calendar Description:								
An exploration of 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.								
Prerequisites (or NONE): BIO 111, BIO 112, and BIC								
Corequisites (if applicable, or NONE):								
Pre/corequisites (if applicable, or NONE):	BIO 202							
Antireguisite Courses (Cannot be taken for additional credit.)			Special Topics (Double-click on boxes to select.)					
Former course code/number:			This course is offered with different topics:					
Cross-listed with:			\square No \square Yes (If yes, topic will be recorded when offered.)					
Dual-listed with:			Independent Study					
Equivalent course(s):			If offered as an Independent Study course, this course may					
(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)			be repeated for further credit: (<i>If yes, topic will be recorded.</i>) ⊠ No □ Yes, repeat(s) □ Yes, no limit					
			Transfer Credit					
Typical Structure of Instructional Hours			Transfer credit already exists: (See <u>bctransferguide.ca</u> .)					
Lecture/seminar hours		45	🖂 No					
Tutorials/workshops			Submit outline for (re)articulation:					
Supervised laboratory hours		🖾 No	Yes (If yes, fill in trar	nsfer credit form.)				
Experiential (field experience, practicum, int	ternship, etc.	.)	Grading System					
Supervised online activities			☐ Letter Grades ☐ Credit/No Credit					
Other contact hours:		Maxim	Maximum enrolment (for information only): 36					
	Total hour	s 45	Expected Erequency of Course Offerings:					
Labs to be scheduled independent of lecture hours: No Yes				Every other year (Every semester, Fall only, annually, etc.)				
Department / Program Head or Director: Gregory Schmaltz			•	Date approved:	September 2021			
Faculty Council approval				Date approved:	October 8, 2021			
Undergraduate Education Committee (UEC) approval			Date of meeting:	January 28, 2022				

[COURSE]

University of the Fraser Valley Official Undergraduate Course Outline

Learning Outcomes:

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

- 1. Examine the neuroanatomy of the central and peripheral nervous systems.
- 2. Analyze the neurophysiologic principles of the electrical and chemical signals of the neurons.
- 3. Discuss basic neural circuits that control vital centers and special senses.
- 4. Examine the embryological development of the nervous system.
- 5. Discuss the pathophysiology of nervous system disorders.
- 6. Explore the basic principles of nervous system pharmacology and describe the mode of action of specific neurological and neuropsychiatric drugs.
- 7. Illustrate the role of the nervous system in sleep disorders and chemical 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).

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	\boxtimes	Elsevier	2014
2.	R.S. Snell	Clinical Neuroanatomy	\boxtimes		
3.	E.N. Marieb, K. Hoehn	Human Anatomy and Physiology	\boxtimes		
4.	Robbins and Cotran	Pathologic Basis of Disease	\boxtimes		

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

Typical Evaluation Methods and Weighting

Final exam:	35%	Assignments:	20%	Field experience:	%	Portfolio:	%
Midterm exam: (2)	30%	Project:	%	Practicum:	%	Other:	%
Quizzes/tests:	15%	Lab work:	%	Shop work:	%	Total:	100%

Details (if necessary):

Typical Course Content and Topics

- 1. Examine the histological features of the nervous system,
- 2. Examine the basic embryological principles related to the development of the nervous system,
- 3. Examine the anatomy and the neurotransmitters of the autonomic nervous system,
- 4. Identify the major neuroanatomic structures and examine the neurophysiological networks and pathways associated with:
 - a. Spinal Cord
 - b. Brainstem
 - c. Cerebellum
 - d. Cerebral Cortex
 - e. Diencephalon
 - f. Basal Ganglia
 - g. Limbic System
- 5. Explore the pathophysiological principles of common nervous system diseases,
- 6. Explore the basic principles of nervous system Pharmacology and outline mechanisms of action for common neurological and neuropsychiatric medications,
- 7. Identify physiological principles sleep architecture and sleep disorders,
- 8. Identify the main pathways and neurotransmitters involved in chemical addiction.