

The University of Western Ontario  
School of Health Studies

Rehabilitation Sciences 3 062B  
Functional Neuroscience in Special Populations  
Course Outline  
Winter , 2018

Instructor: Dr. Susan Hunter BSc, BScPT, PhD

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Office Hours: By appointment

Lecture Times and Location: Wednesday evenings 6:30 pm ±9:30 pm HSB-35

### Prerequisites

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

### 1.0 COURSE OUTLINE

This course will focus on the neuroscience related to major functions that are the focus of rehabilitation practice (e.g. postural control, locomotion) as well as prevalent neurological conditions that are commonly treated by rehabilitation therapists.

The course is broken up into two sections. The first section of the course will cover the relevant anatomy and physiology of the nervous system. This section is supported by opportunities to see prepared specimens of the brain and spinal cord. The second section will focus on neurological diseases and conditions.

The methods of evaluation in this course are described in detail in Section 3.0 below and will include a midterm, anatomy laboratory quiz, group project and a final exam.

### Course Objectives

1. To introduce students to the anatomical and functional arrangements of the nervous system at all levels, from cell to systems.
2. To introduce the neurophysiological basis for functions that are the main focus of

## Neuroanatomy Laboratory Sessions

The laboratory session will be 1.5 hours in length and will run once during the designated course lecture time on January 17, 2017. The lab session will be held in the Anatomorium (HSB 322). For the lab, half of the class will attend one session (6:30pm to 7:50pm) and the remaining half will attend the second session (8 pm to 9:20pm). You will be randomly assigned by the course coordinator to one of the sessions. The assignment will be posted on OWL. You must attend the session to which you are assigned due to a limited number of seating in the lecture room.

## 2.0 COURSE MATERIALS

There is no required textbook for this course. All materials related to the class will be posted on the OWL website for the course. The following text is a recommended resource: Lundy-Ekman L. Neuroscience: fundamentals for rehabilitation. 4<sup>th</sup> ed. St. Louis, MO; Elsevier Saunders, 2013. ([WL102.LL962n 2013](#))

All students need to use OWL to access resources used in this course such as Power Point handouts for lectures, additional handouts and assigned readings. Students are responsible for checking OWL for this course for readings, handouts, lectures, updates or changes to the schedule. Information or materials not posted on OWL 24 hours in advance of class time will be provided by the course instructor in class. Note that the course instructor will not answer email in OWL. Please contact the instructor by email for difficulties accessing OWL.

## 3.0 METHODS OF EVALUATION

Mid-term exam	30%
Lab quiz	10%
Final exam	35%
Group project	25%

NOTE: your final grade will come from the registrar, not the course instructor.  
An overall mark of 60% is required to pass this course.

### Examinations

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### 3.4 Final Exam (35%)

The final exam will be held during the final examination period in April 2017. The final exam will consist of computer-marked multiple-choice questions, matching, and diagram labeling responses. Case scenarios or vignettes may be included. The exam will cover all material from lecturers, the assigned readings

Whenever possible, students who require academic accommodation should provide notification and documentation in advance of due dates, examinations, etc. Students must follow up with their professors and their Academic Counselling office in a timely manner. Documentation for any request for accommodation shall be submitted, as VRRQ DV SRVVLEOH WR WKH DSSURSULDWH \$FDGHPLF & RX Faculty of registration. For BHSc students, you may go to the School of Health Studies Office in HSB room 222. A make-up examination will be offered to students who meet the requirements for accommodation due to medical illness or non-medical absences.

### Scholastic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following website:

## SCHEDULE OF KEY DATES AND TOPICS

Information regarding any assigned readings will be posted on OWL and are to be read BEFORE class .

### 5.0 LECTURE SCHEDULE ±subject to change

Week	Date	Topic
1	January 10, 2018	Introduction to the nervous system
2	January 17, 2018	Lab
3	January 24, 2018	Peripheral Nervous System Spinal Cord
4	January 31, 2018	Brainstem Cerebellum
5	February 7, 2018	Cerebrum Motor and somatosensory system
6	February 14, 2018	<b>MIDTERM (in class)</b>
	February 19-23, 2018	<b>READING WEEK (no class)</b>
7	February 28, 2018	Stroke
8	March 7, 2018	Alzheimer's Disease
9	March 14, 2018	Spinal Cord Injury
10	March 21, 2018	3 D U N L Q V R Q V ' L V H D V Multiple Sclerosis
11	March 28, 2018	Presentations
12	April 4, 2018	Presentations