



**RS 3062b  
COURSE OUTLINE**

**Functional Neuroscience for Special Populations**  
School of Health Studies  
Rehabilitation Sciences  
University of Western Ontario  
2012

**Course Coordinator & Instructor:**

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**1.0 COURSE INFORMATION**

**1.1 Prerequisites**

The prerequisites for this course are Biology 1222 or 1223 or Physiology 1021 or equivalent; Health Sciences 2300A/B or Kinesiology 2222A/B or Anatomy and Cell Biology 2221; Registration in the Honours Specialization, Major or Minor modules in Rehabilitation Sciences. It is the student's responsibility to ensure that they have the necessary prerequisites for this course. If you do not have these prerequisites (or special written permission to take the course), you are not eligible to take this course and you may be removed from this course and it will be deleted from your record. Taking a course without the prerequisite is not grounds for appeal.

**1.2 Course Outline**

There are 3 lecture hours per week: **Wednesdays, 9:30 to 12:30**. Lectures will be held in **room 1330 of Elborn College (EC)**. This course will also feature 2 anatomy laboratory sessions (HSB 322) and 2-3 community volunteer classroom visits. These will all be held during the regular lecture time.

The field of Neuroscience is vast and includes everything from the genetic and cellular level all the way to the behavior of the whole organism. Therefore, it is impossible to cover everything within a single half course. This course will focus on the neuroscience of the brain and behavior.

sessions. These assignments will be posted on WebCT. **You must attend the session to which you are assigned.** The materials to be used during the lab session are limited and keeping the attendance numbers down will ensure that everyone has equal

### 3.0 METHODS OF EVALUATION

The following is a breakdown of the evaluations in this course.

Evaluation	% of Course Mark	Description	Due Date
<b>Midterm Examination</b>	30%	Up to and including the neuroanatomy lab session on February 8, 2012. Format includes multiple choice, and matching questions and diagram labelling.	February 15, 2012
<b>Neuroanatomy Lab Quizzes</b>	10%	Administered through WebCT. Two multiple choice quizzes worth 5% each.	February 8 & 29, 2012

### 3.3.a) What is required

Students will work in groups of 4 or 5. The group will submit a single written report that could be used as a continuing education manual to update rehabilitation therapists on major concepts related to neuroplasticity and neurorehabilitation with respect to one of two conditions: stroke or spinal cord injury (your choice). The report should be **written as though the report will be read by a rehabilitation therapist** (e.g. physiotherapist, occupational therapist, speech therapist) not a university professor! In other words, imagine that the manager of a stroke or spinal cord injury hospital unit has requested a group of science experts (i.e. your group) to research, design and produce a manual that therapists can use to educate

### 3.4 Final Examination (40% of final mark)

The final exam is **cumulative** and will cover all content covered in the lectures, the assigned readings and the neuroanatomy lab sessions. The format will be multiple choice, matching, diagram labelling and case studies with multiple choice questions. The exam will be held during the university final examination period and so the date, time and place will be set by the Registrar's Office. Electronic devices will not be allowed during the final exam.

### 4.0 EXPECTATIONS

The most effective learning takes place in an open, safe and respectful environment. We are all responsible for creating this environment. You can expect me to start and end class on time, provide adequate breaks and answer your questions to the best of my ability. I try to encourage questions and discussion during lectures. If I cannot answer your questions in class, I will put every effort in

returning your lectu2j/TTB1Tf1.360TD0Tc0003Tj/TT61Tf.2250TD.0002Tc(final)Tj/TT31Tf1.770TD0Tc0003Tj/TT61

cases where there is documentation indicating that the student was seriously affected by illness and could not reasonably be expected to meet his/her academic responsibilities.

A UWO Student Medical Certificate (SMC) is required where a student is seeking academic accommodation. This documentation should be obtained at the time of the initial consultation with the physician or walk in clinic. An SMC can be downloaded under the Medical Documentation heading of the following website: [\[redacted\]](#) of

## 7.0 LECTURE SCHEDULE – Subject to Change

	Date	Topic
ANATOMY & PHYSIOLOGY	1 January 11, 2012	Introduction to neuroscience Structure of the nervous system Neurophysiology of neurons & synapses
	2 January 18, 2012	Peripheral Nervous System Autonomic Nervous System Spinal Cord
	3 January 25, 2012	Brainstem Cerebellum Basal ganglia
	4 February 1, 2012	Cerebrum Motor and somatosensory system
	5 February 8, 2012	<b>Anatomy Lab 1</b> 9:30am 11:00am – Group A 11:00am 12:30pm – Group B
	6 February 15, 2012	<b>MIDTERM</b>
	February 22, 2012	<b>READING WEEK</b>
7 February 29, 2012	<b>Anatomy Lab 2</b> 9:30am 11:00am – Group B 11:00am 12:30pm – Group A	
FUNCTION	8 March 7, 2012	Neuroplasticity Reach to grasp
	9 March 14, 2012	Locomotion Postural Control
CONDITIONS & DISEASES	10 March 21, 2012	Executive functions Acquired Brain Injury
	11 March 28, 2012	Spinal Cord Injury Community volunteer – ABI
	12 April 4, 2012	Stroke Community volunteer – SCI
	13 April 11, 2012	Parkinson's Disease Multiple Sclerosis