

The University of Western Ontario
School of Health Studies

Rehabilitation Sciences 3062B
Functional Neuroscience in Special Populations
Course Outline
Winter, 2023

Instructors:

Dr. Susan Hunter PT, PhD (email: susan.hunter@uwo.ca)

Dr. Sue Peters PT, PhD (email: sue.peters@uwo.ca)

Office Hours: By appointment

Teaching Assistant: To be determined

Office Hours: By appointment

Lecture Times and Location: Wednesdays from 6:30pm to 9:30pm

- Course will be delivered in person: FNB 1220

Prerequisites

Prerequisite(s): Health Sciences 2300A/B or Kinesiology 2222A/B or Anatomy and Cell Biology 2221. Registration in a Rehabilitation Sciences module or enrolment in the third or fourth year of the School of Health Studies or School of Kinesiology.

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

Contingency plan for in-person pivoting to 100% online learning:

In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will not change. Any remaining assessments will also be conducted online as determined by the course instructor.

In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, tests and examinations in this course will be conducted using a remote proctoring service. By taking this course,

you are consenting to the use of this software and acknowledge that you will be required to provide personal information (including some biometric data) and the session will be recorded. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at: <https://remoteproctoring.uwo.ca>.

1.0 COURSE OUTLINE

This course will focus on neuroanatomy and 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. The second section will focus on neurological diseases and conditions.

Course Objectives

1. To introduce students to the anatomical and functional arrangements of the nervous system from cell to systems.
2. To introduce major neurological disorders and diseases commonly treated by rehabilitation therapists.

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. 4th ed. St. Louis, MO; Elsevier Saunders, 2013. ([WL102.L962n 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. Note that the course instructor *will not* answer email in OWL.

Online Material in the Course: We remind students that all lecturers own the intellectual property in each of their lectures and lecture materials even when such lectures or materials are posted online. Students **are not** to post lectures or lecture materials to any other websites or platforms or use the lecture any recording or materials for any other purpose without the consent of the person who presented.

3.0 METHODS OF EVALUATION

Mid-term exam	45%
Final exam	55%

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

In this course there will be one mid-term test and a final exam during the final examination period in April. Questions on the exams will consist of multiple-choice. These exams are designed to assess your knowledge of all materials and concepts identified and discussed in class including all lectures and any assigned readings. Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating. Please see the section below on “Academic Consideration” should a student miss the midterm or final exam. Recommendation for academic consideration from the academic advising office is required for setting up make-up examinations.

3.1 Midterm Exam (45% of final mark)

The format of the exam will be multiple choice questions, matching questions, diagram labelling and case studies. The timing of this exam has been carefully considered with respect to the content and the timing of other evaluations in the course.

3.2 Final Exam (55% of final mark)

The final exam will be held during the final examination period in April 2019. The final exam will consist of multiple-choice questions, matching, case studies and diagram labeling responses. The exam will cover all material from lecturers and any assigned readings.

Course Grades

The university-wide descriptor of the meaning of letter grades, as approved by Senate:

A+	90-100	One could scarcely expect better from a student at this level
A	80-89	Superior work that is clearly above average
B	70-79	Good work, meeting all requirements and eminently satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable.
F	below 50	Fail

It is expected that the grades for this course will fall between 74-78. In the event that the course average falls outside this range, a constant may be added (or subtracted) from each student's grade, by the instructor, to bring the class average in line with school policy.

4.0 UNIVERSITY POLICIES

Academic 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 Web site: [Academic Calendar - Western University \(uwo.ca\)](http://www.uwo.ca/academic_calendar)

Plagiarism:

“Students must write their essays and assignments in their own words. Whenever students take an idea or passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).”

Multiple-Choice Exams:

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Proficiency in English:

Each student granted admission to Western must be proficient in spoken and written English. Students must demonstrate the ability to write clearly and correctly. Work presented in English in any subject at any level, which shows a lack of proficiency in English and is, therefore, unacceptable for academic credit, will either be failed or, at the discretion of the instructor, returned to the student for revision to a literate level. Visit the website http://www.uwo.ca/univsec/pdf/academic_policies/exam/english.pdf

Use of Electronic Devices:

- **During Exams** - Unless you have medical accommodations that require you to do so, or explicit permission from the instructor of the course, you may not use any of the following electronic devices during ANY of the tests, quizzes, midterms, examinations, or other in-class evaluations.
- **During Lectures and Tutorials** - Although you are welcome to use a computer during lecture and tutorial periods, you are expected to use the computer for scholastic purposes only, and refrain from engaging in any activities that may distract other students from learning. From time to time, your professor may ask the class to turn off all computers to facilitate learning or discussion of the material presented in a particular class. **Unless explicitly noted otherwise, you may not make audio or video recordings of lectures or live-stream – nor may you edit, re-use, distribute, or re-broadcast any of the material presented on the course website.**

Academic Consideration:

The University recognizes that a student's ability to meet their academic responsibilities may, on occasion, be impaired by extenuating circumstances, including short-term illness or injury. Reasonable academic consideration is a cooperative process between the University, the student, and academic staff. All participants in the process must act in good faith, and fulfil their respective obligations, if it is to succeed.

Students who experience an extenuating circumstance (illness, injury, or other extenuating circumstance) sufficiently significant as to temporarily render them unable to meet academic requirements, may submit a request for academic consideration through the following routes:

- (i) For medical absences, submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner, in order to be eligible for Academic Consideration; or
- (ii) For non-medical absences, submitting appropriate documentation (e.g., obituary, police report, accident report, court order, etc.) to academic advising office in their Faculty of registration, in order to be eligible for academic consideration.

Students seeking academic consideration:

- Are advised to consider carefully the implications of postponing tests or midterm exams or delaying handing in work;
- **Must communicate with their instructors no later than 24 hours** after the end of the period covered by the SMC, or immediately upon their return following a documented absence;
- **Are advised that all necessary documentation, forms, etc. are to be submitted to academic advising office within two business days after the date specified for resuming responsibilities**

Student Code of Conduct

The purpose of the Code of Student Conduct is to define the general standard of conduct expected of students registered at The University of Western Ontario, provide examples of behaviour that constitutes a breach of this standard of conduct, provide examples of sanctions that may be imposed, and set out the disciplinary procedures that the University will follow. For more information, visit <http://www.uwo.ca/univsec/pdf/board/code.pdf> .

Students are expected to attend all classes, read assigned readings prior to class, participate in class discussion, make a genuine contribution to any group activities and respect the opinions of others in the learning process.

Support Services

There are various support services around campus and these include, but are not limited to:

1. Academic Support and Engagement -- <http://academicsupport.uwo.ca>
2. Student Health and Wellness – <http://www.uwo.ca/health>

3. Registrar's Office -- <http://www.registrar.uwo.ca/>
4. Ombudsperson Office -- <http://www.uwo.ca/ombuds/>

Health & Wellness

The undergraduate experience is rewarding and challenging socially, emotionally, and intellectually. Finding ways to balance scholarly life with our personal lives can be tough, but it's important to learn how to manage stress. Western provides several health and wellness-related services to students, which may be found at <http://www.health.uwo.ca/>. You can also check out the Campus Recreation Centre or the McIntosh Gallery (<http://www.mcintoshgallery.ca/>), for alternative spaces to reconnect with your bodies and restore your spirit. You may also want to access local resources that are closer to where you are living during the school year. Recalibrating ourselves emotionally begins with slowing down, reminding ourselves that we are ok, and taking a few deep, slow breaths. This remarkably effective strategy brings the body from stress mode into a more relaxed state.

If you are in emotional or mental distress you should refer to Mental Health@Western [Mental Health Support - Health & Wellness - Western University \(uwo.ca\)](http://www.uwo.ca/mentalhealth) for a complete list of options about how to obtain help or Thames Valley Family Services (<https://www.familyserVICETHAMESVALLEY.COM/>), a trusted provider within the community. To help you learn more about mental health, Western has developed an interactive mental health learning module, found here: [Health & Wellness - Western University \(uwo.ca\)](http://www.uwo.ca/healthwellness). It's also advisable to have a wellness safety plan if you don't want to reach out to formal services. Having the numbers of a few trusted individuals is another strategy.

Land Acknowledgement:

We/I acknowledge that Western University is located on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak and Attawandaron peoples, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum. With this, we/I respect the longstanding relationships that Indigenous Nations have to this land, as they are the original caretakers. We acknowledge historical and ongoing injustices that Indigenous Peoples (e.g., First Nations, Métis and Inuit) endure in Canada, and we accept responsibility as a public institution to contribute toward revealing and correcting miseducation as well as renewing respectful relationships with Indigenous communities through our teaching, research and community service.

Common Concerns Guidelines

The table below summarizes a list of common student concerns and how they are to be resolved. If you have a concern that is not listed here, then please email your instructor.

Concern	How to address concern
Course administrative matters	Read through the course outline or email instructor if question cannot be answered from information in the

	course outline
Course content questions	Refer to the OWL Resources (notes, calendar, etc). Email the instructor.
Grade disputes and requests for appeals	A student requesting an appeal to a specific course with respect to a grade for an assignment or examination must first contact their instructor to discuss such matters. Visit the following website for guide on submitting an appeal: https://uwo.ca/fhs/policies/appeals.html

5.0 LECTURE SCHEDULE – subject to change

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

Please check the OWL site for information regarding lecture delivery format by Tuesday 5pm for all upcoming lectures in the course. Information presented is subject to change.

Week	Date	Topic	Instructor
1	Jan 11, 2023	Introduction to the nervous system	Dr. Hunter
2	Jan 18 2023	Blood supply, meninges and cerebral spinal fluid	Dr. Hunter
3	Jan 25, 2023	Spinal Cord	Dr. Peters
4	Feb 1, 2023	Brainstem	Dr. Hunter
5	Feb 8, 2023	Cerebellum	Dr. Peters
6	Feb 15, 2023	MIDTERM (The test will occur during the regular scheduled class hours of 6:30pm start)	
7.	Feb 22, 2023	READING WEEK (no class)	
8.	Mar 1, 2023	Basal Ganglia	Dr. Peters
9	Mar 8, 2023	Cerebral Cortex	Dr. Peters
10	Mar 15, 2023	Stroke	Dr. Peters
11	Mar 22, 2023	Parkinson's Disease/ Multiple Sclerosis	Dr. Peters
12	Mar 29, 2023	Spinal Cord Injury	Dr. Hunter
13	Apr 5, 2023	Dementia	Dr. Hunter

