

The University of Western Ontario
School of Health Studies

Rehabilitation Sciences 3062B
Functional Neuroscience in Special Populations
Course Outline
Winter, 2022

Instructors:

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Office Hours: By appointment

Teaching Assistant: TBA (email:

Office Hours: By appointment

Lecture Times and Location: Wednesdays 6:30-9:30pm

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.

It is the student's responsibility for ensuring that course prerequisites have been successfully completed or special permission from the Dean has been obtained. Unless you have either the prerequisites 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 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 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.

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.

3.3 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:

https://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_20

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.

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 [Academic Calendar - Western University \(uwo.ca\)](https://www.uwo.ca/academic-calendar/)

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 to 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) Submitting a Self-Reported Absence form, provided that the conditions for submission are met;
- (ii) 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
- (iii) For non-medical absences, submitting appropriate documentation (e.g., obituary, police report, accident report, court order, etc.) to Academic Counselling 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;
- Are encouraged to make appropriate decisions, based on their specific circumstances, recognizing that minor ailments (e.g., upset stomach) or upsets (e.g., argument with a friend) are not normally an appropriate basis for a self-reported absence;
- **Must communicate with their instructors no later than 24 hours** after the end of the period covered by either the self-reported absence or SMC, or immediately upon their return following a documented absence;
- **Are advised that all necessary documentation, forms, etc. are to be submitted to academic counselling within two business days after the date specified for resuming responsibilities**

Students who experience an unexpected illness or injury or an extenuating circumstance (48 hours or less) that is sufficiently severe as to temporarily render them unable to meet academic requirements (e.g., attending lectures or labs, writing tests or midterm exams, completing and submitting assignments, participating in presentations) should self-declare using the online Self-Reported Absence portal. This option should be used in situations where the student expects to resume academic responsibilities within 48 hours or less. The following conditions are in place for self-reporting of medical or extenuating circumstances:

- a. Students will be allowed a maximum of two self-reported absences between September and April, and one self-reported absence between May and August;
- b. The duration of the excused absence will be for a maximum of 48 hours from the time the Self-Reported Absence form is completed through the online portal, or from 8:30am the following morning if the form is submitted after 4:30pm;
- c. The duration of the excused absence will terminate prior to the end of the 48 hour period, should the student undertake significant academic responsibilities (e.g., write a test, submit a paper) during that time;
- d. The duration of an excused absence will terminate at 8:30am on the day following the last day of classes each semester, regardless of how many days of absence have elapsed;
- e. Self-reported absences will not be allowed for scheduled final examinations; for midterm examinations scheduled during the December examination period; or for final lab examinations (i.e., “bellringers”);
- f. Self-reporting may not be used for assessments (e.g., midterm exams, tests, reports, presentations, or essays) worth more than 30% of any given course;
- g. Students must be in touch with their instructors no later than 24 hours after the end of the period covered by the Self-Reported Absence form, to clarify how they will be expected to fulfil the academic expectations they may have missed.

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. Ombud's Office -- <http://www.uwo.ca/ombuds/>

Health & Wellness

As part of a successful undergraduate experience at Western, we encourage you to make your health and wellness a priority. Western provides several on-campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your degree. For example, to support physical activity, all students receive membership in Western's Campus Recreation Centre as part of their registration fees. Numerous cultural events are offered throughout the year. Please check out the Faculty of Music web page (<http://www.music.uwo.ca/>), or the McIntosh Gallery (<http://mcintoshgallery.ca/>).

If you are in emotional or mental distress should refer to Mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help. 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/healthandwellness/).

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.

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	Jan 5, 2022	Introduction to the nervous system
2	Jan 12, 2022	Blood supply, meninges and cerebral spinal fluid
3	Jan 19, 2022	Spinal Cord
4	Jan 26, 2022	Brainstem
5	Feb 2, 2022	Cerebellum
6	Feb 9, 2022	MIDTERM (details for the date & time to be confirmed)
7.	Feb 16, 2022	Basal Ganglia
8	Feb 23, 2022	READING WEEK (no class)
9	Mar 2, 2022	Cerebral Cortex
10	Mar 9, 2022	Stroke
11	Mar 16, 2022	Parkinson's Disease/ Alzheimer's disease
12	Mar 23, 2022	Multiple Sclerosis / Spinal Cord Injury
13	Mar 30, 2022	Amyotrophic Lateral Sclerosis