

## POTH 455 NEUROPHYSIOLOGY

**Credits:** 3

**Prerequisites:** PHGY209 Mammalian Physiology 1 – 3 credits and PHGY210 Mammalian Physiology 2 – 3 credits or an equivalent knowledge base as judged by the professors.

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**Course Description:** To provide the student with neurophysiological principles, concepts and mechanisms useful for understanding the nervous system and its aberrations in pathologies that impact upon the functioning of the individual. These principles will be illustrated by reference to normal brain functions in animals and man as well as through illustrations of the effects of their disruption in diseases and other conditions that compromise the normal functioning of the nervous system. At the end of this course, the student will understand the function of major brain structures and will have learned signs and symptoms of some important neurological disease processes that illustrate principles of brain function

**Course Structure:** Sessions will consist of didactic lectures and sessions that use case histories, student presentations and discussion questions to link neurophysiological principles to neurological conditions.

### **Student Learning Objectives:**

Upon completion of this course the students will be able to:

#### **Expert**

1. Describe neurophysiological concepts, principles and mechanisms underlying normal functioning and explain their relationships to normal and pathological functioning of the individual
2. Identify key components of the etiology, the epidemiology and the clinical characteristics of common neurological conditions associated with malfunctioning of brain structures and appreciate factors leading to a differential diagnosis
3. Identify key components of the medical treatment, surgical interventions and rehabilitation associated with common neurological conditions and understand the impact of such treatment on the functional outcome of clients

### **Communicator**

4. Employ effective and appropriate verbal and nonverbal communication with lay public, peers and educators

### **Collaborator**

5. Establish and maintain interprofessional and intraprofessional relationships while understanding the roles and responsibilities of team members

### **Scholarly Practitioner**

6. Organize available information about the neurological conditions presented and select information that is potentially important in regard to their needs as future rehabilitation specialists

7. Apply basic literature search and reporting principles

**Course Content:** Sessions will consist of didactic lectures and sessions that use case histories, student presentations and discussion questions to link neurophysiological principles to neurological conditions.

### **Course Materials:**

- **Required text:** Purves, D, Augustine G.J., Fitzpatrick D, Hall W.C., LaMantia A.-S., Mooney R.D., Platt M.L, White L.E. (2017) Neuroscience (6th ed) Sinauer Associates: Sunderland, MA
- **Additional readings:** See the Assigned Readings on myCourses

**Copyright of course materials:** Instructor generated course materials (e.g., handouts, notes, summaries, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.

### **Student Assignment and Evaluation:**

- Midterm quiz 25%
- Final Exam 30%
- Assignments 40% (scheduled as noted in the course outline)
  - Preparation for clinical presentations: (20% of final mark)
    - Online (myCourses) quizzes (10% of final mark)
    - Case report (10% of final mark)
  - Group project: (20% of final mark)
    - Oral (10% of final mark)
    - Written (10% of final mark)
- Participation 5%
  - Group project / peer evaluation (2.5%)

- Participation in case study presentations (2.5%, as noted in the course outline)

### **Special Requirements for Course Completion and Program Continuation:**

In order to pass the course, a grade of at least C+ (60%) must be obtained as a total course mark. A supplemental exam is permitted in this course. Please refer to the McGill University Health Sciences Calendar for information on University regulations regarding final examinations and supplemental examinations. The modalities used for remedial work will be determined by the instructors on a per case basis.

**Attendance:** The instructors reserve the right to request attendance in classes where student participation is expected.

**Plagiarism/Academic Integrity:** McGill University and the Faculty of Medicine value academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the [McGill University Code of Student Conduct and Disciplinary Procedures](#) and the [Faculty of Medicine Code of Conduct](#).

L'université McGill attache une haute importance à l'honnêteté académique. Il incombe par conséquent à tous les étudiants de comprendre ce que l'on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le [Code de conduite de l'étudiant et des procédures disciplinaires](#).

**Right to submit in English or French written work that is to be graded:** In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

"Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté (sauf dans le cas des cours dont l'un des objets est la maîtrise d'une langue)."

**Consequences of Not Completing Assignments as Requested:** An individual who does not complete a required assignment and does not have a university recognized reason for deferral would receive a 0 in that portion of the evaluation.

**Dress Code:** Students are expected to demonstrate professional behaviour and wear appropriate attire at all times, in accordance with clinical sites specific regulations.

**Technology in Class:** Your respectful attentive presence is expected, therefore while you are permitted to use your laptop in class, it is understood that you will not be using your laptop or cell phone for social purposes during class time (e.g.

email, msn, sms, social media). Your cell phone should be on silent during class time and phone calls should only take place during the break or after class.

**Disability:** If you have a disability please contact the instructor to arrange a time to discuss your situation. It would be helpful if you contact the [Office for Students with Disabilities](#) at 514-398-6009 before you do this.

**Course evaluations:** End-of-course evaluations are one of the ways that McGill works towards maintaining and improving the quality of courses and the student's learning experience. You will be notified by e-mail when the evaluations are available. Please note that a minimum number of responses must be received for results to be available to students.

Additional policies governing academic issues which affect students can be found in the [Academic Rights and Responsibilities](#)

**In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.**