

BIOD65 – Pathologies of the Nervous System



This course is an intensive study of diseases that affect the central and peripheral nervous systems. It will utilize an integrative approach to understand the symptoms, mechanisms, and treatments of each disease. As such, comprehensive knowledge of cell and molecular biology, and neurobiology will be important to excel in this course. Students will gain a strong understanding of traditional and cutting-edge research techniques used to answer some of the most pressing questions about neurological diseases.

Prerequisites: BIOB11 or BIOB10, and one of NROC61, NROC64, or NROC69

Textbook: There is no textbook for this course. Selected journal article readings will be posted on Blackboard. These should be read before class.

Course Contacts

Instructor: Christopher Yong-Kee, PhD

Email: christopher.yong.kee@utoronto.ca

Office Hours: Fridays 9-11 AM, SW563B

Teaching Assistant: Peter Perri, MSc Candidate

Email: p.perri@mail.utoronto.ca

Peter will mark the research article critiques, grant proposals and one final exam question. Please contact Peter about questions regarding these assignments.

Other Contact and Communication Information: Course announcements, communications, and lecture outlines will be available on Blackboard. **Check Blackboard regularly for important, time sensitive announcements.** Lecture outlines will be posted the day before lectures. Course readings will be uploaded onto the course page at least one week prior to class. Except on weekends, emails will be answered within 48 hours of receiving them.

Course Aims

1. To understand the symptoms, mechanisms, and treatments of neurological diseases.
2. To become skilled at reading, understanding, and translating scientific research articles.
3. To improve scientific writing skills.
4. To enhance communication, discussion, and analytical thinking skills relating to science.
5. To get the best grade that is possible for you.

Course Schedule (subject to change)

Week	Date	Topic	Notes
1	08-Sep	Course Introduction/Overview	
2	15-Sep	Parkinson's disease + critique overview	
3	22-Sep	Alzheimer's disease	Seminars begin, critiques due
4	29-Sep	Documentary on Leukodystrophies	For grant proposal
5	06-Oct	Multiple Sclerosis	
6	13-Oct	No class	Reading week
7	20-Oct	Midterm	During class hours
8	27-Oct	Amyotrophic Lateral Sclerosis	
9	03-Nov	Stroke	
10	10-Nov	Prion disease	
11	17-Nov	Huntington's disease	
12	24-Nov	Psychiatric disorders	
13	01-Dec	Seminar: Professional Development	Last class
	08-Dec to 22-Dec	Final Exam	Date TBD

Marking Scheme

Assignment	% of Grade
Research Article Critique	20%
Seminar	15%
Grant Proposal	15%
Midterm Exam	15%
Final Exam	30%
Class Participation	5%

Assignments

Research Article Critique: Further instructions for evaluation of research article will be given in week 2. From week 3 onwards, groups of 2-3 students are expected to submit a critique of a research article using the template posted on the course page. Critiques should be a minimum of 2 pages and a maximum of 5 pages, Times New Roman, double spaced, size 12 font. Research articles to be critiqued will be posted on Blackboard. Summaries and critiques must be submitted before the lecture every Tuesday. Critiques will be submitted electronically using Turnitin.com.

Seminar: From week 3 onwards, two groups of two to four students (depending on class size) will present a 20 minute seminar on one research article (each group presenting a different article). These research articles will be uploaded onto the course page under 'Articles for Research Article Critiques/Student Seminars'. For each research article presentation, only 5 minutes should be spent on

the introduction. Marks will be deducted for lengthy introductions. Ten to 20 minutes will be given for question time after the seminar presentation. Those students that are not presenting seminars are expected to ask questions, as class participation counts towards your final mark. Information presented in student seminars will be included in the final exam. More information on the format of seminar presentations will be given on week 1.

Grant Proposal: Following the documentary on September 29, further information will be given about the written assignment. In order to complete the assignment, students will need to acquire research articles by themselves. How to do this will be covered in this lecture. Assignments must include a title page, an abstract summarizing the proposal, an introduction describing the background, objectives, aims, experimental outlines, expected outcomes, caveats and a reference list.

Articles must be cited throughout the text (e.g. Author 1991; Author et al. 1995; Author and Author 1998). The reference list (bibliography) must be on a separate page and have the following format (e.g. Gamelin FX, Baquet G, Berthoin S, Thevenet D, Nourry C, Nottin S, Bosquet L (2009) Effect of high intensity intermittent training on heart rate variability in prepubescent children. *Eur J Appl Physiol* 105:731-738).

The proposal must be in Times New Roman, double-spaced, and 8-10 pages in length (excluding the title page and bibliography). Assignments will be submitted electronically using Turnitin.com in Blackboard. Also a hard copy of the assignment must be submitted to Gloria Luza (Rm. SW420B) by 4pm on December 3rd 2015. Hard copies must be single-sided with page numbers included on the bottom, stapled in the top left hand corner.

Midterm:

On Oct 20 the midterm will be held in class (2 hours). The format of the exam will be the following: You will be given a research article minus the abstract and discussion, so you will get the title, methods, results and references. You will be given 2 hours to write the abstract and discussion. No preparation is required.

Final Exam:

The exam questions will be given ahead of time at the end of the lecture on week 13. At this point more details will be given regarding the exam. In brief, there will be at least 8 questions on 5 topics (a topic is defined as a lecture week). Students must answer 4 questions from the 5 topics. None of the questions answered can be from the same topic.

Professional Development Seminar: Students will learn about careers related to areas of study in the course. Such careers will be in the healthcare, research, and pharmaceutical industries. We will have one guest speaker from each industry.

Absence during exams and other assessments: Failure to attend the final exam or midterm will result in no mark for that portion of the course. Failure to hand in assignments on time will also result in a zero for that given assignment, unless accompanied by a medical certificate. If assignments are to be submitted late, please let me know no more than 24 hours after the deadline for that assignment that you are ill. Rules governed by the University of at Scarborough must be followed in all exceptional cases when petitioning: Requests to petition for medical reasons must be accompanied by an official University of Toronto medical certificate (<http://www.utoronto.ca/health/forms/medcert.pdf>).

Other Important Information

Academic Integrity: Please refer to <http://www.governingcouncil.utoronto.ca/policies/behaveac> for the University of Toronto's Code of Behaviour on Academic Matters. Potential offences include, but are not limited to:

In Tests and Exams: to use or possess an unauthorized aid or to look at the answers of another student's exam; misrepresentation of identity.

Medical Notes and other Official Documentation: Falsification or alteration of documentation required by the University.

AccessAbility Information: Please let me and/or AccessAbility services know if you require any accommodations to ensure that you achieve your learning goals in this course. AccessAbility services is located in SW302 (tel: 416-287-7560; email: ability@utsc.utoronto.ca/ability), where you can arrange appointments to assess and accommodate your specific needs. Enquiries are confidential.

Turnitin.com: Normally students will be required to submit their assignments using Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their assignments to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the website. Turnitin.com is most effective when it is used by all students in a particular course; however, if and when students object to its use on principle, a reasonable offline alternative must be offered. There is a wide variety of non-electronic methods that can be used to deter and detect plagiarism; for example, to require that all rough work is handed in with the paper or that the student include an annotated bibliography of the paper. Instructors may wish to consult with the Centre for Teaching and Learning Support & Innovation when establishing these alternatives.