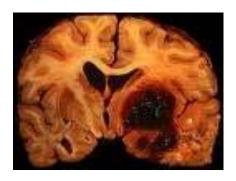# BIOD65 Pathologies of the Nervous System (Winter 2021) Course Syllabus
## Instructor: Dr Joanne Nash



**"An intensive examination of selected pathologies of the nervous system such as Alzheimer's disease, Parkinson's disease, Prion disease, Neurodevelopmental disorders and others. These pathologies will be examined from an integrative perspective encompassing the mechanisms underlying pathogeneses, resulting symptoms, as well as current and future therapies"**

**Course Aims**
1. To understand pathologies, symptoms and treatments of neurological / psychiatric disorders
2. Become adept at reading, understanding and critiquing scientific research articles in a timely fashion
3. Improve (scientific) writing skills
4. Enhance communication and discussion skills
5. To facilitate independent thinking and ideas related to science
6. To make sure you get the best grade possible for you

**Lectures:** Wednesdays 1 - 3pm SYNCHRONOUS

**Prerequisites:** BGYB11H or BGYB10Yand one of BIOC32, NROC61H, NROC64H, NROC69H

**Textbook:** There is no text book for this course. Course readings will be assigned throughout the course and uploaded onto the course page. Please read these before each class.

**Course e-mail:** joanne.nash@utoronto.ca

**Zoom Office hours:** Professor Nash by appointment. Please arrange appointments by email (joanne.nash@utoronto.ca).

**Teaching Assistant:** Ahmad Israwi will mark the critiques, grant proposal and one exam question. Please contact Ahmad for questions regarding marking of either of these assignments by email: a.israwi@mail.utoronto.ca

**Other Contact and Communication Information:** Course announcements, communications and lecture outlines will be available on the BIOD65 course page (intranet site). **Check the intranet regularly for important, time sensitive announcements.** Lecture outlines will be posted at least one 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. For questions that require longer answers, please try

and attend office hours, or arrange an alternative appointment with Dr Nash. When the same questions are asked more than once, these will be posted as frequently asked questions on the intranet.

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## Course Outline Summary (Subject to change)

| Lecture (Week) | Lecture Topic |
|---|---|
| 1 | Course Outline and Seminar on a Research Article |
| 2 | Parkinson's disease <br> How to find, present and critique research articles |
| 3 | Stroke lecture + student seminars |
| 4 | Alzheimer's disease  lecture + student seminars |
| 5 | Documentary on Leukodystophies |
| --------- | **READING WEEK** |
| 6 | Prion disease lecture + student seminars |
| 7 | Huntington's disease lecture + student seminars |
| 8 | ALS / motor neuron disease lecture + student seminars |
| 9 | Developmental disorders lecture + student seminars |
| 10 | Psychiatric disorders lecture + student seminars |
| 11 | State-of-the-art-Neurotechnologies in the treatment of brain diseases |
| 12 | Psychedelics for the treatment of depression and anxiety-related illness |

**Marking scheme (**Detailed information on assignments can below
- Evaluation of Research Articles (30%)
- Seminar (10%)
- Class participation (8%)
- Written assignment (Grant Proposal) (22%)
- Final exam (30%) - 3 hours

## Course Assignments

**Evaluation of Research Articles (30%):** Further instructions for evaluation of research article will be given in week 1.  From week 3 onwards, all students are expected to submit a summary and critique of a research article using the template provided by Dr Nash, which will also available on the course page.  Students will generate their critiques in groups assigned by the TA.  Critiques should be a minimum of 2 pages and a maximum of 5 pages, times new roman, double spaced, size 12 font.  Dr Nash will provide the research articles to be critiqued.  Summaries and critiques must be submitted before the lecture.  Critiques will be submitted electronically using Turnitin.com in Blackboard.

**Seminar (10%):** On week 1, Dr Nash will present a research article in seminar format. This will act as a guide for subsequent student seminar presentations, although creativity and individuality of your presentations is strongly encouraged!

From week 3 onwards, groups of students (group size will vary depending on class size) will present a 50 minute (including question time) seminar on a research article. These research articles have been chosen already by Dr Nash, and will be uploaded onto the course page under 'Readings'. For each research article presentation, only 5 minutes should be spent on the introduction. Marks will be deduced for lengthy introductions. Ten to 15 minutes will be given for question time after the seminar presentation, so presentations should be around 35-40mins long. Those students that are not presenting seminars are expected to ask questions, as class participation counts (8%) 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.

**Class participation (8%):** Students are expected to contribute to class discussions, particularly during and following student seminar presentations.

**Grant Proposal (22%):** Following the documentary lecture, further information will be given about the written assignment. In order to complete the assignment, students will need to acquire research articles by themselves. Further instructions on the grant proposal will be given in Week 5.

Assignments must include a title page, an abstract summarising the proposal, an introduction describing the background, objectives, aims, experimental outlines, expected outlines, 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 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.

**Final Exam (3 hours) (30%):**
The exam questions will be given ahead of time at the end of the lecture on week 12. 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.

**Absence in exams and other assessments:** Failure to complete the final exam 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 contact Dr Nash no more than 24 hours after the deadline for that assignment to let her know of your illness. Rules governed by the University of at Scarborough must be followed in all exceptional cases when petitioning to repeat an exam or perform a make-up exam will be followed (please refer to http://www.utsc.utoronto.ca/courses/calendar/Courses.html#Special_consideration_petitions_and_appeals). 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). ------------------------------------------------------------
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**Other Important Information**

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

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

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

**Access*Ability* 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.