INSTRUCTOR: Veronica G. Rodriguez Moncalvo, Ph.D.  Email Location: TBA
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Course Description:
This course will examine the molecular, cellular, and systems-level abnormalities that underlie nervous system diseases, including addition, epilepsy, neurodegenerative diseases, multiple sclerosis, and mental illness. We will also discuss how knowledge of neuroscience can be useful for fields such as law, policy, public health, and more.
Prerequisites: BIOLOGY 2B03 and one of LIFESCI 2CC3 (or 2C03) or PNB 2XB3
Antirequisite: LIFESCI 3B03

Lectures:
Mo, We, Th, 1:30 – 2:20 PM in ABB 271

Required Texts & Materials:
The LIFE SCI 3BB3 custom courseware contains readings compiled from multiple textbooks. You can purchase the courseware from the McMaster Campus Store. Lecture notes (PDFs) and other materials will be posted on the course website (http://avenue.mcmaster.ca/). Please make sure you check the course website frequently!

Course Objectives:
By the end of this course, students should be able to:
1. Apply their knowledge of neuroscience (e.g., synaptic plasticity) to explain the cellular basis of a variety of diseases of the peripheral and central nervous systems (e.g., addiction)
2. Analyze, interpret, and summarize primary research articles related to different neurological diseases
3. Identify connections between theory and relevant social issues
4. Identify fields outside of medicine and research for which knowledge of neuroscience is both useful and necessary
5. Work cooperatively and synergistically as a team

Format:
Lectures will take place Mondays and Wednesdays and some Thursdays. Some Thursdays will be used for Group project work and student seminars (see course schedule).

Schedule of Topics:
Any changes to the schedule below will be posted on Avenue to Learn.

Tentative schedule:
<table>
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<th>WEEK</th>
<th>TOPIC</th>
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| I (Jan 4) | Introduction to the course  
Review of basic concepts |
| II (Jan 9) | Module 1 (Addiction) |
| III (Jan 16) | Module 1 (Addiction) |
| IV (Jan 23) | Module 2 (Channelopathies and Epilepsy) |
| V (Jan 30) | Module 2 (Channelopathies and Epilepsy) |
| VI (Feb 6) | Module 3 (Diseases involving myelin) |
| VII (Feb 13) | Catch up and Review  
Midterm 1 (in class; Wed Feb 15th) |
| (Feb 20) | Reading Week (no lectures) |
| VIII (Feb 27) | Module 3 (Diseases involving myelin) |
| IX (March 6) | Module 4 (Neurodegenerative diseases)  
Seminar Presentations |
| X (March 13) | Module 4 (Neurodegenerative diseases)  
Seminar Presentations |
| XI (March 20) | Module 5 (Mental Illness)  
Seminar Presentations |
| XII (March 27) | Module 5 (Mental Illness)  
Seminar Presentations |
| XIII (April 3) | Seminar Presentations  
Catch up and Review |

**Evaluation:**

Avenue quizzes (2) 10% (5% each)  
Group project 30%  
Midterm 25%  
Final Exam 35%
Avenue Quizzes
There will be 2 Quizzes throughout the term, each pertaining to one or more recent class module(s). These will be completed exclusively on Avenue to Learn. The Quizzes should be treated as practice problems that help you prepare for tests; therefore, although collaboration is encouraged, you should attempt the questions yourself and understand the answers that you submit online. After the Quiz submission deadline expires, answers will be posted on Avenue along with your grade, in order to provide you with formative feedback. Note that in order for your Avenue quiz to be graded, you must click ‘submit quiz’ after saving all of your answers. Students who forget to click submit will receive a grade of ‘0’. Given appropriate documentation (e.g., MSAF), the weight of a missed quiz will be passed to the other quiz.

Group Project
This assignment is designed to help students build their communication and teamwork skills while working and researching a topic of choice that will be approved by Dr. Rodriguez Moncalvo. In groups of 4 or 5, students will investigate a current area of neurobiological disease research. The project will consist of 3 components:
A) A scientific review (15%). Each group will write a scientific review on the topic that will be due at the end of the term.
B) A seminar presentation (10%). Each group will present the topic chosen to the rest of the class. Seminars will take place the last four Thursdays of the term. Presentation dates will be assigned randomly to each group.
C) A Learning Portfolio (5%), created in Avenue to Learn, wherein groups will chronicle and reflect on their group work as well as their research progress in frequent reflections.
Any late component of this assignment will be deducted 10%/day late. Further details regarding the group project assignment will be posted on the course website and discussed in class.

Exams
The midterm will take place during regular class time and may include MCQ and short-answer questions. The final exam will be cumulative and may include MCQ and short/medium answer questions. There is no makeup test in this course. Given appropriate documentation (e.g., MSAF), the weight of the midterm will be redistributed to the final exam.

Absences & Missed Work:
If you are absent from the university for a minor medical reason, lasting up to 3 calendar days, you may report your absence, once per term, without documentation, using the McMaster Student Absence Form (MSAF). Absences for a longer duration or for other reasons must be reported to your Faculty office, with documentation, and relief from term work may not necessarily be granted. When using the MSAF, report your absence to course instructor or designate. You must then contact the instructor/instructional assistant/other immediately (normally within 2 working days) by email. Please refer to the contact list on the first page of this outline for appropriate email addresses. The instructor/instructional assistant will indicate what relief may be granted for the work you have missed, and relevant details such as revised deadlines, or time and location of a make-up exam/quiz/test. Please note that the MSAF may not be used for final deliverables, nor can it be used for a final examination or its equivalent.
Checking Your Grades:
All grade concerns and discrepancies must be reported to Dr. Rodriguez Moncalvo within a week of receiving the grade.

Re-mark Policy:
Requests for re-evaluation of tests or assignments must be made in writing to Dr. Rodriguez Moncalvo within one week of return of the marked term test or assignment. Please be aware that an approval for a remark can result in an increase, decrease or no change to the original mark.

Communication between Students and Faculty:
The University’s official method of correspondence with students is through a valid McMaster University e-mail account. It is the student’s responsibility to keep his/her @mcmaster.ca account active and check it on a regular basis. All emails from students must include your full name and course code. Emails will be replied to within 72 hours.

Student Responsibilities:
To get the most out of the course, you must be prepared to:

• attend all sessions, make up all missed work, and provide documentation for authorized absences;
• interact frequently with faculty, students, TAs, and other support staff;
• plan and manage your own time;
• complete preparatory tasks (such as reading, writing assignments, and initial research) in advance of sessions;
• develop and use reflective learning skills (for example identifying learning objectives, planning and carrying out research tasks, acting on academic feedback);
• work as an effective, efficient, and responsive team member on group assignments;
• follow all the guidelines as outlined in the Introduction section of the Laboratory Manual;
• check the course Avenue site, and your McMaster and Avenue e-mail daily for updates; and,
• follow all university policies and guidelines, and in all ways be a responsible university member.

Senate Student Policies
Students can view full policies here (http://www.mcmaster.ca/policy/Students-AcademicStudies/).
Senate Policy Statements are also available from the Senate Secretariat Office, Room 104, and Gilmour Hall.

Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty.

The following illustrate only four of many forms of academic dishonesty:
- plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained;
- copying or using unauthorized aids in laboratory exercises
- improper collaboration in group work; and
- copying or using unauthorized aids in quizzes, tests and examinations

All students are reminded of the importance of academic integrity, and the serious consequences of academic dishonesty.

You acknowledge that your behavior in all aspects of this course should meet the standards of the McMaster University Student Code of Conduct. You understand that any inappropriate behavior directed against any of your colleagues, teaching assistants, or the instructional team will not be tolerated. Disruptive behavior during any session (e.g. lecture, seminar, lab, tutorial) such as talking, sleeping or non-class computing while an individual presents information, or constantly being late, will also not be tolerated. Abuse, ridicule, slander, inappropriate language, and discrimination towards instructors teaching staff, teaching assistants and other students will not be tolerated in any capacity. Shared spaces including e-spaces such as the Avenue to Learn course discussion board are to be considered inclusive and safe.

Plagiarism Detection
In this course, we will be using a web-based service (Turnitin.com) to reveal plagiarism. Students will be expected to submit their work electronically to Turnitin.com and in hard copy so that it can be checked for academic dishonesty. Students who do not wish to submit their work to Turnitin.com must still submit a copy to the instructor. No penalty will be assigned to a student who does not submit work to Turnitin.com. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, etc.). To see the Turnitin.com Policy, please go to www.mcmaster.ca/academicintegrity.

Copyright Policy
In this course you will have access to material that is subject to copyright laws. This includes (but is not limited to) textbooks and all resources developed by the instructors such as lab manuals, demonstration videos, quizzes, assignments, tests, class notes and class slides. Under no circumstance are you allowed to share or redistribute this material in any printed or electronic form without the explicit written consent of the copyright holder. This includes posting any course material on Internet bulletin boards, course repositories, social networks, etc.

The instructors and the university reserve the right to alter this outline if necessary.
The instructors and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.