Neuroscience Lab Course Psych3L03

*Instructor:* Professor K. M. Murphy: Office - PC315
kmurphy@mcmaster.ca
Department of Psychology, Neuroscience & Behaviour

*Lectures:* Tuesday 11:30-2:30 pm

*Teaching Assistants:* Caitlin Siu -- siucr@mcmaster.ca
Justin Balsor -- balsorjl@mcmaster.ca

*Research Associate:* Dr Brett Beston -- bestonbr@mcmaster.ca


**Outline:**

**Lectures, Discussions, Presentation:**
- The theme for the course is Harnessing Neuroplasticity for Clinical Applications.
- Sept 10, Intro to translating neuroscience, video -- Dr Thomas Insel
  - assignment Due Monday Sept 16
- Sept 17, Discussion of the paper, video Dr Daniel Wolpert,
  - Movement based therapy assignment Due Monday Sept 23
- Sept 24, Presentation/Discussion of movement system based therapies, video Dr Ramirez & Liu
  - 21st century neuroscience techniques assignment due Monday Sept 30
- Oct 1, Presentation/Discussion of 21st century neuroscience techniques, video Dr Blakemore
  - Neurobiology of the adolescent brain assignment Due Monday Oct 14
- Oct 15, Presentation/Discussion of neurobiology of the adolescent brain
- Nov 26, video Dr Sinha
  - Taking neuroscience research beyond the lab assignment Due Monday Dec 2
- Dec 3, Presentation/Discussion of taking neuroscience research beyond the lab assignment

- After the video there will be a discussion about the issues raised in the video.
- Students will form groups and pick a topic from the video to research for the next class.
- The group will write a short paper (2 pages double-spaced) with an annotated reference list on their topic.
- These will be submitted by noon on Monday before class and posted on the class web page that afternoon.
- Students will read and grade the summaries before class.
- In the class each group will make a short presentation (~10 minutes) of their research followed by a class discussion.
- The presentations will be graded by the all students, TAs & Professor.
Sheep brain dissection: test date tba.
• Starting Oct 8 - Oct 29.

Laboratory experiment: Lab Report Due Thursday Dec 5.
• This year the topic for the laboratory experiment is neuroplasticity targets in the development of the human visual cortex. You will work in groups of 2 to design an experiment, collect the data, and carry out appropriate analyses. The group will write a lab report. We will discussion issues relevant to the experiment during each lecture and work together to design certain aspects of the experiments.

Evaluations:
• 5 research summaries/annotated reference list and presentations-- 10% each, total 40% (the lowest grade will not be included).
• Neuroanatomy practical test -- 30%
• Lab Report -- 25%
• Participation -- 5%

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• Final marks may be adjusted up or down, on an individual basis, in light of special circumstances and/or the student’s overall performance in the course.
• Lab Reports handed in late will lose one letter grade for each day past the due date. Weekly group research papers will not be accepted after noon on the due date.

Academic Integrity:
• Attention is drawn to http://registrar.mcmaster.ca/CALENDAR/year2003/sec_117.htm#ID11331 Statement on Academic Ethics and the Senate Resolutions on Academic Dishonesty as found in the Senate Policy Statements distributed at registration and available in the Senate Office.

Course Changes:
• If it becomes necessary to make changes to some part of the course during the term, reasonable notice and communication will be made with students in the class. The University reserves the right to change dates and/or deadlines etc. for any or all courses in the case of an emergency situation or labour disruption or civil unrest/disobedience, etc.