

Neuroscience 9500

Course Manager: Dr. Arthur Brown

Course Objectives:

The objectives of this advanced graduate level neuroscience course are:

- A) To teach students research skills on how to review, criticize, write, discuss and present experimental results.
- B) To provide an overview and discuss current hot topics in different areas of integrative neuroscience.
- C) To provide discussion of the types of experimental models and data analyses used in neuroscience research.

Text: Instructors will select recent papers and review articles to be read for each of the topic areas.

Grading:

1/3 of the final grade will be based on an oral presentations of recently published papers in one of the areas covered by the course.

1/3 of the final grade will be based on a written research proposal (NSERC discovery grant-style).

1/3 of the final grade will be based on participation and critical discussion of the selected material in class.

Classes will be held Friday mornings in two sessions using Zoom:

Session 1 from 9:00 – 10:20

Session 2 from 10:30 – 11:50

Fall Term

Friday Sept 11	Meet and greet; assignment – Arthur Brown
Friday Sept 18	Neurodevelopment – Arthur Brown
Friday Sept 25	Neural Stem Cells - Arthur Brown
Friday Oct 2	Fate Mapping in the Injured CNS - Arthur Brown
Friday Oct 9	Sensory motor integration – Brian Corneil
Friday Oct 16	Auditory perception – Ingrid Johnsrude
Friday Oct 23	Learning and Memory – Stefan Kohler
Friday Oct 30	prep for written and oral presentation – Arthur Brown
Friday Nov 6	Critique – Arthur Brown
Friday Nov 13	Music and Neuroscience - Jessica Grahn
Friday Nov 20	Plasticity and Alzheimers - Vania Prado
Friday Nov 27	Mapping Neural Activity During Cognitive Tasks - Stefan Everling
Friday Dec 4	Journal club Presentations (both sessions combine for a 9:00 start)
Friday Dec 11	Journal club Presentations (both sessions combine for a 9:00 start)
Wednesday Dec 23	Final written assignment due both sessions.

Winter Term:

Friday Jan 8	Meet and Greet – Arthur Brown
Friday Jan 15	Neurodevelopment – Arthur Brown
Friday Jan 22	Neural Stem Cells - Arthur Brown
Friday Jan 29	Fate Mapping in the Injured CNS - Arthur Brown
Friday Feb 5	Synaptic Transmission and Memory – Wataru Inoue
Friday Feb 12	Learning and Memory – Scott MacDougall-Shackleton
Friday Feb 19	Emotion and Empathy – Derek Mitchell
Friday Feb 26	prep for written and oral presentation – Arthur Brown
Friday March 5	critique – Arthur Brown
Friday March 12	Learning and memory – Susanne Schmid
Friday March 19	Sensory Motor control – Andrew Pruszynski
Friday March 26	No class
Friday April 2	Journal club presentations (both sessions combine for a 9:00 start)
Friday April 9	Journal club presentations (both sessions combine for a 9:00 start)
Friday April 23	Final written assignment due both sessions.