Western University
Department of Psychology

Psychology 9231B
Evolution of Brain and Behaviour
Winter 2024
See Student Centre for course times and locations.

Enrollment Restrictions
Enrollment in this course is restricted to graduate students in Psychology, as well as any student that has obtained special permission to enroll in this course from the course instructor as well as the Graduate Chair (or equivalent) from the student's home program.

Instructor and Teaching Assistant Information
Instructor: Scott MacDougall-Shackleton

Office: AFAR room 200

Office Phone: x84629

Office Hours: by appointment

Email: smacdou2@uwo.ca

Course Description
This course will provide a strong foundation in evolutionary neuroscience with an emphasis on the evolution of neural circuits subserving cognition and behaviour in vertebrate animals. The first portion of the course will include directed readings and discussions of foundational papers on the evolution of brain and behaviour, with attention to fallacies such as scala naturae, biological determinism, the naturalistic fallacy, and dualism. Students will gain a strong understanding of evolutionary principles and how they apply to evolution of the nervous system. Students will then explore the adaptive diversification of brain and behaviour in vertebrate animals through case studies such as social recognition, echolocation, sound localization, homing and spatial memory, and vocal learning. Students will then complete an individually tailored capstone project selected to complement their thesis research or personal interests.

Course Format
Seminars and discussion, in-person

Course Learning Outcomes/Objectives
Upon completion of this course, students should be able to:

1. describe general principles of evolution by natural selection.
2. identify and avoid common fallacies in applying evolutionary ideas to brain and behaviour.
3. evaluate adaptive explanations of behavioural and neural traits.
4. provide a detailed account of a case study or model system in evolutionar neuroscience.

Course Materials

All reading materials will be provided on the course OWL site or through Western libraries.

Methods of Evaluation

Students will come to class meetings prepared to discuss assigned readings and engage in discussion.
Each student will lead a class session on a topic (case study or model system) of their choosing (approved by the instructor) and provide an annotated bibliography on the topic.
Students will then complete a capstone project. This might be a literature review, research/grant proposal, informative online materials, or other project, to be approved by the instructor.

Assignment	Date of Evaluation	Weighting
In class discussion participation 1	Early February	10%
In class discussion participation 2	End of course	20%
Presentation to class	TBD	25%
Annotated bibliography	TBD	10%
Capstone project	End of course	35%
Total		100%

Course Timeline

Course timeline to be determined by start of the course, but will follow the following approximate schedule:

January to mid February	Class sessions led by instructor. Lectures and discussion of assigned readings. During this time students will think about the topic for their presentation and capstone project
mid February to March	Student presentations
March to April	Students work on capstone projects. Weekly meetings to discuss progress and issues.

Statement on Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_grad.pdf

All required papers may be subject to submission for textual similarity review to the commercial plagiarism-detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com).

Health/Wellness Services

Students who are in emotional/mental distress should refer to Mental Health@Western http://www.uwo.ca/uwocom/mentalhealth/ for a complete list of options about how to obtain help.

Accessible Education Western (AEW)

Western is committed to achieving barrier-free accessibility for all its members, including graduate students. As part of this commitment, Western provides a variety of services devoted to promoting, advocating, and accommodating persons with disabilities in their respective graduate program.

Graduate students with disabilities (for example, chronic illnesses, mental health conditions, mobility impairments) are strongly encouraged to register with Accessible Education Western (AEW), a confidential service designed to support graduate and undergraduate students through their academic program. With the appropriate documentation, the student will work with both AEW and their graduate programs (normally their Graduate Chair and/or Course instructor) to ensure that appropriate academic accommodations to program requirements are arranged. These accommodations include individual counselling, alternative formatted literature, accessible campus transportation, learning strategy instruction, writing exams and assistive technology instruction.