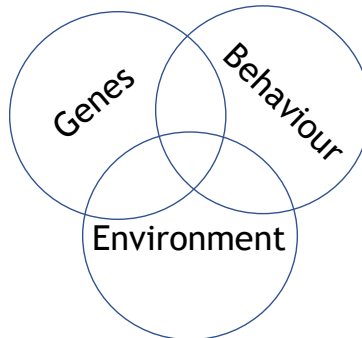


BIOC14: Genes, Environment, and Behaviour

Winter 2021



Instructor: Professor Patrick McGowan

Office Hours: Online (TBD)

Teaching Assistants: Mouly Rahman, Samantha Lauby, Shafinaz Eisha, Jessica Wu, Rida Ansari

Lecture: Quercus: Posted online Thursdays @ 10:00am

Textbook: None.

N.B. Lectures may contain slides from the following book: An introduction to Behavioral Genetics (2008) Terence J. Bazzett, Sinauer Press

E-mail: genesC14@gmail.com

To direct an email to your TA or instructor specifically, enter their name in the subject line.

Note: Content questions will not be answered by email. For administration-related issues (e.g. a missed exam) you must send correspondence to the course email account.

Emails are usually answered within 24 business hours. Email sent to our personal accounts will not be answered.

Content Questions:

Office Hours (TAs and Instructor) will be used for Content questions.

Lectures:

This class will provide an overview of the direct and indirect role of genes in behaviour. We will cover topics that include behaviour evaluation methods, genetic effects on behaviour in animals and humans, gene environment interactions and specific examples of the involvement of genes and environment in cognitive and psychiatric disorders. The lectures come from a number of sources including textbooks, primary research papers, literature reviews, and other sources.

Tutorials:

Assignments and Presentations:

Within each tutorial section, students will join a peer group for the semester. Peer groups consist of 4-6 students who will work together on assignments, based on lecture material provided or primary articles assigned the previous week. Some of the assignments may also require you to work individually. Each group will be required to submit their work via the course page on Quercus.

Grade Breakdown:

The exams will reflect the materials from the lectures and tutorials. **Note that not all the lecture information will be on the slides.** Exams will consist of multiple-choice questions. The questions will test both recall and your understanding of the material. The best way to study is to review the lecture notes and text, and to participate with your peer groups in the tutorial sessions.

Missed mid-term or tutorials: If you miss a mid-term or tutorial assignment for an official reason, please contact us via the course email address within 48 hours, providing the appropriate documentation. There will be no re-scheduled mid-terms or make-up work. If a student misses a mid-term but does have a valid excuse, the grade allotment for the missed exam will shift evenly to the other exams.

- **Exam 1: 20%** **Topics covered before the date of exam** **Date: FEB 11**
- **Exam 2: 20%** **Topics covered since Exam 1** **Date: MAR 18**
- **Final Exam: 32%** **Cumulative – All topics covered in the course** **Date: TBD**
- **Tutorial Work (all submitted on Quercus): 28%**
 - **3 Group Presentations (18% total)**
 - **Deadline: your tutorial section start time. A late penalty of 10% per day will be applied for assignments turned in late.**
 - **3 Group Discussion Posts (related to the Presentations; 6% total)**
 - **Deadline: your tutorial section start time**
 - **2 Group Written Responses related to the 2 Articles (4% total)**
 - **Deadline: your tutorial section start time. A late penalty of 10% per day will be applied for assignments turned in late.**

A note on Grades: Any grade posted to Quercus should be considered **Provisional** (i.e. subject to change).

Tutorial Schedule:

The tutorials will run according to the following tentative schedule. If any changes need to be made due to

any unforeseen circumstances, it will be posted on Quercus.

Week of:

Jan 11	No tutorial
Jan 18	Tutorial 1 TA Introductions, Form Groups.
Jan 25	Tutorial 2 Study Questions A - Presentations
Feb 1	Tutorial 3 Study Questions A - Discussions
Feb 8	No tutorial – Week of Mid-term Exam 1
Feb 15	READING WEEK
Feb 22	Tutorial 4 Study Questions B - Presentations
March 1	Tutorial 5 Study Questions B - Discussions
March 8	Tutorial 6 Article 1: Pharmacogenomics in mice
March 15	No tutorial – Week of Mid-term Exam 2
March 22	Tutorial 7 Study Questions C - Presentations
March 29	Tutorial 8 Study Questions C - Discussions
April 5	Tutorial 9 Article 2: Top 10 findings in Behavioural Genetics

Lecture Schedule:

More than one topic may be covered in one lecture while some topics will be covered over more than one lecture. N.B. This schedule is subject to change.

1. Course Overview; Introduction to Behavioural Genetics
2. Human Genome Project; Genome Wide Association Studies
3. Simple Inheritance; Inheritance of Complex Traits
4. Genes & Environment; Methods in Quantitative Genetics
5. **No Lecture: Mid-term Exam 1 (FEB 11)**
6. Genetic Engineering; Linking genetically defined neurons to behaviour
7. Genetic dissection of neural circuits; Behavioural phenotyping strategies
8. Normal Behavioural Development; Primary Cognitive Disorders
9. **No Lecture: Mid-term Exam 2 (MARCH 18)**
10. Psychiatric Disorders; Genetics of Mood, Anxiety, and Personality disorders
11. Environmental Epigenetics: Beyond Psychopathology
12. Genetic Counseling, Applied Pharmacogenomics and Gene Therapy; The Future of Behavioural Genetics

Intellectual Property:

Recording, photographing or distributing any aspect of this course without prior approval of all involved and written approval from the instructor is not permitted.

AccessAbility statement:

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. AccessAbility Services staff (located in Rm SW302, Science Wing) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations 416-287-7560 or email ability@utsc.utoronto.ca. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

Academic Integrity:

The University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences.

Potential offences include using someone else's ideas or words without appropriate acknowledgement, submitting your own work in more than one course without the permission of the instructor, making up sources or facts, obtaining or providing unauthorized assistance on any assignment.

On tests and exams cheating includes using or possessing unauthorized aids, looking at someone else's answers during an exam or test, misrepresenting your identity, or falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.