

BIOC14H3

Genes, Environment, and Behavior

Winter 2016

Instructor: Daman Bawa

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Teaching Assistants: Samantha Lauby, Sameera Abuaish, and Wilfred de Vega

Office Hours: Tuesdays 10:30 AM – 12:00 PM and Wednesdays 11:30 AM – 1:00 PM

Please be prepared and consult lecture materials prior to coming to the office. Appointments outside these hours can be arranged by e-mail. If the hours need to be changed during the semester, you will be notified by an announcement Blackboard.

Lecture: Thursday 10:00 AM -12:00 PM
Room: AA 112

Recommended Textbook: An Introduction to Behavioral Genetics (2008) Terence J. Bazzett, Sinauer Press

The best way to reach me outside the office hours is by e-mail. **Please use your UTSC or UTORONTO e-mail account** and include your course code in the subject. **Emails sent from non-university accounts will not be answered.**

Lectures:

BIOC14 will provide an overview of the direct and indirect role of various genes in determining behavior and behavioral regulation. We will cover topics that include behavior evaluation methods, genetic effects on behavior in animals and humans, gene environment interactions and specific examples of genes and environment involvement in cognitive / psychiatric disorders. The lectures come from a number of sources including the textbook, primary papers, reviews and other sources. **Video recordings of the lectures is not permitted.**

Each student is encouraged to ask questions, and participate in class, in tutorials and in office hours. Often times a question can lead to an interesting discussion for all students.

Tutorials:

Attendance in the tutorials is required, except as indicated in the tutorial schedule. Within each tutorial section, students will form a group of 4-5 students who will work together to answer and critique study questions based on the lecture material from the previous week. Each group will submit a written answer to the question for each tutorial and do a short presentation twice during the course (details to be provided during first tutorial).

Accessibility:

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. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca.

Academic integrity/plagiarism:

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, 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 behaviors that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments: 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: Using or possessing unauthorized aids. Looking at someone else's answers during an exam or test. Misrepresenting your identity.

In academic work: Falsifying institutional documents or grades. Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behavior or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (refer to: <http://www.utoronto.ca/academicintegrity/resourcesforstudents.html>).

Grade Breakdown:

The grade breakdown for the course will be as listed below. The exams will test the material covered in lectures and tutorials. The exams will consist of multiple-choice questions, fill in the blank(s) and short answer type questions that test your understanding and application of the course material. **If you miss an exam or tutorial for an official reason (e.g. documented family emergency or illness), you must contact me within 48 Hours and provide me with appropriate documentation.** There will be no makeup exams and the grade allotment for missed exam will shift to the final exam.

- **Exam 1: 20%** **Topics covered before the date of exam** **Date: TBA**
- **Exam 2: 20%** **Topics covered since Exam 1** **Date: TBA**
- **Final Exam: 34%** **Cumulative – All topics covered in the course** **Date: TBA**
- **Tutorial attendance: 6%**
- **Tutorial presentations and assignments: 20%**

Tentative Tutorial Schedule:

The tutorials will run according to the following schedule. If any changes need to be made due to unforeseen circumstances, it will be posted on Blackboard. **Attendance in tutorials is mandatory unless specified otherwise.**

Week of:

Jan 4	No tutorial
Jan 11	Tutorial 1 Introductory tutorial, form groups etc.
Jan 18	Tutorial 2
Jan 25	Tutorial 3
Feb 1	Q & A (not mandatory)
Feb 8	No tutorial
Feb 15	READING WEEK
Feb 22	Tutorial 4
Feb 29	Tutorial 5

March 7	Q & A (not mandatory)
March 14	No tutorial
March 21	Tutorial 6
March 28	Q & A, review (not mandatory)

Tentative Lecture Schedule:

More than one topic may be covered in one lecture while some topics will be covered over more than one lecture.

- Topic 1:** Overview of the course; Introduction to Behavioral Genetics
 - Topic 2:** Human Genome Project; Genome Wide Association Studies
 - Topic 3:** Simple Inheritance; Inheritance of Complex Traits
 - Topic 4:** Genes and Environment; Methods in Quantitative Genetics
 - Topic 5:** Genetic Engineering; Linking genetically defined neurons to behavior
 - Topic 6:** Genetic dissection of neural circuits; Behavioral phenotyping strategies
 - Topic 7:** Normal behavioral development; Primary Cognitive Disorders
 - Topic 8:** Psychiatric Disorders; Genetics of Mood, Anxiety and Personality disorders
 - Topic 9:** Environmental epigenetics; Beyond Psychopathology
 - Topic 10:** Genetic Counselling; Applied Pharmacogenomics and Gene Therapy; The future of Behavioral Genetics
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