PSY390H1 F

Behavioural Genetics

Fall 2024 Syllabus

Course Meetings

PSY390H1 F

Section	Day & Time	Delivery Mode & Location
LEC0201	Thursday, 1:00 PM - 4:00 PM	In Person: CR 404

Refer to ACORN for the most up-to-date information about the location of the course meetings.

Course Contacts

Instructor: Junchul Kim
Email: junchul.kim@utoronto.ca

Teaching Assistant: Ruth Tran
Email: ruth.tran@mail.utoronto.ca

Course Overview

An examination of how genes contribute to the production of behaviour, either as structural elements or direct participants in behavioural regulation. Covers molecular genetics, natural selection, and genetic methods followed by specific examples of congenic disorders that affect behaviour and studies of normal behaviours in human and animal models.

An examination of how genes contribute to the production of behaviors, either as structural elements or direct participants in behavioral regulation. Covers molecular genetics, natural selection, and genetic methods followed by specific examples of congenic disorders that affect behavior and studies of normal behaviors in human and animal models.

Prerequisites: PSY201H1/ ECO220Y1/ EEB225H1/ GGR270H1/ IRW220H1/ POL222H1/ SOC202H1/ STA220H1/ STA238H1/ STA248H1/ STA288H1/ ECO220Y5/ PSY201H5/ STA215H5/ STA220H5/ PSYB07H3/ STAB22H3/ STAB23H3/ STAB57H3, *and one of* PSY260H1/ PSYB38H3 *or* PSY290H1/ PSY290H5/ PSYB64H3 *or* BIO260H1/ HMB200H1/ HMB265H1/ PSL300H1
Corequisites: None
Exclusions: PSY355H5
Recommended Preparation: None
Credit Value: 0.5

Course Materials

Textbook (optional): Knopik, V.S., Neiderhiser, J.M., DeFries, J. C., Plomin, R. Behavioral Genetics. New York, NY: Worth Publishers.

Marking Scheme

Assessment	Percent	Details	Due Date
Term test 1	40%		2024-10-03
Term test 2	40%		2024-11-14
Written assignment	20%	Purpose: The aim of the written assignment is to review literature on one of the topics that are covered in lecture 9 and 10. A literature review is a descriptive summary of previous studies on a topic, so the goal is to inform readers of the knowledge and ideas on the topic. Choose three to four research articles (not review articles) and use the information you have read to find connections/contradictions among the articles and emerging ideas. You can research some review articles if you want a model to follow. Format: The assignment should be typed in 12 point Times New Roman, single-spaced, 1 inch margins, with proper grammar, spelling and punctuation. It should be 5 full pages (minimum) to 6 (maximum) pages of text, excluding the reference list. You should have at least 10 scholarly references and they must be cited according to APA standards. A title page should include your title, name, course on the page. The assignment file must be submitted via Ouriginal as a single pdf file in the Quercus.	2024-11-28

The following criteria will be used to grade your literature review

At least three articles were selected to summarize - 20%.
The findings/results of each article were properly summarized - 30%.
The findings/results of articles were compared and connected to each other - 40%.
The references were cited using APA style - 10%.

Late Assessment Submissions Policy

Except for some official reason for missing a test such as documented family emergency and documented illness, there will be no re-scheduled or make-up tests. Accordingly, missed or unexcused tests will be treated as zeros for the given exam.

Course Schedule

Week	Description
Week 1 Sept 5	Introducing Behavioral Genetics, the Basis of Genetics. Chapters 1, 2, 4
Week 2 Sept 12	Genetic variations, GWAS, Neurophysiology. Chapters 9
Week 3 Sept 19	Inheritance of complex traits, QTLs, QTL mapping. Chapters 3, 5
Week 4 Sept 26	Heritability, Review session. Chapters 7
Week 5 Oct 3	Term test 1
Week 6 Oct 10	Mouse Genetic Engineering, Genetic Dissection of Neural Circuits I
Week 7 Oct 17	Genetic Dissection of Neural Circuits II, Behavioral phenotyping strategies for mutant mice
Week 8 Oct 24	Normal Behavioral Development, Primary Cognitive Disorders. Chapters 11, 12
Week 9	Reading week (no class)

Oct 31	
Week 10 Nov 7	Psychiatric Disorders with a Cognitive Component, Disorders of Mood, Anxiety, and Personality. Chapters 13, 14, 15, 16
Week 11 Nov 14	Term test 2
Week 12 Nov 21	Epigenetics. Chapters 10
Week 13 Nov 28	Sex chromosomes. Chapters 12

Policies & Statements

Students with Disabilities or Accommodation Requirements

Students with diverse learning styles and needs are welcome in this course. If you have an acute or ongoing disability issue or accommodation need, you should register with Accessibility Services (AS) at the beginning of the academic year by visiting https://studentlife.utoronto.ca/department/accessibility-services/. Without registration, you will not be able to verify your situation with your instructors, and instructors will not be advised about your accommodation needs. AS will assess your situation, develop an accommodation plan with you, and support you in requesting accommodation for your course work. Remember that the process of accommodation is private: AS will not share details of your needs or condition with any instructor, and your instructors will not reveal that you are registered with AS.

Academic Integrity

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters (https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019). If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, please reach out to me. Note that you are expected to seek out additional information on academic integrity from me or from other institutional resources. For example, to learn more about how to cite and use source material

appropriately and for other writing support, see the U of T writing support website at http://www.writing.utoronto.ca. Consult the Code of Behaviour on Academic Matters for a complete outline of the University's policy and expectations. For more information, please see [A&S Student Academic Integrity (https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity)](https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity) and the [University of Toronto Website on Academic Integrity (https://www.academicintegrity.utoronto.ca)](https://www.academicintegrity.utoronto.ca).

Specific Medical Circumstances

If you become ill and it affects your ability to do your academic work, consult me right away. Normally, I will ask you for documentation in support of your specific medical circumstances. This documentation can be an Absence Declaration (via ACORN) or the University's Verification of Student Illness or Injury (VOI) form. The VOI indicates the impact and severity of the illness, while protecting your privacy about the details of the nature of the illness. If you cannot submit a VOI due to limits on terms of use, you can submit a different form (like a letter from a doctor), as long as it is an original document, and it contains the same information as the VOI (including dates, academic impact, practitioner's signature, phone and registration number). For more information on the VOI, please see http://www.illnessverification.utoronto.ca. For information on Absence Declaration Tool for A&S students, please see https://www.artsci.utoronto.ca/absence. If you get a concussion, break your hand, or suffer some other acute injury, you should register with Accessibility Services as soon as possible.

Accommodation for Personal Reasons

There may be times when you are unable to complete course work on time due to non-medical reasons. If you have concerns, speak to me or to an advisor in your College Registrar's office; they can help you to decide if you want to request an extension or other forms of academic consideration. They may be able to email your instructors directly to provide a College Registrar's letter of support and connect you with other helpful resources on campus.

Religious Accommodations

As a student at the University of Toronto, you are part of a diverse community that welcomes and includes students and faculty from a wide range of cultural and religious traditions. For my part, I will make every reasonable effort to avoid scheduling tests, examinations, or other compulsory activities on religious holy days not captured by statutory holidays. Further to University Policy, if you anticipate being absent from class or missing a major course activity (such as a test or in-class assignment) due to a religious observance, please let me know as early in the course as possible, and with sufficient notice (at least two to three weeks), so that we can work together to make alternate arrangements.

Assignment Submission Method

The assignment file must be submitted via Turnitin as a single pdf file in the Quercus.

Equity, Diversity and Inclusion

The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of

mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. U of T does not condone discrimination or harassment against any persons or communities.

Make-Up Quizzes/Tests

If a student misses a term test and can provide acceptable documentation, their remaining term test will be reweighted. Exceptional circumstances that lead to missing both term tests will be handled on a case-by-case basis, with input from the student's Registrar. Students have one week to contact me after the date of the missed test (and to declare their absence on ACORN, provide a VOI form (Verification of Illness), or a College Registrar's letter/email, or an Accessibility Services letter/email in lieu of an ACORN absence declaration).

Quercus Info

This Course uses the University's learning management system, Quercus, to post information about the course. This includes posting readings and other materials required to complete class activities and course assignments, as well as sharing important announcements and updates. New information and resources will be posted regularly as we move through the term. To access the course website, go to the U of T Quercus log-in page at https://q.utoronto.ca. SPECIAL NOTE ABOUT GRADES POSTED ONLINE: Please also note that any grades posted are for your information only, so you can view and track your progress through the course. No grades are considered official, including any posted in Quercus at any point in the term, until they have been formally approved and posted on ACORN at the end of the course. Please contact me as soon as possible if you think there is an error in any grade posted on Quercus.

Attendance

Your attendance is not tracked, and you will not receive credit for it. That said, attending lectures is a really good idea. In certain cases, lectures will include content that is not present in the downloadable lecture slides. Lecture slides will be posted before the class.

Grade Disputes

Graded tests will be returned within two weeks of the test, and graded written assignments within three weeks of submission. Any complaints about grading should be made in writing to the course email address within two weeks of receiving the graded tests or assignments.

Late/Missed Assignments

Except for some official reason for missing assignments such as documented family emergency and documented illness, there will be no re-scheduled or make-up assignments. Accordingly, missed assignment submission will be treated as zeros for the given assignment.

Plagiarism Detection Tool

Normally, students will be required to submit their course essays to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference

database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (https://uoft.me/pdt-faq).