

PSY355H5F Animal Behaviour Genetics

Monday 12:00pm – 3:00pm

Room Location: DV 3093 (Davis Building)

Contact Information

Prof. Robert Gerlai

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Room CCT4004

Office Hours: Mondays 11am-12pm

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Course Description

An introduction to the genetic analysis of behavior. The concepts and methods of classical Mendelian genetics, quantitative genetics, and recombinant DNA technology-based reverse and forward genetic approaches will be discussed as they relate to the analysis of animal behavior. Prerequisite: PSY201H5/equivalent, 252H5/ 290H5/ 295H5

Reading Material

Title: Behavioral Genetics, 5th edition

ISBN: 1429205776 / 9781429205771

Robert Plomin, John C. DeFries, Gerald R. McClearn, Peter McGuffin

Course Evaluation

Term test 1 = 19%, Term test 2 = 19%, Term paper (5 pages) on a selected topic to be submitted by December 2 = 15%, Final examination = 47%,

Course Webpage

The website associated with this course is accessible via <http://q.utoronto.ca>

Note: You don't need to create a new login for Quercus; it already knows who you are. You just need your UTORid and password. This is the same login that gets you onto the wireless network with your laptop, and the same one that you use to check your email. If you're confused about your UTORid or don't remember your password, go to:

<https://www.utorid.utoronto.ca/>

In order to access course material, monitor course information, and view your grades you must log into Quercus. If you have any general questions regarding Quercus, please visit the following help site:

<https://q.utoronto.ca/courses/46670/pages/student-quercus-guide>

IMPORTANT COURSE POLICIES **PLEASE READ**

Missed Test Special Consideration Request Process

Students who miss a test due to circumstances beyond their control (e.g. illness or an accident) can request that the Department grant them special consideration. Students must present their case to the Department (NOT the Instructor) by submitting a request via the online Special Consideration Request form at:

<https://utmapp.utm.utoronto.ca/SpecialRequest>.

Students are to submit original supporting documentation (e.g., medical certificates, accident reports, etc.) to the Psychology Academic Counselor or drop it in the drop box located outside the Psychology office, Deerfield Hall, 4th Floor. Students have up-to one week from the date of the missed test to submit request. Late submissions will NOT be considered without a letter of explanation specifying and documenting the reasons for the lateness.

Medical certificates or physician's notes must be completed by the Physician and MUST include the statement "This Student [name] was unable to write the test on [date(s)] for medical reasons". This documentation must show that the physician was consulted within one the day of the missed term test. A statement merely acknowledging a report of illness made by the student to the physician is NOT acceptable. For further information on this procedure please see: <http://www.utm.utoronto.ca/psychology/undergraduate-studies/missed-testslate-submissions>

If you missed your test/assignment deadline for a reason connected to your registered disability, please be advised that the department will accept documentation supplied by the UTM AccessAbility Resource Centre.

IMPORTANT: The Department of Psychology verifies the authenticity of medical certificates by contacting medical offices. Students are NOT to make any changes or alteration to completed medical certificates. Students who submit forged or altered documentation are subject to severe academic penalties.

Students granted special consideration for the midterm will have grades redistributed to the cumulative final exam.

Extension of Time Special Consideration Request Process

Students who seek to be granted more time to complete their term work beyond the due date without penalty, owing to circumstances beyond their control (e.g., illness, or an accident), must do so by submitting a request directly to the Instructor for the period up to and including the last day of the term. The decision as to whether or not to apply a penalty for the specified period rests with the Instructor.

Students who seek to be granted more time to complete term work beyond the last day of the term must submit their request directly to the Department. This request covers the period following the last day of classes and ends the last day of the exam period. This is done by submitting a request via the online Special Consideration Request form at <https://utmapp.utm.utoronto.ca/SpecialRequest>.

You are advised to seek advising by the departmental Undergraduate Counsellor prior to the deadline.

Original supporting documentation (e.g., medical certificates, accident reports, etc.) must be submitted to the Psychology Academic Counselor or dropped off in the drop box located outside the Psychology office Deerfield Hall, 4th Floor. Students are expected to submit requests to the Department before the last day of the term, unless demonstrably serious reasons prevent them from doing so. In the event of an illness, medical certificates or doctor's notes must confirm that student was ill on the due date of the assignment (for a one-day extension). For a longer extension, documentation must specify the full duration during which academic work could not be carried out.

For extensions of time beyond the examination period you must submit a petition through the Office of the Registrar. <http://www.utm.utoronto.ca/registrar/current-students/petitions>

Penalties for Lateness

A penalty of 10% per calendar day (i.e., including week-ends and holidays, during which students are not able to submit term work) up to and including the last day of classes, will be applied by the Instructor. After the last day of classes, the penalty of 10% per calendar day will be applied by the Undergraduate Counsellor on behalf of the Department. No penalty will be assigned if request for special consideration, described above, was successful.

Academic Guidelines

It is your responsibility to ensure that you have met all prerequisites listed in the UTM Calendar for this course. If you

lack any prerequisites you WILL BE REMOVED from the course up until the last day to add a course. Further information about academic regulations, course withdrawal dates and credits can be found in the University of Toronto Mississauga Calendar at: <http://www.erin.utoronto.ca/regcal/>.

You are encouraged to read this material. If you run into trouble and need advice about studying, preparing for exams, note taking or time management, free workshops and advice are available from the Robert Gillespie Academic Skills Centre at 905-828-5406.

AccessAbility Services

Students requiring academic accommodations for learning, physical, sensory, or mental health disabilities or medical conditions should contact the AccessAbility Office (2037B Davis Building), 905-828-3847.

<http://www.utm.utoronto.ca/accessability/>

Academic Honesty and Plagiarism

Honesty and fairness are considered fundamental to the university's mission, and, as a result, all those who violate those principles are dealt with as if they were damaging the integrity of the university itself. When students are suspected of cheating or a similar academic offence, they are typically surprised at how formally and seriously the matter is dealt with and how severe the consequences can be if it is determined that cheating did occur. The University of Toronto treats cases of cheating and plagiarism very seriously. Please take the time to review the Academic Integrity website:

<http://www.utm.utoronto.ca/academic-integrity/students.>

- Common trends in academic offences:
- Plagiarizing/concocted references
- Collaboration/unauthorized assistance
- Purchasing work
- Recycling work - "double-dipping"
- Resubmitting of altered work for re-grading
- Electronic devices (cell phones) or any unauthorized aids
- Altering medical certificates and UofT documents

From the Code of Behaviour on Academic Matters: "It shall be an offence for a student to knowingly: represent as one's own any idea or expression of an idea or work of another in any academic examination or term test or in connection with any other form of academic work, i.e. to commit plagiarism. Wherever in the Code an offence is described as depending on "knowing", the offence shall likewise be deemed to have been committed if the person ought reasonably to have known." All students must refer to this website to obtain information on what constitutes plagiarism.

<http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize.>

If questions arise after reading the material on the website, consult your instructor.

Plagiarism will not be tolerated.

Equity Statement

The University of Toronto is committed to equity and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect. As a course instructor, I will neither condone nor tolerate behaviour that undermines the dignity or self-esteem of any individual in this course and wish to be alerted to any attempt to create an intimidating or hostile environment. It is our collective responsibility to create a space that is inclusive and welcomes discussion. Discrimination, harassment and hate speech will not be tolerated. If you have any questions, comments, or concerns you may contact the UTM Equity and Diversity officer at edo.utm@utoronto.ca or the University of Toronto Mississauga Students' Union Vice President Equity at vpequity@utmsu.ca.

Academic Rights

You, as a student at UTM, have the right to:

- Receive a syllabus by the first day of class.
- Rely upon a syllabus once a course is started. An instructor may only change marks' assignments by following the University Assessment and Grading Practices Policy provision 1.3.
- Refuse to use turnitin.com (you must be offered an alternative form of submission).
- Have access to your instructor for consultation during a course or follow up with the department chair if the instructor is unavailable.
- Ask the person who marked your term work for a re-evaluation if you feel it was not fairly graded. You have up to one month from the date of return of the item to inquire about the mark. If you are not satisfied with a re-evaluation, you may appeal to the instructor in charge of the course if the instructor did not mark the work. If your work is remarked, you must accept the resulting mark. You may only appeal a mark beyond the instructor if the term work was worth at least 20% of the course mark.
- Receive at least one significant mark (15% for H courses, 25% for Y courses) before the last day you can drop a course for H courses, and the last day of classes in the first week of January for Y courses taught in the Fall/Winter terms.
- Submit handwritten essays so long as they are neatly written.
- Have no assignment worth 100% of your final grade.
- Not have a term test worth 25% or more in the last two weeks of class.
- Retain intellectual property rights to your research.
- Receive all your assignments once graded.
- View your final exams. To see a final exam, you must submit an online Exam Reproduction Request within 6 months of the exam. There is a small non-refundable fee.
- Privacy of your final grades.
- Arrange for representation from Downtown Legal Services (DLS), a representative from the UTM Students' Union (UTMSU), and/or other forms of support if you are charged with an academic offence.

Course Outline

Date	Topic	Comments
Sep 9	Introduction and history of behavior genetics: From Galton to Kandel and beyond:	
Sep 16	Discovering the effect of genes: Inherited, fixed behavioral patterns. Genetic predispositions	
Sep 23	Learning from the old debate: nature vs. nurture. "Either – Or", or "Both"	
Sep 30	Mendelian genetics	Mendelian Genetics, Roche Video
Oct 7	Can we identify the gene? Genetic markers and quantitative trait locus mapping, quantitative genetics extension	Identifying genes from Roche Video
Oct 14		Fall reading week
Oct 21	Term test 1: Covers topics of first 5 lectures	
Oct 28	Forward genetic approaches with induced mutations	Mutations & recombination Roche video
Nov 4	Genes come first: Transgenic (reverse genetic) approaches. Overexpression of transgenes. Classical gene targeting.	
Nov 11	Refining the reverse genetic tools: Inducible and cell type restricted transgenic techniques	
Nov 18	The TALEN and the CRISPR/Cas9 gene targeting systems	
Nov 25	Term test 2: Covers lectures presented after first term test	
Dec 2	Summary and outlook	Term paper due
Dec 5-6; 7-19	Study break; exam period	