Department of Psychology Graduate Courses
Fall 2019
September 9 - November 29, 2019

Course Code	Instructor	Day	Time	Location	Title	Sub-title
PSY1210HY*	Duncan & Mack	Tues	1-3	STG, SS560A	Selected Topics in Psychology	Introduction to Computer Programming for Psychology
PSY2001HF	Cunningham, W	Tues	10-12	STG, SS560A	Design of Experiments I	General Linear Model
PSY2002HF	McIntosh & Buchsbaum, B.	Tues	10-12	STG, rm TBD	Design of Experiments II	Multivariate Statistical Inference
PSY5112HF	Ralph	Wed	3-5	STG, SS4004	Advanced Topics in Behavioral Neuroscience III	Chronobiology: Temporal Aspects of Human Behaviour
PSY5121HF	Gerlai	Tues	1-3	UTM, CCT4034	Advanced Topics in Animal Behavior and Motivation II	Animal Behaviour Genetics
PSY5220HF	Paus	Wed	9-11	STG, SS560A	Advanced Topics in Cognition I	Population and Cognitive Neuroscience
PSY5222HF	Levine	Mon	10-12	STG, SS560A	Advanced Topics in Cognition III	Individual Differences in Cognitive and Neural Function
PSY5303HY*	Buchsbaum, D.	Thurs	1-3	STG, rm TBD	Cognitive Development	Probabilistic (Bayesian) Computational Models of Cognition
PSY5305HF	Haley	Mon	1-3	STG, SS560A	Social Development	Dyadic Processes in Social Cognitive Development
PSY5310HF	VanderLaan	Wed	1-3	STG, SS560A	Advanced Topics in Development I	Controversies in the Scientific Study of Children and Youth
PSY5311HF	Schlichting	Mon	3-5	STG, SS560A	Advanced Topics in Development II	Topics in Developmental Cognitive Neuroscience
PSY5403HF	Neel	Wed	3-5	STG, SS560A	Social Cognition	Stereotyping, Prejudice, and Discrimination
PSY5431HF	Cupchik	Thurs	2-4	STG, SS4004	Advanced Topics in Social Psychology II	Consciousness, Creativity, and Imagination
PSY5433HF	Stellar	Tues	12-2	STG, SS4004	Advanced Topics in Social Psychology IV	Exploring Empathy and Other Forms of Mind Simulation

*year-long course (September - April) meeting bi-weekly

Course	Description
PSY1210HY*	Over recent years computer programing skills have become a requirement for conducting psychological research across many subdisciplines. We designed this course to provide new graduate students with foundational programming skills and knowledge of tools relevant for psychology, with the aims of (1) enabling their current research and (2) providing the building blocks for acquiring more specialized methods. This .5 credit course will meet every other week throughout both terms to track the demands of students' new research projects. We will begin with introductory concepts and good practices (e.g., version control, logical statements, and debugging). We will then move on to experiment programming, surveying specialized software for stimulus presentation (e.g., Psychopy, Psychtoolbox, EPrime, and Qualtrics). In the second term, we will cover data management, restructuring, and quality control followed by data visualization. Course instruction will be grounded in Python and R languages, but assignments can be completed using languages and tools that are most applicable to the student's research. No programming knowledge is required. Students with programming backgrounds are also encouraged to register.
PSY2001HF	This course is designed to introduce the student to the General Linear Model and two of its most common expression: Analysis of Variance and Multiple Regression. Additionally, student we be asked to familiarize themselves with some of the current theoretical issues in realm of data analysis itself, e.g., the value of testing the null hypothesis.
PSY2002HF	The course will cover traditional multivariate statistical methods with an emphasis on their derivation from the general linear model (e.g, discriminant analysis, factor analysis and canonical correlation). Extensions to multidimensional scaling and DISTATIS will be examined, and additional applications to "Big Data" in neuroimaging and genetics. The assumption is that students will have had at least one upper level statistics course (e.g., PSY2001) and be familiar with basic matrix algebra. Course evaluation will be based on short lab assignments, a presentation and a final term paper.
PSY5112HF	The temporal dimension is not usually considered separately from spatial and physical factors in the understanding of human behaviour. Rather, it is considered as a modifier of general principles of how the brain processes and stores information. However, temporal regulation is shared by all species, and a sense of time is embedded in the control of human behaviour. We will look at several major impacts that temporality (the sense of time) has on human psychology including regulation of learning and memory, episodic memory, the ability to catch a ball, follow and anticipate music and speech, the ability to sense and remember the passage of time, and the consequences of dysfunctional timing
PSY5121HF	The course will discuss the principles and applications of behaviour genetics focusing on developments of this field over the past two decades. The course will mainly deal with animal behaviour genetics research and will discuss approaches such as genome editing techniques including gene targeting and other transgenic methods, as well as gene expression profiling and analysis, and forward genetic applications. The course is designed for the psychology and biopsychology student and does not require a strong foundation of genetics.
PSY5220HF	This course will cover basic principles of cognitive neuroscience and brain imaging, and the application of these approaches in the context of population neuroscience (see PMID:27637950). It will consist of the following elements: (1) six 45-min lectures (Neuropsychology, Functional Imaging, Structural Imaging, Brain Stimulation, Brain Development, Population Neuroscience); (2) student presentations of key papers illustrating research covered in each lecture, and (3) mini-projects consisting of statistical analysis and interpretation of data provided by the lecturer.
PSY5222HF	There has been a recent surge in individual difference applications in the cognitive and brain sciences, particularly using brain imaging methods, to enhance prediction over and above standard analyses of group differences. This course will survey individual difference research in cognitive neuroscience on topics such as intelligence, perception, imagery, attention, memory, language, and executive functioning in healthy adults, developmental, and clinical samples (e.g., aging and dementia). We will address developmental syndromes such as aphantasia, topographical disorientation, prosopagnosia, synesthesia, ADHD, learning disabilities, and highly superior/deficient autobiographical memory.
PSY5303HY*	How can we understand intelligent behaviour as computation? This course will teach students how to apply probabilistic computational models (sometimes known as Bayesian models) to problems of learning, reasoning and inference across psychological and cognitive science disciplines. We will examine how a broad range of empirical phenomena, such as intuitive physics, concept learning, causal reasoning, social cognition, and language understanding, can be modelled, following the online probabilistic modeling textbook probmods.org. The first half of the course will focus on teaching the basics of probabilistic modeling, through bi-weekly problem sets, while in the second half of the course students will develop a research project involving computational modeling (students are encouraged to relate this project to their existing research). This is a graduate-level course which will move relatively quickly and have technical content. Students should already be familiar with the basics of computer programming, demonstrated through prior completion of Introduction to Computer Programming for Psychology or instructor approval. This course is open to all graduate students with interests in psychology, cognitive science, and computational modeling.
PSY5305HF	Mutual recognition is one of the hallmarks of human consciousness and psychological development. This course explores mutual recognition as a dyadic and regulatory process that is necessary for social cognitive development. While this course draws on diverse theories from developmental science, social psychology, philosophy, literature, psychoanalysis, and gender studies it will also include relevant research from cognitive neuroscience.
PSY5310HF	Psychologists are bound to encounter tensions and controversies as they pursue research, teaching, and interactions with the general public. Some of these tensions and controversies apply to our discipline more broadly, while others are encountered more often by developmental psychologists who work with children and youth. This course explores topics from the field of gender and sexual development to illustrate themes that often apply to tensions and controversies in developmental science. Topics will include gender differences in cognitive and academic abilities, gender assignment of individuals born with intersex conditions, theoretical and treatment approaches to gender dysphoria, and child and youth sexual development. Through consideration of these topics, we will identify themes related to tension and controversy, such as competing theoretical models (e.g., biological vs. experience- and sociocultural-based approaches), clashes between scientific and sociopolitical interests, and questions about capacity to consent in children and youth. Students will then deliver presentations and lead discussions on how tensions and controversies are reflected in their own area of research and study. Students can expect to gain skills in sex- and gender-based analysis, as well as an increased ability to navigate complex and controversial aspects of our own work.
PSY5311HF	This course is a comprehensive overview of the modern research methods used to study cognitive development from a neuroscience perspective. We will discuss emerging research in the field employing a range of techniques, including eye tracking, animal models, computational modeling, and neuroimaging. In particular, we will focus on understanding which tool(s) are appropriate for a given research question – what can be gleaned from each approach? We will also touch on the specific technical and analytic challenges that face developmental cognitive neuroscientists, and current thought on the best ways to overcome them. Students will have multiple opportunities to hone their presentation and writing skills in this course.
PSY5403HF	This course will examine classic and contemporary issues in stereotyping, prejudice, and discrimination, both from perceivers' and targets' perspectives. Topics include the nature, function, and development of stereotypes and prejudice; dehumanization and invisibility; consequences for targets; identifying and regulating prejudice; and intergroup contact. Students will help to facilitate discussions, give short research presentations to supplement the readings, and generate a final research proposal.
PSY5431HF	The aim of this course is to develop a refined understanding of core higher order processes that emerge from the nexus of perception, cognition, emotion, and behaviour. Understanding the nature of these rich and fundamental human processes will be facilitated through learning about influential theoretical frameworks and empirical advances that span the disciplines of psychology, philosophy, and neuroscience. A goal of this course is to enhance the capacity to be critically reflective and to think in a lateral, innovative manner.
PSY5433HF	Although we are often immersed in our own current perspective, situations arise that require us to take on the perspectives of other people (e.g., empathy) or even different versions of ourselves (e.g., affective forecasting). This process is sometimes referred to as mind simulation. As a social psychology course, we will primarily focus on the the most social instantiation of mind simulation--empathy. The primary goal of this course will be to gain a deeper understanding of empathy by defining this complex construct, outlining its emergence, and identifying its helpful and harmful consequences. However, a second goal will be to integrate empathy into a larger theory of mind simulation. Therefore, we will also briefly cover psychological phenomenon in which we project ourselves into different temporal (e.g., affective forecasting), spatial (e.g., abstract construal, 3rd person perspectives), and hypothetical realities (e.g., counterfactual thinking, imagination) in order to identify the similarities across these diverse processes.

Department of Psychology Graduate Courses
Winter 2020
January 6 - April 3, 2020
Reading week: February 17-21, 2020

Course Code	Instructor	Day	Time	Location	Title	Sub-title
PSY1200HS	Starmans	Mon	11-1	STG, SS4004	Selected Topics in Psychology	Developmental, Social, and Philosophical Perspectives on the Self
PSY1210HY*	Duncan & Mack	Tues	1-3	STG, SS560A	Selected Topics in Psychology	Introduction to Computer Programming for Psychology
PSY1500HS	Tafarodi	Thurs	1-3	STG, SS4004	Conceptual Bases of Psychology	Philosophy of Psychology as a Social Science
PSY2002HS	Page-Gould	Mon	1-3	STG, RW109	Design of Experiments II	Advanced Statistics
PSY3001HS	Anderson	Thurs	3-5	STG, SS560A	Professional Psychology	Practical Knowledge & Skills for a Successful Career
PSY5101HS	Frankland	Wed	2-4	STG, SS560A	Mechanisms of Behaviour	The Neurobiology of Memory
PSY5110HS	Einstein	Wed	12-2	STG, SS560A	Advanced Topics in Behavioral Neuroscience I	Sex Differences in Brain & Behaviour
PSY5111HS	Fletcher	Tues	10-12	STG, SS4004	Advanced Topics in Behavioral Neuroscience II	Drugs, Neurotransmitters, and Behaviour
PSY5204HS	Fukuda	Wed	10-12	STG, SS560A	Attention	Voluntary Control of Attention and Memory
PSY5205HS	Ryan	Mon	10-12	STG, SS560A	Memory	Theories of Memory
PSY5221HS	Cohn	Thurs	1-3	STG, SS560A	Advanced Topics in Cognition II	Neuromodulation for Cognitive Neuroscientists
PSY5303HY*	Buchsbaum, D.	Thurs	1-3	STG, rm TBD	Cognitive Development	Probabilistic (Bayesian) Computational Models of Cognition
PSY5430HS	Inzlicht	Tues	11-1	STG, SS560A	Advanced Topics in Social Psychology I	The Psychology of Self-Regulation
PSY5432HS	Ford	Tues	1-3	STG, SS4004	Advanced Topics in Social Psychology III	The Psychology of Emotion Regulation

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Course	Description
PSY1200HS	This course pairs recent findings in developmental psychology, social psychology, and cognitive science with central texts from classical and contemporary philosophy. The course will be structured around three intertwined topics related to how we reason about the self across the lifespan: Mind Perception, Morality and Justice, and Personal Identity.
PSY1500HS	Despite the prescriptive claims of scientific unitarians from J. S. Mill to E. O. Wilson, the discipline of psychology continues to walk on two legs as both a natural and a social science. This course addresses key metaphysical, epistemological, and ethical questions concerning the second leg -- psychology as a social science. What is social reality? How does it relate to agency and intentionality? What does it mean to explain human action? How do and should causality, prediction, laws, reasons, and interpretation figure in social scientific explanation? Can naturalist and interpretive approaches to understanding social life be reconciled? What is the place of values in social inquiry? To what extent does studying the social world legitimate or challenge it? What are the ethical implications of this for the social scientist? Finally, do responses to the above questions point to any essential differences between natural and social science? Guided by classic and contemporary readings in philosophy of science, students will be encouraged to develop their own positions on the issues examined and test out these positions in class discussion. The result, it is hoped, will be as many distinct perspectives as there are students enrolled.
PSY2002HS	This course will provide a practical introduction to a number of different advanced statistical methods used in psychological research. Specifically, the course will cover the following topics: (1) Path analysis and Mediation; (2) Mixed effects/multilevel modelling; (3) Non-gaussian models (e.g., logistic regression) and bootstrapping; (4) Bayesian Hypothesis Testing; (5) Factor analysis, including exploratory factor analysis/principal components analysis, confirmatory factor analysis, and cluster analysis; (6) Structural Equation Modelling; and, (7) Time-based analysis like time series, lagged regression, and latent growth curves. The course will place a strong emphasis on practical application, such that every class will include demonstrations, electronic copies of sample syntax in SPSS and R, and brief computer-based data analysis exercises. You will also learn to be an active consumer of quantitative psychology articles, as well as develop generalizable strategies for statistical reporting. You will only need to be familiar with one of the following statistical packages: SPSS, R, or SAS. The course will have a final project where you will be required to use one of the analyses you learn in class to analyze your own data or public data and then write methods, results, and discussion sections that describe your findings. You will also be expected to complete lab assignments that involve conducting analyses on example datasets in the statistical software package of your choice. The goal is for you to leave the class with an understanding of when and how to apply each of the statistical techniques you learn. Knowledge of these modern statistical tools will increase the flexibility of your research designs and the statistical rigour with which you analyze your data.
PSY3001HS	This course provides a practical overview of facets for a successful career in academic or non-academic psychology. Topics include research ethics, open science, writing skills, and publishing processes. Guest panelists will provide tips on topics such as navigating graduate school, academic and non-academic jobs, and applying for funding. The primary requirements are participating in class and panel discussions, with the occasional brief assignment.
PSY5101HS	This course will focus on recent progress in understanding the neurobiological bases of memory. The course will involve discussion of contemporary memory studies, predominantly in rodents, that offer new mechanistic insight into memory processes covering a range of topics including encoding, consolidation, storage, retrieval, retrieval-associated processes such as reconsolidation, and forgetting. Students will be expected to present and discuss these primary papers.
PSY5110HS	This course will engage with the historic and contemporary literature in the field of Hormones and Behaviour following the development of the field from Beach's early rodent studies to current studies using brain imaging to identify differences in gay, straight, and transgendered human brains. Primarily dealing with central nervous system anatomy and its relationship to sexually dimorphic behaviours, this course emphasizes the role of steroid hormones and experience in shaping differences in behaviour, cognition, and identity. In following this field into the present, students will gain an appreciation for changing norms in research, how a field of scientific knowledge develops, sex differences in the brain, and the role of steroid hormones in shaping memory, cognition, mental health, and neurological disorders. Students will present papers in the text as well as of their own choosing.
PSY5111HS	Most psychoactive drugs produce their behavioural effects by altering the functioning of brain neurotransmitter systems. Alterations in these same transmitter systems may underlie psychiatric disorders (e.g. addiction and schizophrenia). This course will examine selected topics related to neurochemical theories of psychiatric disorders, and the mechanisms of action of psychoactive drugs (both therapeutic and recreational). In covering these topics we will consider experimental work conducted at the preclinical level (using laboratory animals) as well as in humans.
PSY5204HS	Our mind is a highly efficient information processor. We can select task-relevant information presented among task-irrelevant information and remember the information to guide our behavior to achieve a goal at hand or in the future. Often times, we tend to think that "we" are in control of this elegant information processor, but is that really true? If not, "who" or "what" is in control? And, to what extent do "we" have control? In this course, we will review and discuss both classic and recent discoveries in cognitive psychology and neuroscience to seek deeper understanding of the nature and the extent of voluntary control on our information processing ability.
PSY5205HS	This course will cover prominent theories regarding the nature of memory, and the empirical support for and against each theory. Readings will cover findings from the earliest investigations with case H.M. to the present day to illustrate the evolution of ideas regarding representations, processes and systems. The course will review evidence derived from behavioural, neuropsychological, electrophysiological, and neuroimaging studies. Theories of memory, as well as the advantages and limitations of the techniques used, will be discussed using debate formats throughout the semester.
PSY5221HS	There has seen an exponential increase in marketing of brain enhancing gadgets and media coverage of medical discoveries involving neuromodulation. Hype vs hope for changing brain circuitry? In this course we will review a variety of neuromodulation techniques (e.g., TMS, tDCS, DBS, neurofeedback, neuropharmacology). We will examine these in the context of treating neurological conditions and psychiatric disorders, and enhancing cognition and mood. General goals of this course are to gain a deeper understanding of their mechanisms, the appropriate way to demonstrate their therapeutic efficacy, and of how to evaluate relevant research claims critically. We will also touch upon related ethical implications.
PSY5430HS	This course will expose students to a number of classic and contemporary theories and empirical findings in the area of self-regulation. The topics covered in this course represent a broad selection of major themes in the field and each topic will provide students with the opportunity to develop their understanding of the field as well as learn how social, personality, and cognitive psychologists think about this topic. The topics covered in class include (but are not limited to) self-control, cognitive control, motivation, goal setting, proactive and reactive control, conscientiousness, addiction, and the neuroscience of control. The course will be discussion based, with lecturing kept to a minimum.
PSY5432HS	This seminar reviews the recent scientific literature on how humans manage or control their emotions (emotion regulation). In a discussion-based format, students will learn about the basic theories and methods of emotion regulation research as well as the current status of the empirical literature. More specifically, we will explore why people regulate emotions, how they do so, the sociocultural factors that influence emotion regulation, and what emotion regulation can do for our health, relationships, and happiness.