Course Code | Instructor | Day | Time | Location | Title
---|---|---|---|---|---
PSY120HY* | Duncan & Mack | Tues | 1-3 | STG, SS560A | Selected Topics in Psychology
PSY200HY* | Buchsbaum, G. | Tues | 10-12 | STG, SS560A | Design of Experiments I
PSY202HY | McIntosh & Buchsbaum, B. | Wed | 3-5 | STG, SS4004 | Advanced Topics in Behavioral Neuroscience III
PSY212HY | Gerbi | Tues | 1-3 | UTM, CCT4034 | Advanced Topics in Animal Behavior and Motivation II
PSY220HY | Paus | Wed | 9-11 | STG, SS560A | Advanced Topics in Cognition I
PSY222HY | Levine | Mon | 10-12 | STG, SS560A | Advanced Topics in Cognition III
PSY303HY* | Buchsbaum, D. | Thurs | 1-3 | STG, mb TD | Cognitive Development
PSY305HY | Haley | Mon | 1-3 | STG, SS560A | Social Development
PSY310HY | VanderLaan | Wed | 1-3 | STG, SS560A | Advanced Topics in Development I
PSY311HY | Schlichting | Mon | 3-5 | STG, SS600A | Advanced Topics in Development II
PSY343HY | Cupich | Thurs | 2-4 | STG, SS4004 | Advanced Topics in Social Psychology II
PSY343HY | Sternal | Tues | 12-2 | STG, SS4004 | Advanced Topics in Social Psychology IV

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

Course Description

Over recent years computer programming 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 tools. This 5 credit course will meet every other week throughout both terms to track the demands of students' 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.

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 will be asked to familiarize themselves with some of the current theoretical issues in real of data analysis itself, e.g., the value of testing the null hypothesis.

The course will cover traditional multivariate statistical methods with an emphasis on their derivations from the general linear model (e.g., discriminant analysis, factor analysis and canonical correlation analyses). Extensions to multivariate 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 common statistical algebra. Course evaluation will be based on homework assignments, a presentation and a final term paper.

How can we understand intelligent behavior 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, then we will develop a research project involving computational modeling and simulation. 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.

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.

This course will examine 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 biobehavioral study and does not require a strong foundation in genetics.

This course will cover biophysical 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) 45-60 lectures; (2) lab exercises involving computation; and (3) a research paper.

There has been a recent surge in individual difference applications in the cognitive and brain sciences, particularly using brain imaging methods, to enhance prediction and over and above conventional analysis of group differences. This course will survey individual difference in cognitive neuroscience, both on the cognitive and executive functioning in healthy adults, development, and clinical samples (e.g., aging and dementia). We will address developmental syndromes such as aphasia, topographical disorientation, prosopagnosia, synesthesia, ADHD, learning disabilities, and highly superior/deficient autobiographical memory.

How can we understand intelligent behavior 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, then we will develop a research project involving computational modeling and simulation. 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.

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 will be asked to familiarize themselves with some of the current theoretical issues in real of data analysis itself, e.g., the value of testing the null hypothesis.

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.

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.

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 will be asked to familiarize themselves with some of the current theoretical issues in real of data analysis itself, e.g., the value of testing the null hypothesis.

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.

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 will be asked to familiarize themselves with some of the current theoretical issues in real of data analysis itself, e.g., the value of testing the null hypothesis.

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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Instructor</th>
<th>Day</th>
<th>Time</th>
<th>Location</th>
<th>Title</th>
<th>Sub-title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY1200HS</td>
<td>Stalnaker</td>
<td>Mon</td>
<td>11-1</td>
<td>STG, SS4004</td>
<td>Selected Topics in Psychology</td>
<td>Developmental, Social, and Philosophical Perspectives on the Self</td>
</tr>
<tr>
<td>PSY1201HY*</td>
<td>Duncan &amp; Mack</td>
<td>Tues</td>
<td>1-3</td>
<td>STG, SS560A</td>
<td>Selected Topics in Psychology</td>
<td>Introduction to Computer Programming for Psychology</td>
</tr>
<tr>
<td>PSY1500HS</td>
<td>Tsabari</td>
<td>Thurs</td>
<td>1-3</td>
<td>STG, SS4004</td>
<td>Conceptual Bases of Psychology</td>
<td>Philosophy of Psychology as a Social Science</td>
</tr>
<tr>
<td>PSY2002HS</td>
<td>Pigeon &amp; Pigeon</td>
<td>Tues</td>
<td>1-3</td>
<td>STG, SS560A</td>
<td>Advanced Topics in Behavioral Neuroscience II</td>
<td>Sex Differences in Brain &amp; Behaviour</td>
</tr>
<tr>
<td>PSY2003HS</td>
<td>Anderson</td>
<td>Thurs</td>
<td>3-5</td>
<td>STG, SS560A</td>
<td>Professional Psychology</td>
<td>Practical Knowledge &amp; Skills for a Successful Career</td>
</tr>
<tr>
<td>PSY2010HS</td>
<td>Frankland</td>
<td>Wed</td>
<td>2-4</td>
<td>STG, SS560A</td>
<td>Mechanisms of Behaviour</td>
<td>The Neurobiology of Memory</td>
</tr>
<tr>
<td>PSY2100HS</td>
<td>Einstein</td>
<td>Wed</td>
<td>12-2</td>
<td>STG, SS560A</td>
<td>Advanced Topics in Behavioral Neuroscience II</td>
<td>Drugs, Neurotransmitters, and Behaviour</td>
</tr>
<tr>
<td>PSY2111HS</td>
<td>Fletcher</td>
<td>Tues</td>
<td>10-12</td>
<td>STG, SS4004</td>
<td>Advanced Topics in Behavioral Neuroscience II</td>
<td>Drugs, Neurotransmitters, and Behaviour</td>
</tr>
<tr>
<td>PSY2040HS</td>
<td>Fukuda</td>
<td>Wed</td>
<td>10-12</td>
<td>STG, SS560A</td>
<td>Attention</td>
<td>Voluntary Control of Attention and Memory</td>
</tr>
<tr>
<td>PSY2050HS</td>
<td>Ryan</td>
<td>Mon</td>
<td>10-12</td>
<td>STG, SS560A</td>
<td>Memory</td>
<td>Theories of Memory</td>
</tr>
<tr>
<td>PSY2131HS</td>
<td>Cohn</td>
<td>Thurs</td>
<td>1-3</td>
<td>STG, SS560A</td>
<td>Advanced Topics in Cognition II</td>
<td>Neuronal Modulation for Cognitive Neuroscientists</td>
</tr>
<tr>
<td>PSY2030HY*</td>
<td>Buchbaum, D.</td>
<td>Thurs</td>
<td>1-3</td>
<td>STG, SS4004</td>
<td>Cognitive Development</td>
<td>Probabilistic (Bayesian) Computational Models of Cognition</td>
</tr>
<tr>
<td>PSY2400HS</td>
<td>Inzlicht</td>
<td>Tues</td>
<td>11-1</td>
<td>STG, SS560A</td>
<td>Advanced Topics in Social Psychology I</td>
<td>The Psychology of Self-Regulation</td>
</tr>
<tr>
<td>PSY2421HS</td>
<td>Ford</td>
<td>Tues</td>
<td>1-3</td>
<td>STG, SS4004</td>
<td>Advanced Topics in Social Psychology III</td>
<td>The Psychology of Emotion Regulation</td>
</tr>
</tbody>
</table>

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

---

**Department of Psychology Graduate Courses**

**Winter 2020**

**January 6 - April 3, 2020**

**Reading week: February 17-21, 2020**

---

**Description**

Frankland Wed 2-4 STG, SS560A Mechanisms of Behaviour The Neurobiology of Memory

**Sex Differences in Brain & Behaviour**

---

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 modeling; (3) Non-parametric 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.

---

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.

---

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.

---

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.

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.

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 behavioral, 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.

There has seen an exponential increase in marketing of brain enhancing gadgets and media coverage of medical discoveries involving neuro modulation. Hype vs hope for changing brain circuitry? In this course we will review a variety of neuro modulation 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.

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.

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.