

Psychological & Brain Sciences

The field of Psychology encompasses a large and diverse area of study that is empirical, theoretical, and practical. As the science concerned with the study of behavior, psychology includes such areas as: biological bases of behavior; brain-behavior interactions; learning; memory; cognition; motivation; sensation and perception; the study of social interactions, persuasion, and attitudes; aging and development; personality; clinical, abnormal, and health psychology; and leisure and work experiences. These areas may appear quite distinct from one another, but the study of one provides important implications and insights for the understanding of the others. As an example, knowledge of brain-behavior interactions, sensory processes, and learning processes all are involved in identifying, understanding, and treating certain psychopathologies. A major aspect of all the sub-disciplines is their emphasis on research and the development and expansion of knowledge concerning behavior.

An undergraduate education in psychology cannot hope to cover all aspects and areas of the discipline in a substantive way. At the very least, however, it should provide specific tools that allow the student of psychological thought to appraise knowledgeably the logic and evidence that underlie the ongoing evolution of psychological science. This is provided by either the major in Psychological & Brain Sciences or the major in Psychological & Brain Sciences: Cognitive Neuroscience.

Completion of either of the two Psychological & Brain Sciences majors, that is Psychological & Brain Sciences, or Psychological & Brain Sciences: Cognitive Neuroscience, should provide students with the content of psychology, including breadth and depth. It also should provide students with the tools needed to evaluate critically psychological information, independent of specific content.

The student needs to learn how to gather data, conduct literature reviews, and write proficiently and scientifically. Our curriculum aims to accomplish these goals. We strive to ensure that our students understand the importance and become critical evaluators of empirical psychological research.

Psychology is a multi-purpose, valuable discipline in which to major. It has relevance for those considering careers in law, medicine, the health professions, education, and business. In addition, it provides important skills and knowledge for those who may not be planning additional schooling.

The Department of Psychological & Brain Sciences at Washington University has particular strengths in the following areas:

- Aging
- Behavioral economics
- Human development
- Diversity science
- Cognitive neuroscience
- Emotion
- Judgment and decision-making

- Learning and operant conditioning
- Neuropsychology
- Personality and individual differences
- Adult psychopathology
- Sensory processes in vision and audition
- Social theories of self and social processes
- Human emotion

There are also many opportunities for undergraduates in this department:

- Research involvement with faculty members
- Supervised internships with community service agencies
- Practicum in Applied Behavior Analysis: Autism Spectrum Disorder
- Study abroad
- Specializations within the majors
- Senior honors
- Membership in Psi Chi, the national honor society in psychology

Contact: Shelley Kohlman
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Email: skohlman@wustl.edu
Website: <https://psych.wustl.edu/undergraduate-program>

Faculty

Chair

Jeffrey M. Zacks

Edgar James Swift Professor in Arts & Sciences
Professor of Psychological & Brain Sciences; Radiology
PhD, Stanford University

Associate Chair

Denise P. Head

Professor of Psychological & Brain Sciences
Associate Professor of Radiology
PhD, University of Memphis

Directors of Graduate Studies

Julie M. Bugg

Professor of Psychological & Brain Sciences
PhD, Colorado State University
Director of the Behavior, Brain and Cognition

Brian D. Carpenter

Professor of Psychological & Brain Sciences
PhD, Case Western Reserve University
Interim Director of Clinical Training

Director of Undergraduate Studies

Leonard Green

Professor of Psychological & Brain Sciences; Economics
PhD, State University of New York–Stony Brook

Department Faculty

Richard A. Abrams

Professor of Psychological & Brain Sciences
PhD, University of Michigan

Deanna M. Barch

Gregory B. Couch Professor of Psychiatry
Professor of Psychological & Brain Sciences; Radiology
PhD, University of Illinois at Urbana-Champaign

John Baugh

Margaret Bush Wilson Professor in Arts & Sciences
Professor of Psychological & Brain Sciences; Anthropology; Education;
English; Linguistics; African and African-American Studies
PhD, University of Pennsylvania

Brian Bergstrom

Senior Lecturer of Psychological & Brain Sciences
PhD, Washington University

Ryan Bogdan

Dean's Distinguished Professor of Psychological & Brain Sciences
PhD, Harvard University

Tim Bono

Lecturer of Psychological & Brain Sciences
PhD, Washington University

Pascal R. Boyer

Luce Professor of Collective and Individual Memory
Professor of Sociological Anthropology; Psychological & Brain Sciences

PhD, University of Paris

Todd Braver

William R. Stuckenberg Professor in Human Values and Moral
Development
Professor of Psychological & Brain Sciences; Radiology; Neuroscience
PhD, Carnegie Mellon University

Andrew Butler

Associate Professor of Education; Psychological & Brain Sciences
PhD, Washington University

Emily Cohen-Shikora

Senior Lecturer of Psychological & Brain Sciences
PhD, Washington University

Shelly Cooper

Lecturer of Psychological & Brain Sciences
PhD, Washington University

Rebecca Cox

Assistant Professor of Psychological & Brain Sciences
PhD, Vanderbilt University

Ian G. Dobbins

Professor of Psychological & Brain Sciences
PhD, University of California, Davis

Tammy English

Associate Professor of Psychological & Brain Sciences
PhD, University of California, Berkeley

Ellen Fitzsimmons-Craft

Associate Professor of Psychological & Brain Sciences; Psychiatry
PhD, University of North Carolina at Chapel Hill

Sandra S. Hale

Professor of Psychological & Brain Sciences
PhD, University of Wisconsin–Milwaukee

Alexander Hatoum

Assistant Research Professor of Psychological & Brain Sciences
PhD, University of Colorado Boulder

Patrick Hill

Professor of Psychological & Brain Sciences
PhD, University of Notre Dame

Derek Isaacowitz

Professor of Psychological & Brain Sciences
PhD, University Pennsylvania

Joshua Jackson

Saul and Louise Rosenzweig Associate Professor of Personality
Science; Psychological & Brain Sciences
PhD, University of Illinois at Urbana-Champaign

Wouter Kool

Assistant Professor of Psychological & Brain Sciences
PhD, Princeton University

Alan J. Lambert

Associate Professor of Psychological & Brain Sciences
PhD, University of Illinois at Urbana-Champaign

Seanna Leath

Assistant Professor of Psychological & Brain Sciences
PhD, University of Michigan, Ann Arbor

Lori Markson

Professor of Psychological & Brain Sciences
PhD, University of Arizona

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Professor of Psychological & Brain Sciences; Radiology
PhD, Rice University

Joel Myerson

Research Professor of Psychological & Brain Sciences
PhD, Arizona State University

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Senior Lecturer of Psychological & Brain Sciences
PhD, University of California, Los Angeles

Josh Oltmanns

Assistant Professor of Psychological & Brain Sciences
PhD, University of Kentucky

Zachariah Reagh

Assistant Professor of Psychological & Brain Sciences
PhD, University of California, Irvine

Henry L. Roediger III

James S. McDonnell Distinguished University Professor; Professor of
Psychological & Brain Sciences
PhD, Yale University

Mitchell Sommers

Professor of Psychological & Brain Sciences
PhD, University of Michigan

Michael J. Strube

Professor of Psychological & Brain Sciences; Education; Physical
Therapy
PhD, University of Utah

Jessie Sun

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PhD, University of California, Davis

Renee J. Thompson

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PhD, University of Illinois at Urbana-Champaign

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PhD, Northwestern University

Emily Willroth

Assistant Professor of Psychological & Brain Sciences
PhD, University of California, Berkeley

Affiliated Faculty

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PhD, Virginia Commonwealth University

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PhD, University of Illinois at Urbana-Champaign

Cindy Brantmeier

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Romance Languages and Literatures (by courtesy)
PhD, Indiana University

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Professor Emeritus of Psychiatry
PhD, Washington University

Maurizio Corbetta

Norman J. Stupp Professor of Neurology; Professor of Radiology;
Anatomy; Neurobiology
MD, University of Pavia

Emma Covey Johnson

Assistant Professor of Psychiatry
PhD, University of Colorado Boulder

Nico Dosenbach

Associate Professor of Neurology
MD, PhD, Washington University School of Medicine
(Neurology, Pediatrics, Radiology, Occupational Therapy)

James DuBois

The Steven J. Bander Professorship in Medical Ethics and
Professionalism; Professor of Medicine
PhD, International Academy of Philosophy, Liechtenstein

Hillary Elfenbein

Professor of Organization Behavior
PhD, Harvard University

Kenneth Freedland

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PhD, University of Hawaii

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(Neurology)

Kirsten Gilbert

Assistant Professor of Psychiatry
PhD, Yale University
(Child Psychiatry)

Brian Gordon

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PhD, University of Illinois

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Associate Professor of Neurology
PhD, Fordham University

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Psychiatry; Genetics
DPhil, Oxford University

Tamara Hershey

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Psychiatry; Radiology
PhD, Washington University

Barry Hong

Professor Emeritus of Psychiatry
PhD, Saint Louis University

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Associate Professor of Philosophy; Philosophy-Neuroscience-
Psychology; Linguistics
PhD, Rutgers University

Brenda Kirchoff

Research Scientist
PhD, Boston University
(Psychological & Brain Sciences)

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PhD, Michigan State University

Ilya Monosov

Associate Professor of Neuroscience
PhD, Brown University

Alvitta Ottley

Assistant Professor of Computer Science and Engineering
PhD, Tufts University

John Pruett

Professor of Psychiatry (Child); Radiology
PhD, Washington University

Marcus E. Raichle

Professor of Radiology; Neurology; Neurobiology; Biomedical
Engineering
MD, University of Washington

Christopher Rozek

Professor of Education
PhD, University of Wisconsin–Madison

Lawrence Snyder

Professor of Neurobiology
MD, PhD, University of Rochester

David Van Essen

Professor of Anatomy; Neurobiology
PhD, Harvard University

Robinson Welch

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PhD, University of Missouri-Columbia

James V. Wertsch

Marshall S. Snow Professor in Arts & Sciences; Professor of
Anthropology; International and Area Studies; Education
PhD, University of Chicago

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PhD, Washington University

Faculty Emeritus

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PhD, Southern Illinois University Carbondale

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PhD, University of Colorado

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Developmental Psychology
PhD, University of Pennsylvania

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Professor Emerita of Psychological & Brain Sciences; Professor of
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PhD, Washington University

Majors

- Psychological & Brain Sciences Major
- Psychological & Brain Sciences: Cognitive Neuroscience Major

Psychological & Brain Sciences Major Specializations

- Psychological & Brain Sciences Major, Cognition in Children
Specialization
- Psychological & Brain Sciences Major, Cognitive Neuroscience
Specialization
- Psychological & Brain Sciences Major, Experimental
Psychopathology Specialization

- Psychological & Brain Sciences Major, Lifespan Development Specialization
- Psychological & Brain Sciences Major, Personality and Individual Differences Specialization

Psychological & Brain Sciences: Cognitive Neuroscience Major Specializations

- Psychological & Brain Sciences: Cognitive Neuroscience Major, Cognition in Children Specialization
- Psychological & Brain Sciences: Cognitive Neuroscience Major, Experimental Psychopathology Specialization
- Psychological & Brain Sciences: Cognitive Neuroscience Major, Lifespan Development Specialization
- Psychological & Brain Sciences: Cognitive Neuroscience Major, Personality and Individual Differences Specialization

Minors

- Psychological & Brain Sciences Minor

Courses

Visit online course listings to view semester offerings for L33 Psych.

L33 Psych 100B Introduction to Psychology

A survey and analysis of concepts, theory, and research covering the areas of biological psychology, human development, learning, memory, social psychology, and mental disorders and their treatment. This is a general survey course designed to introduce students to the diversity of topics, research methods, and theories that comprise the study of mind and behavior. Psych 100B is required of all majors and is a prerequisite to all upper-level courses in Psychological & Brain Sciences. Open to first-year students and above. NOTE: For first-year students with AP/IB exemption, and first- and second-year students enrolled in Psych 100B who are interested in exploring a few areas of Psychology within a seminar format, see Psych 102, First-Year Opportunity: Contemporary Issues in Psychology. Credit 3 units. A&S IQ: SSC Arch: SEM, SSC Art: SSC BU: BA EN: S

L33 Psych 102 First-Year Opportunity: Contemporary Issues in Psychology

This seminar enables students to explore several of the ideas and issues in contemporary psychology. Each week a different issue is discussed, and students familiarize themselves with critical aspects of the issue and discuss and critically evaluate the pros and cons of each side. Open to First-Year students who are concurrently enrolled in or who have completed (or are exempt from) Psych 100B/1000. Also open to Sophomores who are concurrently enrolled in Psych 100B/1000. Sections are limited to 15 students. Credit 1 unit. A&S: FYO A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 105 First-Year Opportunity: Psychology of Young Adulthood

This course will cover selected topics relevant to the developmental, social, personal, and cognitive issues confronting young adults during their college years. Material will be drawn mainly from the field of psychology, and the emphasis will be on the scientific basis of concepts

and on empirically supported strategies for growth and development. The knowledge gained may contribute to academic success, personal development, and a more rewarding social and academic experience over the course of college and beyond. This one-unit course is only open to first-year students. Credit/No Credit only. Credit 1 unit. A&S: FYO

L33 Psych 109 First-Year Opportunity: Research in Psychology

Weekly one-hour presentations by the Psychological & Brain Sciences Department faculty. Each week a member of the faculty will present a lecture in an area of interest. The seminar will introduce students to research areas and issues of current interest. The seminar is highly recommended for those individuals with an interest in Psychology. Open to First-Years and Sophomores only. Credit/No Credit option only. Credit 1 unit. A&S: FYO A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 111 First-Year Opportunity: Mindfulness Science & Practice

Mindfulness is a term that is becoming increasingly used in popular culture to refer to a set of skills associated with increased attentional focus, successful stress-management, and improved health, sleep, and emotional well-being. This course will expose students to the various facets of mindfulness from both an applied and scientific perspective, by teaching mindfulness skills through a set of easy-to-learn practices and exercises, and by surveying of empirical research regarding mindfulness effects on cognition, emotion, brain function, and health. The goal of the seminar will be to provide practical skills that can contribute to personal development, emotional well-being, and academic success, while also developing critical thinking skills in learning how to read and evaluate primary scientific literature on mindfulness. Open to freshman only. Credit 1 unit. A&S: FYO

L33 Psych 219 The Infant Mind: Sophomore Seminar

What goes on inside the mind of an infant? In this course we will explore a variety of hot topics concerning how babies experience the world around them. We will cover topics such as temperament (Do babies get mad?), language and communication (How do infants learn words and what if a baby is exposed to more than one language?), the effects of poverty on the developing brain (Does it matter?), social categories and relationships (Do babies notice differences across people?), and morality (Do babies have a sense of justice?). We will also discuss how to put child development research into practice, for example, by considering research relevant to policies concerning vaccination, early childhood education, and whether screen time is okay for babies. Students will have ample opportunity to interact with children at a local childcare center, where they can experience first-hand the research they are learning about in class. If you are curious about the developing mind, human nature, or considering a career in a field that involves children (e.g., education, medicine, public policy) this course is for you. PREREQ: Sophomore standing, and is open to students from all majors. Enrollment is restricted to 20 sophomores or permission of instructor. Credit 3 units. A&S IQ: SSC BU: BA EN: S

L33 Psych 221 First-Year Seminar: Introduction to Memory Studies

This course focuses on memory not only as an individual phenomenon but also how our memories for historical events can be determined by the groups to which we belong (collective memory). We will survey such topics as experimental methods and findings in the study of individual memory; questions of accuracy and vividness of memory; false and illusory memories; eyewitness memory reports that are used in trials; methods to greatly enhance learning and memory; and people with extraordinary memories; . We then transition to the study of collective memory, or how our memories and identities are shaped by the groups to which we belong. The topics will include transmission of

memories and identity through narratives; shared historical memories; battles over how the past is to be remembered; and revision of the memories of the past to meet concerns of the present. We also consider how memory is used in political arguments. Enrollment is restricted to first-year students..

Credit 3 units. A&S: FYS A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 225 Internship in Psychology

An opportunity to gain practical, applied experience in a non-academic, community service agency. For description of prerequisites, course goals, agency selection, registration policies, and course requirements, obtain a copy of "Internships in Psychology" available in room 207B in Somers Family Hall or on the P&BS website: <http://psychweb.wustl.edu/undergraduate>. This course can be taken only once, open to junior and senior P&BS majors only. Credit/No Credit only. Permission of Instructor Required.

Credit 3 units.

L33 Psych 235 Practicum in Applied Behavior Analysis: Autism Spectrum Disorder

An opportunity to be trained in applied behavior analytic techniques and to work with a child with autism spectrum disorder. Training and supervision will be arranged and coordinated by the family of the child and/or their consultant/agency. Students must complete the minimum number of hours of training and therapy, and attend regular therapy meetings. In addition, there is a required seminar for discussion of assigned readings and presentations on autism and therapy. Completion of a paper in the second semester also is required. For further information and petition form, pick up the Practicum brochure from the Department. Credit/No Credit only. Enrollment through the practicum coordinator only.

Credit variable, maximum 3 units.

L33 Psych 261 Applying the Science of Learning

This course is intended to cover the science of human learning, with special focus on areas, theory, and research that have potential to improve how students learn. Thus, the course will provide selective coverage of theoretical and empirical work in the science of learning that can inform and improve student learning. The applicability of these themes to the students in this course will be explicitly developed through students' explicit translation of the experimental findings from the literature to their own learning challenges. The course will be organized around three major integrated goals. First, the relevant basic theory and findings in select topics in the science of learning will be covered. Second, the implications of this work for improving learning outcomes in authentic educational contexts will be considered. Third, together we will develop concrete techniques and examples of how the principles that emerge can be adopted to significantly enhance outcomes of lifelong learning challenges. Prerequisite: Psych 100B.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 300 Introduction to Psychological Statistics

Descriptive statistics including correlation and regression. Inferential statistics including nonparametric and parametric tests of significance through two-way analysis of variance. Course emphasizes underlying logic and is not primarily mathematical, though knowledge of elementary algebra is essential. Psych 300 is required of all P&BS majors. PREREQ: Psych 100B.

Credit 3 units. A&S IQ: NSM, AN Arch: NSM Art: NSM

L33 Psych 301 Experimental Psychology

This course provides training in the logic and techniques of psychological research so as to provide students with experience in the design of psychology experiments and interpretation of results. Topics include experimental design and control, library research,

quantitative treatment of data, graphical presentation of results, and clarity of scientific writing. Lectures focus on general principles of experimentation, whereas the laboratory sections provide an introduction to a range of psychological phenomena through hands-on experience in experimentation. Each student also completes an independent research project. Declared P&BS majors will have priority. Limited to 15 students per section. PREREQ: Psych 100B and 300.

Credit 4 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L33 Psych 3011 Experimental Psychology

Psych 3011 is limited to students who have not taken Psych 300 and want to enroll in Psych 300 and Experimental Psychology concurrently. Therefore, students who enroll in Psych 3011 must also register for Psychology 300. Psych 3011 fulfills the Psychology 301 requirement for the major. Topics in the two courses (i.e., Psych 300 and Psych 3011) will be coordinated in order to integrate the concepts from Statistics with those from Experimental Psychology. Experimental Psychology provides training in the logic and techniques of psychological research so as to provide students with experience in the design of psychology experiments and interpretation of results. Topics include experimental design and control, library research, quantitative treatment of data, graphical presentation of results, and clarity of scientific writing. Lectures focus on general principles of experimentation while the laboratory component provides an introduction to a range of psychological phenomena through hands-on experience in experimentation. Each student also completes an independent research project of his or her own design under supervision of a faculty member. Enrollment limited to 15 students. Declared P&BS majors will have priority. PREREQ: Psych 100B and concurrent enrollment in Psy 300.

Credit 4 units. A&S IQ: NSM Arch: NSM Art: NSM BU: BA, SCI

L33 Psych 304 Educational Psychology

This is a course in psychological concepts relevant to education that is organized around four basic issues: (1) how humans think and learn; (2) how children, adolescents, and adults differ in their cognitive and moral development; (3) the sense in which motivation and intention explain why people act as they do; and (4) how such key human characteristics as intelligence, motivation, and academic achievement can be measured. Offered fall and spring semesters. Enrollment Note: Undergraduate students must enroll in Educ. 304. Graduate students must obtain approval of instructor and their advisor before enrolling in Educ. 5004.

Same as L12 Educ 304

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 305 Health Psychology

Review and discussion of psychobiological approaches to health, as well as psychological aspects of physical illness. Topics: stress and coping, psychosocial factors in the etiology and progression of chronic illness, and psychological sequelae of chronic illness. There will be an emphasis on research methodology and results. PREREQ: Psych 100B.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 315 Introduction to Social Psychology

An introduction to the scientific study of social influence. Topics include person perception, social cognition, attitudes, conformity, group behavior, aggression, altruism, prejudice and psychology's interface with law, health, and climate change. PREREQ: Psych 100B/1000

Credit 3 units. A&S IQ: SSC Arch: SEM, SSC Art: SSC BU: BA EN: S

L33 Psych 3175 Applied Statistical Analysis with R

This course is designed to introduce R as both a means of applied statistical analysis as well as a window into data organization and programming. The goal of the course is to teach the tools needed to take a raw dataset and not only perform a statistical test in R, but also to learn how to arrange the dataset to perform a variety of tests, to choose the appropriate test, and to visualize the results. Students will gain practical knowledge of how to use statistics in research. Please note that this is an introductory course and knowledge of R prior to enrollment is not expected. PREREQ: Psych 300
Credit 3 units. A&S IQ: NSM Arch: NSM

L33 Psych 3195 Abnormal Child Psychology

This course will familiarize students with current perspectives on the nature, causes, assessment, treatment, and prevention of child psychiatric disorders and related family dysfunction. Theoretical perspectives and research findings will be discussed pertaining to anxiety, depression, conduct disorder, attention-deficit/hyperactivity disorder, autism, learning impairments, and parent-child conflict. PREREQ: Psych 100B
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 321 Developmental Psychology

This course concentrates on the cognitive and social development of the person from conception to adolescence. Topics covered include: infant perception, attachment, cognitive development from Piagetian and information processing perspectives, aggression and biological bases of behavior. PREREQ: Psych 100B.
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 3211 Music Cognition

An introduction to modern research on music perception and cognition. The course covers four main topics: the perception of key, the psychoacoustics of dissonance, the relationship between attention and musical meter, and the process by which melodies establish, fulfill, and deny expectations. Students read and discuss research from both cognitive science and music theory, in addition to completing several projects.
Same as L27 Music 3221
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: HUM

L33 Psych 325 Psychology of Adolescence

This course concentrates on brain, cognitive, and social development during adolescence. This period of development is marked by transition and change. Special topics will include the vulnerability of the adolescent brain and the development of sexual orientation. Prerequisite: Psych 100B.
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 326 Introduction to the Psychology of Aging

Study of the processes of aging in the individual in terms of their behavioral effects. Age changes in biological functions, sensation, perception, intelligence, learning, memory, and creativity studied to understand the capacities and potentials of the mature and older person. PREREQ: Psych 100B.
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 330 Sensation and Perception

What's involved in seeing and hearing? This course will cover perception from the physical stimuli (light and sound) that impinge upon the sensory receptors through the higher-level percepts that the stimuli generate. Demonstrations and illusions will be used as we learn about the anatomy and physiology of the sensory systems and study the brain mechanisms that are involved in vision and audition. Prerequisite: Psych 100B/1000.
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: BA, SCI

L33 Psych 333 Independent Study in Psychological and Brain Sciences

PREREQ: Psych 100B and permission of a member of the faculty of the department (or other approved supervisor) who agrees to supervise the student's work. Credit to be arranged. A maximum of 6 units may be applied toward the major. The electronic Petition for Supervision of Independent Study form is available at the URL, <http://eyes.wustl.edu/psych333>. Students will be enrolled only after their form is approved by the faculty supervisor and forwarded to the Undergraduate Coordinator. Credit/ No Credit only.
Credit variable, maximum 3 units.

L33 Psych 3401 Biological Psychology

An introduction to biological mechanisms underlying behavior. Topics will include the physiology of nerve cells, anatomy of the nervous system, control of sensory and motor activity, arousal and sleep, motivation and higher mental processes. PREREQ: PSYCH 100B
Credit 3 units. A&S IQ: NSM Arch: NSM BU: SCI

L33 Psych 344 Principles of the Nervous System

This course will provide a broad introduction to neuroscience, starting at the level of cellular and molecular neuroscience, and ultimately ending at systems and theoretical neuroscience, with emphasis on the organization of the mammalian central nervous system. Topics will include neuronal structure, the action potential, information transmission between neurons, sensory/motor systems, emotion, memory, disease, drugs, behavior, and network dynamics. A fundamental goal of this course is to provide students with the ability to approach complex problems using the scientific method and to understand the limits of knowledge. This course will also expose students to some of the neuroscience community at WashU. Bio 2960, Bio 2970 recommended, Bio 3058 recommended or Psych 3401 and permission of instructor. (Biology Major Area B)
Same as L41 Biol 3411
Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L33 Psych 345 Genes, Environment, and Human Behavior

This class will examine how genetic influences impact various dimensions of human behavior, ranging from traits (e.g. personality) to psychiatric disorders. Topics to be covered include methods used to study genetic influence, how genetic predispositions interact with the environment, and ethical implications. Modern methods for gene-identification, such as genomewide association studies, polygenic risk scores and epigenetic experiments will be examined in detail. Emphasis will be placed on understanding core concepts (e.g. what is identity-by-descent) as well as application (e.g. calculate heritability, interpretation of results from published studies). PREREQ: Psych 100B. 3 units. Same as L64 PNP 3451.
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: SCI EN: S

L33 Psych 3501 Psychotherapy: Introduction to Practice and Research

This is an introductory course in psychotherapy: The treatment of psychological problems through the application of interventions grounded in psychological theory and focusing on behavior or mental processes. Students will become familiar with the more popular schools of psychotherapy, including their historical context, characteristic techniques, theoretical underpinnings, and current research support. Students will also gain an appreciation of the problems and solutions in researching psychotherapy, as well as emerging variations on psychotherapy procedures. Prerequisite: Psych 100B.

Credit 3 units. A&S IQ: SSC BU: BA EN: S

L33 Psych 353 Psychology of Personality

What is personality, and how can we scientifically study it? How did we become who we are today? Is personality fixed, or can we change? How does personality shape our everyday experiences and consequential life outcomes? Do we know ourselves and others? This course will address such questions by providing a contemporary overview of the field of personality psychology that will help students better understand themselves and others. PREREQ: Psych 100B.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 354 Psychopathology and Mental Health

This is an introductory course in psychopathology or the scientific study of mental health disorders. The course will include definitions, theories, and classification of Psychopathological behavior. Content will focus on symptoms, classification, prevalence, etiology, and treatment of mental health disorders, including mood, anxiety, eating, schizophrenia spectrum, substance use, and personality disorders. PREREQ: Psych 100B.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA

L33 Psych 357 Introduction to Clinical Psychology

A survey of clinical psychology. Emphasis is placed on historical and recent developments in the field (e.g., managed care), as well as the consideration of the roles, functions, and techniques of clinical psychologists including psychological testing and psychotherapy. Prerequisite: Psych 100B and either Psych 353 or Psych 354.

Credit 3 units. A&S IQ: SSC Art: SSC BU: BA EN: S

L33 Psych 358 Language Acquisition

This course examines the development of language skills in children, asking how children so rapidly learn their first language. Topics include; biological bases of language development; development of phonology, syntax, and morphology; language development in atypical populations; childhood bilingualism; and development of written language skills. Prerequisite: Psych 100B and Ling 170D.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 358W Language Acquisition

This course examines the development of language skills in children, asking how children so rapidly learn their first language. Topics include: biological bases of language development; development of phonology, syntax, and morphology; language development in atypical populations; childhood bilingualism; and development of written language skills. PREREQ: Psych 100B and Ling 170D and junior or senior standing. Writing intensive.

Credit 3 units. A&S IQ: SSC, WI EN: S

L33 Psych 360 Cognitive Psychology

Introduction to the study of thought processing from an information-processing approach. Emphasis will be placed on theoretical models that are grounded in empirical support. Topics include pattern recognition, attention, memory, reasoning, language processes, decision making, and problem solving. PREREQ: Psych 100B.

Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: BA

L33 Psych 3604 Cognitive Neuroscience

A general introduction to the underlying principles and mechanisms of brain function that give rise to complex human cognitive behavior. Emphasis will be placed on how emerging methods and approaches from both neuroscience and cognitive psychology have been integrated to yield new insights into the organization and structure of higher mental processes. Topics include perception, attention, memory, language, and executive control. Prerequisite: Psych 100B/1000.

Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L33 Psych 361 Psychology of Learning

The experimental analysis of behavior is presented with examination of Operant and Pavlovian conditioning, aversive control, theories of reinforcement, choice behavior, behavioral economics, etc. Theoretical and experimental approaches to the study of behavior as developed in the laboratory are emphasized. Consideration is given to applications from the laboratory to everyday behavior. PREREQ: Psych 100B. Enrollment limited to 30.

Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: SCI

L33 Psych 3645 Understanding Emotions

Emotions both shape and are shaped by our subjective experiences, physiology, behaviors, cognitions, social interactions, and health. Their complexity and significance make the study of emotions particularly exciting and challenging. This course offers an overview of theory and research on emotions with content stretching across psychological disciplines, including personality, social, clinical, developmental, and neuropsychology. Course content will include definitions of emotions, physiological changes associated with emotions, and individual differences in emotional experience. The course will also examine how culture, cognitions, and relationships affect and are affected by emotions and how emotion is related to physical and mental health. PREREQ: Psych 100B.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 380 Human Learning and Memory

A survey of issues related to the encoding, storage and retrieval of information in humans. Topics include memory improvement strategies, people with extraordinary memories, memory illusions and distortions, among other topics. Limited to 25 students. Prerequisite: Psych 100B/1000.

Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: BA

L33 Psych 386 Psychology of Black Women

This course is designed to provide a critical analysis of the distinctive experiences of Black women through a psychological lens. We will explore topics relating to Black women's experiences in home, school, and community contexts, such as identity development, socialization experiences, and misogyny. The class will also consider how Black women draw on individual strengths and cultural assets to support their personal wellbeing. This course will heavily center the narratives of Black women, and focus on mixed methods and qualitative research approaches. We will draw upon interdisciplinary frameworks (e.g., intersectionality, Black feminist thought, and liberation psychology) to help us understand Black women's experiences. PREREQ: L33 Psych 100B

Credit 3 units. A&S IQ: SSC, SC Arch: SSC Art: SSC EN: S

L33 Psych 3865 Community Psychology

Community psychology goes beyond an individual focus and integrates social, cultural, economic, political, environmental, and international influences to promote positive change, health, and empowerment at individual and systemic levels. In this course, we will focus on identifying the root causes of various social problems and become familiar with community-defined priorities for addressing them. We will discuss how to use psychology as a scientific foundation to better understand social determinants of health and wellness, and discuss best practices on how to build collaborative relationships with community members, groups, and organizations to solve social problems.

Credit 3 units. A&S IQ: SSC EN: S

L33 Psych 3885 The Mental Health Crisis in Higher Education

During the last decade, college campuses have seen unprecedented increases in the proportion of students suffering from mental health problems. Many institutions have responded by increasing the number of mental health counselors available in student health centers, making the accommodations at disability resource centers more robust, and providing safe spaces for students to process incidents and events that have triggered them. Are such interventions improving the well-being of today's students, or might they actually be further encumbering students' psychological health? This discussion-based course will explore arguments made on all sides of this provocative debate and examine research on the nature of today's college students and what resources and services most contribute to their psychological health and well-being. Enrollment is limited to 15 students. Prerequisite: at least 6 units of advanced home-based psychology courses.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 3890 Advanced Psychological Statistics: The General Linear Model and Beyond

The General(ized) Linear Model (GLM) refers to a common family of statistical techniques popular in the social sciences such as ANOVA, regression, and logistic regression. The primary goal of this course is for students to understand the basics and nuances of the GLM. We will also explore and introduce students to extensions of the GLM common in psychology and neuroscience research. These frameworks include multilevel modeling, generalized linear models, Bayesian analyses, machine learning, etc. Students will analyze data using each of these methods using R statistical software, therefore improving their advanced computing skills. By the end of the course, students will understand the general framework used in most statistical tests employed by psychological and neuroscientific researchers. Students will not be expected to know every detail of every test, but will instead have a conceptual understanding of these tools and practice in deploying these tools. PREREQ: L33 Psych 300, Mth 2200, Mth 3200, or DAT 120 and Fluency or proficiency with R statistical software (e.g., Psych 4175).

Credit 3 units. A&S IQ: NSM, AN Art: NSM

L33 Psych 395 Prejudice, Stereotyping, & Discrimination

This course will trace prejudice, stereotyping, and discrimination from its ordinary origins in social cognition to its most extreme consequences in war and genocide. Topics include prejudice, the causes of stereotyping and discrimination, the development of prejudice in children, subtle and overt prejudice and stereotyping, group conflict, the role of social norms, the experience of being a target of discrimination, and interventions to reduce prejudice and discrimination. Areas covered include racism, sexism, ageism, homophobia, ableism, colorism, and religious discrimination. Prerequisite: Psych 100B.

Credit 3 units. A&S IQ: SSC, SC, SD Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 396 Psychological Dynamics of Empathy

In this course, we will explore the antecedents and consequences of empathic motivation, defined broadly. Along the way, we consider answers to several interesting questions: Why are some people generally more empathic than others? Are there cultural differences in levels of this trait? To what extent is empathy an "emotional" or "cognitive" phenomenon? We will also consider the conditions under which empathy is associated with prosocial outcomes (e.g., reducing racial prejudice) but with recognition that empathy has a "darker" side, one that can ironically exacerbate people's preexisting biases. The approach to empathy will be highly interdisciplinary as we consider research and theory within several fields within psychology (e.g., social, personality, cognitive) as well as areas that draw from other scholarly disciplines (e.g. social neuroscience, social anthropology). Prerequisite: Psych 100B/1000.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 4075 Advanced Research Methods & Design

This course is an advanced foray into research design and methods used in psychological science. This course is project-based, writing intensive, and will be supplemented heavily with readings and discussions of topics of broad importance to psychological research (e.g., reliability, validity, signal detection theory, philosophy of science). These readings will enhance your abilities to think critically about psychological research design and methods, as both a consumer and creator of psychological research. During the course of the semester you will complete two original research projects (e.g., an observation study and an experimental study). Together with your classmates you will devise research questions, design studies to test your research questions, collect data, and statistically analyze your results. Individually, you will write-up, and then revise, each research project in an APA-style paper. The writing requirements for this course build on the skills you acquired in Experimental Psychology and will further your abilities to communicate scientific ideas more skillfully, clearly, and accurately. Prerequisite: L33 Psych 301 or 3011

Credit 3 units. A&S IQ: NSM, WI Arch: NSM Art: NSM BU: BA

L33 Psych 4099 Human Evolutionary Psychology

How did evolution by natural selection shape the way human beings think and behave? Does evolution explain human cooperation and friendship, human morality, reproductive decisions and social interactions? What sex differences in cognition or behavior are caused by evolution? This course introduces the concepts and findings of evolutionary psychology, mostly through reading of primary sources--articles from psychology and biology journals--and discussion and presentation of empirical cases. PREREQ: At least 6 units of upper-level, home-based Psychology coursework, OR Anthro 3383.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 413 Contemporary Topics in Social Psychology

Consideration of selected contemporary topics in social psychology. Participation in a research project of appropriate scope. Prerequisite: Psych 315.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC

L33 Psych 4182 Perception, Thought, and Action

This course focuses on current topics in visual perception, visual attention, and the control of action. Readings consist of recent journal articles. Class meetings emphasize presentation and discussion of the material in the readings. Limited to 15 students. PREREQ: Psych 100B/1000 and one of the following: Psych 301/3010, Psych 330/3300, Psych 3401, Psych 344/3440, Psych 360/3600, Psych 361/3610, Psych 3604, Psych 380/3800, Psych 433/4330, or Psych 4604.

Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: BA

L33 Psych 427 Social Gerontology

This course provides an introduction to aging and growing old, from an interdisciplinary perspective. Specific attention is paid to demographics, physical health and illness, mental health, interpersonal relations, work issues, living arrangements, ethics, and death and dying. PREREQ: Junior or Senior standing and completion of 6 advanced units in Psychology.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 4301 Contemporary Topics in Cognitive Development

Cognitive Developmental topics to be covered will include: Piagetian abilities (e.g., conservation, formal reasoning), basic cognitive abilities (e.g., processing speed), executive functions (e.g., working memory), and other current topics (e.g., processing facial stimuli). Prerequisite: Psych 321 or 360.

Credit 3 units.

L33 Psych 4302 Cognitive Psychology Applied to Education

This course is intended to cover topics in the cognitive psychology of human memory, conceptual learning, and comprehension with special focus on areas, theory, and research that have potential application to education. Thus, the course will provide selective coverage of theoretical and empirical work in cognitive psychology that provides potential to inform and improve educational practice. The applicability of these themes will be explicitly developed and evaluated through the primary research literature using educationally oriented experimental paradigms. The course is expected to be of interest and benefit to education majors and to psychology majors interested in cognitive psychology and its applications. PREREQ: Junior/Senior status, 9 units in Psychology and Psych 100B OR Junior/Senior status, 9 units in Education and Psych 100B.

Credit 3 units. A&S IQ: SSC EN: S

L33 Psych 4305 Psychological Science: Fact and Fiction

Skeptical analysis of psychological science as practiced and popularized in the media. Analysis of discrepancies between media and scientific claims regarding areas such as repressed memory, brain imaging, heritability, and psychotherapy. Additional examination of scientific career demands such as peer review, journal publication, and research funding. These topics are interwoven with a review of common errors in reasoning particularly with respect to probabilistic reasoning and the public misperception of the practice and principles of scientific psychology. PREREQ: Psych 100B, Junior or Senior standing, and completion of 6 units of advanced home-based psychology.

Credit 3 units. A&S IQ: SSC, WI Arch: HUM Art: SSC EN: S

L33 Psych 433 Psychology of Language

This course surveys current research and theory in psycholinguistics, covering the biological bases, cognitive bases, and learning of language. We consider studies of normal children and adults, the performance of individuals with various types of language disorders, and computer simulations of language processes. Topics range from the perception and production of speech sounds to the management of conversations. Each student will carry out an original research project on some aspect of psycholinguistics. Prereq: Ling 170D and Psych 100B

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 4355 Personality Development Across the Life Span

This seminar examines how individual differences develop over the lifespan. Or, in other words, how we become who we are. The scope of the class covers a multitude of individual differences constructs (e.g., happiness, intelligence, goals), but a particular focus will be on personality traits. Questions that will be examined include: How early in the lifespan does one's personality emerge? How much do parents

matter in shaping who you become? Does your personality change across the lifespan? Readings will cover theories of development at different life stages and empirical research from childhood to older adulthood. PREREQ: Psych 100B and Psych 353

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC BU: BA EN: S

L33 Psych 4367 Seminar in Positive Psychology

This course focuses on scientific research relevant to the pursuit of happiness and well-being. Topics include the nature and measurement of happiness, the biological basis of positive emotions, an overview of positive trait theories, self-esteem, gratitude, mindset, the mind-body connection, physical activity, emotional intelligence, resilience, prosocial behavior, decision-making, willpower, mindfulness meditation, and the characteristics of successful relationships. As an advanced seminar on these topics, students will parlay their course of study into real-world proposals that universities could use to address the mental health crisis. PREREQS: Intro Psych 100B, and at least 6 units of either upper-level home based psychology coursework OR upper-level coursework from other departments related to well-being.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 4412 Advanced Cognitive Neuroscience

An intensive, case-study based approach to the underlying principles and mechanisms of brain function that give rise to complex human cognitive behavior. Emphasis will be placed on understanding and evaluating cutting-edge neuroscience research that has yielded new insights into the organization and structure of higher mental processes. Students will develop critical thinking via a strong class participation component. Topics include perception, attention, memory, language, emotion, and executive control. Declared Psychology majors will be given priority over others to enroll. PREREQ: Psych 100B/1000, and either Psych 3401 or Psy 344/Bio 3411 or Psych 3604.

Credit 3 units. A&S IQ: NSM Art: NSM

L33 Psych 4413 Advanced Cognitive Neuroscience (Writing Intensive)

This course presents an intensive, case-study based approach to the underlying principles and mechanisms of brain function that give rise to complex human cognitive behavior. Emphasis will be placed on understanding and evaluating cutting-edge neuroscience research that has yielded new insights into the organization and structure of higher mental processes. Students will develop critical thinking and writing skills via a strong class participation component and a writing-intensive format. Topics include perception, attention, memory, language, emotion, and executive control. Writing Intensive. Declared psychology majors will be given priority over others to enroll. Prerequisite: Psych 3401, Psych 344/Biol 3411, or Psych 3604.

Credit 3 units. A&S IQ: NSM, WI Arch: NSM Art: NSM

L33 Psych 444B Independent Study for the Major in P&BS: Cognitive Neuroscience

PREREQ: Acceptance into the P&BS Cognitive Neuroscience major. Permission of a member of the faculty of the department (or other approved supervisor) who agrees to supervise the student's work. In addition to the approved research in the area of cognitive neuroscience, an APA-style research paper must be satisfactorily completed to obtain credit. Petition for Supervision of P&BS 444B are available in Somers Family Hall, room 207B. Students will be enrolled only after they have completed the petition and returned it to the Undergraduate Coordinator in Psychology 207B. Open only to P&BS:CN majors and with prior approval only.

Credit 3 units. A&S IQ: SSC EN: S

L33 Psych 444C Independent Study for a Concentration in Psychological and Brain Sciences

PREREQ: Acceptance into a Concentration in Psychological and Brain Sciences. Written permission (Petition for Supervision of P&BS 444C) of a member of the faculty of the department (or other approved supervisor) who agrees to supervise the student's work is also required. In addition to the approved research for the concentration, an APA-style research paper must be satisfactorily completed to obtain credit. Petition for Supervision of P&BS 444C are available in Somers Family Hall, room 207B. Students will be enrolled only after they have completed both the Petition for a Concentration in P&BS and the Petition for Supervision of P&BS 444C, and returned them to the Undergraduate Coordinator in 207B. Open only to P&BS majors and with prior approval.
Credit 3 units.

L33 Psych 4512 Neurobiology of Learning & Memory

The brain is the most complex object in the known universe, and among its most incredible attributes is its ability to acquire and store vast amounts of information to guide behavior. Over a lifetime, our experiences shape our brains and our behavior, ultimately making each of us unique. What "information" is encoded by the brain? How is it stored? How is it retrieved? How does this occur at different spatial and temporal scales? Does stored information change over time? How do learning and memory change across the lifespan, and with neurological disorders? Can you trust your memories?
Credit 3 units. A&S IQ: NSM BU: BA

L33 Psych 4555 Emotion Regulation

The purpose of this course is to provide an introduction to the field of emotion regulation. We will discuss theoretical and empirical work on emotion regulation from various areas of psychology, including social, personality, developmental, clinical, and neuroscience. Example topics include definitional issues, goals and strategies, personal and interpersonal consequences, sociocultural influences, life-span development, health and psychopathology. PREREQ: Psych 301.
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 4557 Biopsychosocial Aspects of Eating Disorders and Obesity

This seminar examines the epidemiology, etiology, prevention, and treatment of body image, eating disorders, and obesity. An emphasis will be placed on understanding the characteristic symptoms of excessive dieting, body image disturbance, and binge eating, not only as formal psychiatric syndromes, but as a representation of dysregulatory processes reflecting social-cultural, psychological, and biological disturbances. Students will also learn about the clinical characteristics, medical sequelae, and physical aspects of eating disorders and obesity. PREREQ: Psych 100B and junior or senior standing, plus 6 units of advanced home-based psychology courses.
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 4591 The Development of Social Cognition

This course will explore what is known about the development of social cognition. Our starting point will be infants' capacity to navigate the social world, for instance, detecting agents, identifying social partners, and learning from those around us. We will consider what happens when the human ability to reason about others breaks down (as with autism), and what this can teach us about typical development. Each week we will cover one topic and a related set of readings. Class meetings will be devoted to active discussion and debate about the content of the readings. Students are required to write a weekly

reaction paper to the readings to promote class discussion, and will give an in-class presentation on a novel research topic at the end of the semester. Graduate students may have additional course requirements. PREREQ: Psych 100B and one of the following: Psych 315 or 321 or 360. Credit 3 units. A&S IQ: SSC BU: BA EN: S

L33 Psych 4592 Development of Social Cognition (Writing Intensive)

This course explores current hot topics in social cognitive development. We will study this in children by examining the development of social groups/categories and identity in children, with a focus on language, race, and ethnicity. We will also explore the emergence and development of bias and prejudice and approaches to reducing its development in children. We will explore these issues in the context of innate knowledge and the effects of the environment on children's development. Each week we will cover a topic by reading one book chapter and two journal articles. Class time will be devoted to active discussion of these readings, with lecture and class activities as needed, to complement the readings and set the stage for discussion. This is a writing intensive course, so a second goal is to improve student writing. There will be several writing assignments that will receive extensive feedback from the instructor, and then students will write an improved final version. Students will also give class presentations: one that directly addresses writing and another on a research topic of their choice that is relevant to social cognitive development. Prerequisites: Psych 100B and either Psych 315, Psych 321, or Psych 360.
Credit 3 units. A&S IQ: SSC, WI Arch: SSC Art: SSC EN: S

L33 Psych 4593 Psychology of the Good Life

What is the good life, and how can people achieve it? This discussion-based seminar class explores two aspects of the "good life": (1) "good" for oneself (living a personally fulfilled life), and (2) "good" for others (living an ethical life, being a good person). We will consider how psychological science can be used to conceptualize, uncover the causes of, and promote well-being for oneself and for others. There will be a particular focus on the ways in which these two aspects of the good life are in alignment or in conflict with each other. Classes will focus on critically evaluating research and integrating and connecting the weekly readings to students' personal research interests and lives, primarily through student-led discussions. PREREQ: Psych 100B, Psych 301/3011, and either Psych 315 or Psych 353 or Psych 367
Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 461 Seminar in Selected Topics in Learning & Memory: Cognitive Illusions

This course will consider illusions of perceiving, attending, remembering and, more broadly, thinking. The reading will be concentrated on three books - Blink, The Invisible Gorilla, and Thinking Fast and Slow - as well as selected journal articles. We will consider how processes that lead us astray in some situations are the same ones that aid us in other situations, which is why these processes exist. Students will write essays and a term paper on one illusion or class of illusions. Prerequisites: Psych 100B and either Psych 360 or Psych 380.
Credit 3 units. BU: BA

L33 Psych 4615 The Science of Paying Attention

What processes underlie humans' ability to "pay" attention? This course will introduce students to theories of attention and cognitive control. Students will develop an understanding of empirical approaches to studying the control of attention, and examine factors that facilitate and impair humans' ability to pay attention. A final section will examine attention and cognitive control challenges that accompany aging and select psychological disorders such as ADHD, and applications of attention and cognitive control research to the classroom, driving, and other contexts. PREREQ: Psych 100B and Psych 301.

Credit 3 units. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 4631 Introduction to Computational Cognitive Science

How does the mind work? Over the last few decades, cognitive psychologists have become increasingly interested in using computational models. These models are designed to describe cognitive processes and the behavior that is produced by them. This computational approach has several advantages. Computational theories of cognition are more specific than verbal theories. Therefore, they do not only afford precisely quantifying certain aspects of cognition, but they also make it possible to simulate cognitive processes. This course provides an introduction to several leading computational methods for understanding cognition, including model fitting and comparison, reinforcement learning, neural networks and Bayesian modeling. These methods will be applied to a wide range of cognitive phenomena, such as short-term memory, reinforcement learning, decision making, cognitive control, concept learning and visual perception. Prerequisites: Psych 100B and Psych 301/3011.

Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM BU: BA

L33 Psych 4651 History and Modern Systems of Psychology

An introduction to the history of psychology. This course begins with a brief consideration of forces leading to the development of psychology in the mid-1800s. It then examines the birth of modern psychology in Germany and the schools of psychology that emerged early in the 20th century. Newer orientations and ideas are considered in the final segment of the course. We also consider the impact of psychology on American public life during the 20th century. Prerequisite: Psych 100B, junior or senior standing, and 6 units of advanced home-based psychology courses.

Credit 3 units. A&S IQ: HUM Arch: HUM Art: HUM EN: H

L33 Psych 4746 Biological Pathways to Psychopathology: From Genes and the Environment to Brain and Behavior

This seminar will introduce students to methods and recent empirical literature evaluating links between genes, brain, and behavior. This research is beginning to illuminate specific biological pathways shaping risk for psychopathology. In particular, the course focuses on the design, analysis, and interpretation of multimodal research (e.g., fMRI, PET, EEG, pharmacology, molecular genetics, environmental assessment/manipulation) examining the biological underpinnings of behavior relevant to psychopathology. Primary journal articles, reviews, and book chapters are the readings for this seminar. PREREQ: Psych 100B and one of the following: Genes, Environment, and Human Behavior (Psych 345), Biological Psychology (Psych 3401), or Principles of Biology II (Biol 2970); OR Graduate Standing (prior coursework in psychology, neuroscience, and genetics is advised).

Credit 3 units. A&S IQ: NSM Arch: SSC Art: SSC

L33 Psych 4765 Inside the Disordered Brain: Biological Bases of the Major Mental Disorders

How do subtle disturbances in brain circuits lead to abnormal behavior and psychopathology? This course provides students with a working knowledge of our rapidly evolving understanding of brain circuits that create order in our social, emotional and cognitive worlds, and how disorder within these circuits leads to a broad range of psychopathology including depression, anxiety, phobias, PTSD, OCD, addiction, schizophrenia, psychopathy and violence. PREREQ: Psych 100B and one of the following: Biological Psychology (Psych 3401), Abnormal Psych (Psych 354), or a basic Biology/Neuroscience course.

Credit 3 units. A&S IQ: NSM Arch: NSM Art: NSM

L33 Psych 494 Behavioral Psychology Readings Group

This weekly journal-style readings course provides the opportunity to read and discuss seminal as well as current writings on the conceptual aspects of behavioral psychology and relevant research. Points of contact among behaviorism, cognitivism, and neuroscience and the natural lines of fracture will be examined. Prerequisites: Psych 100B and one of the following: Psych 361, Psych 360, or a Philosophy course.

Credit 1 unit. A&S IQ: SSC Arch: SSC Art: SSC EN: S

L33 Psych 498 Study for Honors

Acceptance into the Honors Program is based on superior performance as evidenced by the student's record in undergraduate course work and the written agreement (Petition for Permission to Enroll) of a member of the faculty of the Department (or other approved supervisor) to supervise an Honors project. The student must complete 6 units of Honors work (3 units of Psych 498 and 3 units of Psych 499), submit an acceptable written thesis, and be recommended by the Department. Recommendation for an Honors degree will be based on the evaluation of the written thesis and the student's overall performance as an undergraduate. Students in the Honors Program meet regularly in the Honors Seminar to discuss their research and become acquainted with the work of the other students. Psych 498 is a writing intensive course. Permission of Instructor is required for this course. All students must meet with Dr. Sommers prior to registering. Prerequisite: Psych 301 or 3011.

Credit 3 units. A&S IQ: SSC, WI EN: S

L33 Psych 499 Study for Honors

Acceptance into the Honors program is based on superior performance as evidenced by the student's record in undergraduate course work and the written agreement (Petition for Permission to Enroll) of a member of the faculty of the Department (or other approved supervisor) to supervise an Honors project, as well as the Honors Coordinator, Dr. Mitch Sommers. The student must complete 6 units of Honors work (3 units of Psych 498 and 3 units of Psych 499), submit an acceptable written thesis, and be recommended by the department. Recommendation for an Honors degree will be based on the evaluation of the written thesis and the student's overall performance as an undergraduate. All students must meet with Dr. Sommers prior to registering. Students in the Honors Program will meet regularly in the Honors Seminar to discuss their research and become acquainted with the work of the other students. PREREQ: Psych 498

Credit 3 units. A&S IQ: SSC Art: SSC EN: S