COGNITIVE SCIENCE

Department website: https://cogsci.barnard.edu/

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Cognitive Science is the cross-disciplinary study of how the mind works, with a focus on perception, reasoning, memory, attention, language, decision-making, motor control, and problem solving. Cognitive scientists often compare minds to computers. In particular, they describe mental processes as computational operations on internal representations. For instance, perception is seen as a representation of the external world that results from sensory stimulation; learning is analyzed as the addition of new representations through interactions with the environment; reasoning is treated as the addition of new representations through operations on existing representations.

Cognitive Science is an interdisciplinary field: it draws on tools and ideas from psychology, neuroscience, linguistics, economics, computer science, and philosophy, with affiliated faculty in each of these disciplines. Psychologists study the computational operations that we use to solve specific tasks; neuroscientists study the implementation of those operations in the brain; linguists study the representations involved in communication; economists study the representations involved in decisions involving uncertainty and reward; computer scientists consider how the processes involved in human cognition fit into a more general theory of computations and a larger space of tasks; and philosophers ask fundamental questions about the nature of representation and computation.

Learning Objectives

Cognitive Science majors will gain fluency in computational methods; a capacity for rigorous and careful thought; a broad understanding of the affiliated disciplines; and a deep understanding of cognition.

Barnard Director: Professor John Morrison (Philosophy, Barnard)
Columbia Director: Professor Mariusz S. Kozak (Music, Columbia)

Steering Committee:
Dima Amso (Psychology, Columbia)
Mariusz S. Kozak (Music, Columbia)
John McWhorter (Linguistics, Columbia)
John Morrison (Philosophy, Barnard)
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Ann Senghas (Psychology, Barnard)
Lisa Son (Psychology, Barnard)
Michael Woodford (Economics, Columbia)
Rebecca Wright (Computer Science, Barnard)

Affiliated Faculty:
Mariam Aly (Psychology, Columbia)
Christopher Baldassano (Psychology, Columbia)
Peter Balsam (Neuroscience & Behavior; Psychology, Barnard)
Akeel Bilgrami (Philosophy, Columbia)
BJ Casey (Neuroscience & Behavior, Barnard)

Jessica Collins (Philosophy, Columbia)
Lila Davachi (Psychology, Columbia)
Mark Dean (Economics, Columbia)
Aaron A. Fox (Music, Columbia)
David A. Freedberg (Art History & Archaeology, Columbia)
Melissa Fusco (Philosophy, Columbia)
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Larisa Heiphetz (Psychology, Columbia)
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Karen Lewis (Philosophy, Barnard)
Caroline Marvin (Psychology, Columbia)
Koleen McCrink (Psychology, Barnard)
Janet Metcalfe (Psychology, Columbia)
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Christos Papadimitriou (Computer Science, Columbia)
Robert Remez (Psychology, Barnard)
Daphna Shohamy (Psychology, Columbia)
Rae Silver (Psychology, Columbia)
Alfredo Spagna (Psychology, Columbia)
Herbert Terrace (Psychology, Columbia)
Nim Tottenham (Psychology, Columbia)
Carl Vondrick (Computer Science, Columbia)
Alex White (Neuroscience and Behavior, Barnard)
Keren Yarhi-Milo (Political Science, Columbia)

Cognitive science is the cross-disciplinary study of how the mind works, with a focus on perception, reasoning, memory, attention, language, decision-making, motor control, and problem solving. It draws on tools and ideas from psychology, neuroscience, linguistics, economics, computer science, and philosophy. The major requirements are designed to provide breadth in the affiliated disciplines and depth in the student's chosen area of specialization.

A major in Cognitive Science consists of seven required courses and four electives in a chosen area of specialization culminating in the senior capstone. The minimum number of courses is 13 and the minimum number of points is 39.

Major Requirements:

1. Required courses (7 classes)

- COGS UN1001 Introduction to Cognitive Science Introduction to Cognitive Science
- One cognition-focused course in each of four areas: psychology, neuroscience, philosophy, and linguistics.
  Courses must be chosen from the approved list in each area; please see the approved lists below.
- Two courses in a fifth area: mathematical and computational methods.
  Courses must be chosen from the approved list and not be redundant; please see the approved lists below.

2. Area of Specialization and Electives (four classes)

Students must choose an area of specialization and four electives to build expertise in that area.

- Sample specializations: aesthetics, cognitive development, cognitive linguistics, cognitive neuroscience, cognitive psychology, consciousness, decision science, human-computer interaction, intelligence, learning, memory, natural language processing,

neuroeconomics, perception, and social cognition. Please see below for lists of possible electives for these specializations.

- The choice of specialization is flexible; the sample specializations are just examples. This is an opportunity for students to be creative; a student who has ideas about a new specialization that they would like to pursue may do so with the approval of the program director.
- There must be at least one faculty member affiliated with the program who has expertise in the student's chosen area so that they can ensure that the student's electives will provide sufficient preparation for the senior project.

3. Senior Capstone

Students may fulfill the Senior Capstone requirement in two ways: with a year-long senior project, or by taking two additional advanced courses.

- The senior project is a year-long project in a student's area of specialization under the supervision of a chosen advisor. The project could be an experiment or a paper. Please note that a student who wishes to do a senior project is responsible for finding an advisor for the project, though the program director may be able to suggest faculty members whom the student might contact.
  - Students who do senior projects must register for both COGS UN3903 Senior Project (3 points) and COGS UN3901 Senior Project Seminar (1 point) in the fall and COGS UN3904 Senior Project (3 points) and COGS UN3902 Senior Project Seminar (1 point) in the spring (8 points total).
  - The Senior Project Seminar is an opportunity for students to present their projects to each other.
- While a year-long project is recommended, students may also satisfy the senior capstone requirement by taking two advanced courses, at least one of which must include a significant paper or project. The courses must be chosen in consultation with the program director and must be related to the student's area of specialization. Both courses should be at the 3000-level or above.

The area of specialization, electives, and capstone must form a coherent course of study and must be approved by the program director.

Please note:

- Courses taken pass/fail may not count towards Cognitive Science major requirements.

- While some courses listed under the sample specializations are also on the lists of courses approved to count for area requirements, no course may be double counted: if a student is counting a course for an area requirement, then that course may not be counted as an elective.

Courses approved to count in each area:
Psychology

PSYC BC2107	PSYCHOLOGY OF LEARNING - LEC
PSYC BC2110	PERCEPTION-LECTURE
PSYC BC2115	COGNITIVE PSYCHOLOGY - LEC
PSYC UN2210	COGNITION: BASIC PROCESSES
PSYC UN2220	COGNITION: MEMORY AND STRESS
PSYC UN2270	Perception and Cognition in Social Life

PSYC UN2430	COGNITIVE NEUROSCIENCE
PSYC BC3394	METACOGNITION

Please note that PSYC UN2430 Cognitive Neuroscience may be used to fulfill either the Neuroscience requirement or the Psychology requirement, but not both.

Neuroscience

NSBV BC1001	INTRODUCTION TO NEUROSCIENCE
NSBV BC2008	ADAPTIVE OR ARRESTED DEVELOPMENT OF THE ADOLESCENT BRAIN
PSYC UN2430	COGNITIVE NEUROSCIENCE
PSYC UN2435	Social Neuroscience
PSYC UN2450	BEHAVIORAL NEUROSCIENCE
PSYC UN2481	Developmental Cognitive Neuroscience
NSBV BC3381	Visual Neuroscience: From the Eyeball to the Mind's Eye

Please note that PSYC UN2430 Cognitive Neuroscience may be used to fulfill either the Neuroscience requirement or the Psychology requirement, but not both.

Philosophy

PHIL UN2655	COGNITIVE SCIENCE AND PHILOSOPHY
PHIL UN3252	Philosophy of Language and Mind
PHIL UN3651	
PHIL UN3655	TOPICS IN COGNITIVE SCIENCE AND PHILOSOPHY
PHIL UN3912	SEMINAR

Please note that only the "Perception" section of PHIL UN3912 counts.

Linguistics

LING UN3101	INTRODUCTION TO LINGUISTICS

Mathematical and Computational Methods

Logic and Decision Theory:

ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR
PHIL UN1401	INTRODUCTION TO LOGIC
PHIL UN3411	SYMBOLIC LOGIC
PHIL GU4561	PROBABILITY # DECISION THEORY
PSYC UN2235	THINKING AND DECISION MAKING

Statistics:

ECON BC1007	MATH METHODS FOR ECONOMICS
ECON BC2411	STATISTICS FOR ECONOMICS
PSYC BC1101	STATISTICS LECTURE AND RECITATION
PSYC UN1610	STATISTCS-BEHAVIORL SCIENTISTS
STAT UN1001	INTRO TO STATISTICAL REASONING
STAT UN1101	INTRODUCTION TO STATISTICS
STAT UN1201	CALC-BASED INTRO TO STATISTICS

Computer Science:

COMS BC1016	Introduction to Computational Thinking and Data Science
COMS W1001	Introduction to Information Science
COMS W1002	COMPUTING IN CONTEXT
COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1007	
COMS W3134	Data Structures in Java
COMS W3136	ESSENTIAL DATA STRUCTURES
COMS W3137	HONORS DATA STRUCTURES # ALGOL
ENGI E1006	INTRO TO COMP FOR ENG/APP SCI
STEM BC2223	PROGRAMMING BEHAV SCIENCES

Sample Specializations

Please note that while a few of the courses listed below are on the lists of courses approved to count for area requirements, no course may be double counted: if a student uses a course to fulfill an area requirement then that course may not be counted as an elective.

Aesthetics
4 of the following:

MUSI UN2320	Introduction to Music Cognition
SOAR AV4000	SOUND:Music, Math, and Mind
PHIL GU4055	
PSYC GU4239	COG NEURO NARRATIVE FILM
MUSI GU4325	Topics in Music Cognition
CLEN GU4728	Literature in the Age of AI

Cognitive Development
4 of the following:

PSYC BC2115	COGNITIVE PSYCHOLOGY - LEC
PSYC BC2129	DEVELOPMENTAL PSYCHOLOGY-LEC
PSYC UN2481	Developmental Cognitive Neuroscience
PSYC BC3369	Language Development
PSYC GU4202	Theories of Change in Human Development
PSYC GU4222	The Cognitive Neuroscience of Aging (Seminar)
PSYC GU4498	BEHAVIORAL EPIGENETICS

Cognitive Linguistics
4 of the following:

ANTH UN1009	INTRO TO LANGUAGE # CULTURE
PSYC BC3164	PERCEPTION AND LANGUAGE
PHIL UN3252	Philosophy of Language and Mind
PSYC BC3369	Language Development

LING GU4202	COGNITIVE LINGUISTICS
LING GU4206	ADV GRAMMAR AND GRAMMARS
PSYC GU4244	LANGUAGE AND MIND
LING GU4376	PHONETICS # PHONOLOGY

Cognitive Neuroscience
4 of the following:

PSYC UN2481	Developmental Cognitive Neuroscience
NSBV BC3405	NEUROSCIENCE OF TRAUMA
PSYC GU4225	CONSCIOUSNESS # ATTENTION
PSYC GU4239	COG NEURO NARRATIVE FILM
PSYC GU4415	METHODS/ISSU-COGNITIV NEU
PSYC GU4498	BEHAVIORAL EPIGENETICS

Cognitive Psychology
4 of the following:

PSYC BC2115	COGNITIVE PSYCHOLOGY - LEC
PSYC BC2129	DEVELOPMENTAL PSYCHOLOGY-LEC
PSYC UN2220	COGNITION: MEMORY AND STRESS
PSYC BC3164	PERCEPTION AND LANGUAGE
PSYC BC3394	METACOGNITION
PSYC GU4225	CONSCIOUSNESS # ATTENTION
PSYC GU4672	MORAL PSYCHOLOGY

Consciousness
4 of the following:

PSYC UN2210	COGNITION: BASIC PROCESSES
PHIL UN3651	
PSYC GU4225	CONSCIOUSNESS # ATTENTION
PSYC GU4244	LANGUAGE AND MIND

Decision Science
4 of the following:

PSYC BC2178	FORENSIC PSYCHOLOGY
PSYC UN2235	THINKING AND DECISION MAKING
PSYC UN2620	ABNORMAL BEHAVIOR
PSYC GU4202	Theories of Change in Human Development
PSYC GU4241	Mentalizing: How we read people
PSYC GU4430	Learning and the Brain (Seminar)
COGS GU4800	Resource-Constrained Decision Making

Human-Computer Interaction
4 of the following:

PSYC UN3270	COMPUT APPROACHES-HUMAN VISION
PSYC BC3399	HUMAN AND MACHINES
COMS W4170	USER INTERFACE DESIGN
IEME E4200	HUMAN-CENTERED DESIGN AND INNOVATION
PSYC GU4236	Machine Intelligence
COMS E6178	Human-Computer Interaction

Intelligence

4 of the following:

PSYC GU4236	Machine Intelligence
COMS W4701	ARTIFICIAL INTELLIGENCE
COMS W4705	NATURAL LANGUAGE PROCESSING
COMS W4771	MACHINE LEARNING
PSYC GR6080	Introduction to Neural Networks and Deep Learning

Learning

4 of the following:

PSYC BC2107	PSYCHOLOGY OF LEARNING - LEC
COMS W4705	NATURAL LANGUAGE PROCESSING
COMS W4771	MACHINE LEARNING
PSYC GR6080	Introduction to Neural Networks and Deep Learning

Memory

4 of the following:

PSYC BC2107	PSYCHOLOGY OF LEARNING - LEC
PSYC UN2220	COGNITION: MEMORY AND STRESS
PSYC UN3445	THE BRAIN AND MEMORY
PSYC UN3455	Neurobiology of Working Memory

Natural Language Processing

4 of the following:

LING UN3103	Language, Brain and Mind
PHIL UN3252	Philosophy of Language and Mind
PSYC GU4236	Machine Intelligence
PSYC GU4242	Evolution of Language (seminar)
COMS W4705	NATURAL LANGUAGE PROCESSING

Neuroeconomics

1. Either:

| ECON BC3035 | INTERMEDTE MICROECONOMC THEORY |

Or:

| ECON UN3211 | INTERMEDIATE MICROECONOMICS |

2. Either:

| ECON GU4020 | ECON OF UNCERTAINTY # INFORMTN |

Or:

| ECON GU4415 | GAME THEORY |

3. Two from the following list:

PSYC UN2235	THINKING AND DECISION MAKING
ECON BC3048	Introduction to Behavioral Economics
PSYC GU4287	DECISION ARCHITECTURE
ECON GU4840	BEHAVIORAL ECONOMICS
ECON GU4860	BEHAVIORAL FINANCE (4.)
ECON GU4850	COGNITIVE MECH # ECON BEHAVIOR

4.

| PSYC GU4289 | THE GAMES PEOPLE PLAY:PSYCH OF STRAT DEC |

Perception

4 of the following:

PSYC BC2110	PERCEPTION-LECTURE
PSYC BC3164	PERCEPTION AND LANGUAGE
NSBV BC3381	Visual Neuroscience: From the Eyeball to the Mind's Eye
NSBV BC3389	Hallucinations, illusions, dreaming and imagination
PSYC GU4225	CONSCIOUSNESS # ATTENTION
PSYC GU4280	CORE KNOWLEDGE

Social Cognition

4 of the following:

PSYC UN1450	RESEARCH METHODS - SOCIAL COGNITION # EMOTION
ANTH UN2004	INTRO TO SOC # CULTURAL THEORY
PSYC UN2435	Social Neuroscience
PSYC UN2630	SOCIAL PSYCHOLOGY

Required Courses

Required for all Cognitive Science majors:

COGS UN1001 Introduction to Cognitive Science. *3 points*.

Fall 2024: COGS UN1001

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COGS 1001	001/00017	M W 2:40pm - 3:55pm 304 Barnard Hall	John Morrison, Christopher Baldassano	3	142/150

Required for Cognitive Science majors doing senior projects:

COGS UN3901 Senior Project Seminar. *1.00 point*.

Discussion of senior research projects during the fall and spring terms that culminate in written and oral senior theses. Each project must be supervised by a cognitive scientist working at Barnard or Columbia

Fall 2024: COGS UN3901

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COGS 3901	001/00225	W 4:10pm - 6:00pm 502 Diana Center	John Morrison	1.00	0/20

COGS UN3902 Senior Project Seminar. *1.00 point*.

Discussion of senior research projects during the fall and spring terms that culminate in written and oral senior theses. Each project must be supervised by a cognitive scientist working at Barnard or Columbia

Spring 2024: COGS UN3902

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COGS 3902	001/00021	M 4:10pm - 6:00pm 405 Barnard Hall	John Morrison	1.00	13/13

COGS UN3903 Senior Project. *3.00 points*.

Senior Project in Cognitive Science

COGS UN3904 Senior Project. *3.00 points*.

Senior Project in Cognitive Science

Spring 2024: COGS UN3904

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COGS 3904	001/00022		John Morrison	3.00	1/1
COGS 3904	002/11453		Mariusz Kozak	3.00	2/2
COGS 3904	003/11454		Janet Metcalfe	3.00	2/2
COGS 3904	004/11455		William Foley	3.00	1/1
COGS 3904	005/00023		John Glendinning	3.00	1/1
COGS 3904	006/00024		Robert Remez	3.00	1/1
COGS 3904	007/00025		Luca Iemi	3.00	1/1
COGS 3904	008/11456		Christopher Baldassano	3.00	1/1
COGS 3904	009/11457		Jon Freeman	3.00	1/1
COGS 3904	010/11458		Michael Woodford	3.00	1/1
COGS 3904	011/20999		John Wilcox	3.00	1/1

Psychology:

PSYC BC2107 PSYCHOLOGY OF LEARNING - LEC. *3.00 points*.
Prerequisites: BC1001 Introduction of Psychology or permission of the instructor. Enrollment limited to 72 students.
Prerequisites: PSYC BC1001 Introduction to Psychology or COGS UN1001 Introduction to Cognitive Science or permission of the instructor. Lecture course covering the basic methods, results, and theory in the study of how experience affects behavior. The roles of early exposure, habituation, sensitization, conditioning, imitation, and memory in the acquisition and performance of behavior are studied. The following Columbia University course is considered overlapping and a student cannot receive credit for both the BC course and the equivalent CU course: PSYC UN1440 Experimental: Learning and Motivation

Fall 2024: PSYC BC2107

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2107	001/00069	T Th 10:10am - 11:25am 408 Zankel	Ken Light	3.00	85/100

PSYC BC2110 PERCEPTION-LECTURE. *3.00 points*.
Prerequisites: PSYC BC1001 Introduction to Psychology or COGS UN1001 Introduction to Cognitive Science or permission of the instructor. Lecture course covering an introduction to problems, methods, and research in perception. Discussion of psychological studies of seeing, hearing, touching, tasting, and smelling. Note that this lecture can be taken without its affiliated lab, PSYC BC2109, however, if a student completes this lecture, she cannot enroll in the lab in a later semester. The following Columbia University course is considered overlapping and a student cannot receive credit for both the BC course and the equivalent CU course: PSYC UN1480 Perception and Attention; and PSYC UN2230 Perception and Sensory Processes

Fall 2024: PSYC BC2110

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2110	001/00070	M W 10:10am - 11:25am 323 Milbank Hall	Robert Remez	3.00	47/55

PSYC BC2115 COGNITIVE PSYCHOLOGY - LEC. *3.00 points*.
Prerequisites: BC1001 or permission of the instructor.
Prerequisites: PSYC BC1001 Introduction to Psychology or COGS UN1001 Introduction to Cognitive Science or permission of the instructor. Lecture covering selected topics illustrating the methods, findings, and theories of contemporary cognitive psychology. Topics include attention, memory, categorization, perception, and decision making. Special topics include neuropsychology and cognitive neuroscience. Note that this lecture can be taken without its affiliated lab, PSYC BC2114, however, if a student completes this lecture, she cannot enroll in the lab in a later semester. The following Columbia University courses are considered overlapping and a student cannot receive credit for both the BC course and the equivalent CU course: PSYC UN2220 Cognition: Memory and Stress; and PSYC UN2210 Cognition: Basic Processes

Spring 2024: PSYC BC2115

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2115	001/00438	M W 10:10am - 11:25am Ll002 Milstein Center	Lisa Son	3.00	95/100

PSYC UN2210 COGNITION: BASIC PROCESSES. *3.00 points*.

Spring 2024: PSYC UN2210

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2210	001/11888	M W 1:10pm - 2:25pm 501 Schermerhorn Hall	Nora Isacoff	3.00	107/110

PSYC UN2220 COGNITION: MEMORY AND STRESS. *3.00 points*.
CC/GS: Partial Fulfillment of Science Requirement
Attendance at the first class is mandatory.

Prerequisites: PSYC UN1001 or PSYC UN1010 or the instructor's permission.
Prerequisites: PSYC UN1001 or PSYC UN1010 or the instructors permission. Memory, attention, and stress in human cognition

Fall 2024: PSYC UN2220

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2220	001/10668	M W 1:10pm - 2:25pm Room TBA	Janet Metcalfe	3.00	75/75

PSYC UN2270 Perception and Cognition in Social Life. *3.00 points*.
This course focuses on perception and cognition in social life. We start by addressing the core social motivations we experience in everyday life (e.g., our desire to feel like we belong to a group). Next, we examine how these motivations shape our basic sensory experiences—for example why we can't help but anthropomorphize inanimate objects or enjoy holding hands with our partner. We then examine the mental strategies we use to meet our social needs, such as how we figure out other people's thoughts and feelings, as well as our own. Finally, we wrap up by examining how these motivations, perceptions, and cognitions play out not just within one mind – but also between minds in everyday social interaction. This course will not only teach you the fundamental science behind the social mind. It will also let you see your own social life through a whole new lens

Spring 2024: PSYC UN2270

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2270	001/14744	M W 2:40pm - 3:55pm 329 Pupin Laboratories	Meghan Meyer	3.00	69/85

PSYC UN2430 COGNITIVE NEUROSCIENCE. *3.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 or equivalent introductory course in Psychology
Prerequisites: PSYC UN1001 or equivalent introductory course in Psychology This course provides an in-depth survey of data and models of a wide variety of human cognitive functions. Drawing on behavioral, neuropsychological, and neuroimaging research, the course explores the neural mechanisms underlying complex cognitive processes, such as perception, memory, and decision making. Importantly, the course examines the logic and assumptions that permit us to interpret brain activity in psychological terms

Fall 2024: PSYC UN2430

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2430	001/10671	M W 2:40pm - 3:55pm Room TBA	Alfredo Spagna	3.00	109/120

PSYC BC3394 METACOGNITION. *4.00 points*.
Prerequisites: BC1001, and one psychology laboratory course; final enrollment determined on the first day of class Metacognition is one of the latest psychological buzzwords, but what exactly is metacognition? Metacognition enables us to be successful learners, problem solvers, and decision makers, and as often been used synonymously with words such as language, awareness, and consciousness. In this seminar, we will examine various components of metacognition, including its role in learning and memory, and its existence in various non-human populations. In addition, we will explore the fragility of metacognition, including illusions of confidence and harmful control strategies that people use. Readings will include classic and important recent papers in the field, looking at metacognition as a higher-level cognitive process, and as knowledge individuals use to guide behavior

Fall 2024: PSYC BC3394

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3394	001/00736	W 10:10am - 12:00pm 119 Milstein Center	Lisa Son	4.00	20/20

Please note that PSYC UN2430 Cognitive Neuroscience may be used to fulfill either the Neuroscience requirement or the Psychology requirement, but not both.

Neuroscience

NSBV BC1001 INTRODUCTION TO NEUROSCIENCE. *3.00 points*.
This course is required for all the other courses offered in Neuroscience and Behavior. The course introduces students to the anatomy and physiology of the nervous system. The topics include the biological structure of the nervous system and its different cell types, the basis of the action potential, principles of neurotransmission, neuronal basis of behavior, sleep/wake cycles, and basic aspects of clinical neuroscience

Spring 2024: NSBV BC1001

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
NSBV 1001	001/00037	T Th 10:10am - 11:25am 304 Barnard Hall	Alex White	3.00	102/100

Fall 2024: NSBV BC1001

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
NSBV 1001	001/00057	T Th 8:40am - 9:55am 304 Barnard Hall	BJ Casey	3.00	78/95

NSBV BC2008 ADAPTIVE OR ARRESTED DEVELOPMENT OF THE ADOLESCENT BRAIN. *3.00 points*.
The teen brain has received a lot of media coverage with advances in brain imaging techniques that provide a voyeuristic opportunity for us to look under the hood of the behaving adolescent brain. This course will cover empirical and theoretical accounts of adolescent-specific changes in brain and behavior that relate to the development of self control. These accounts of adolescent brain and behavior will then be discussed in the context of relevant legal, social and health policy issues. Lectures and discussion will address: Under what circumstances self control appears to be diminished in adolescents. How do dynamic changes in neural circuitry help to explain changes in self control across development? When does the capacity for self control fully mature? Are these changes observed in other species? How might these changes be evolutionarily adaptive and when are they maladaptive? How might understanding adolescent brain and behavioral development inform interventions and treatments for maladaptive behavior or inform policy for changing the environment to protect youth?

PSYC UN2430 COGNITIVE NEUROSCIENCE. *3.00 points.*
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 or equivalent introductory course in Psychology
Prerequisites: PSYC UN1001 or equivalent introductory course in Psychology This course provides an in-depth survey of data and models of a wide variety of human cognitive functions. Drawing on behavioral, neuropsychological, and neuroimaging research, the course explores the neural mechanisms underlying complex cognitive processes, such as perception, memory, and decision making. Importantly, the course examines the logic and assumptions that permit us to interpret brain activity in psychological terms

Fall 2024: PSYC UN2430

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2430	001/10671	M W 2:40pm - 3:55pm Room TBA	Alfredo Spagna	3.00	109/120

PSYC UN2435 Social Neuroscience. *3.00 points.*
This course will provide a broad overview of the field of social neuroscience. We will consider how social processes are implemented at the neural level, but also how neural mechanisms help give rise to social phenomena and cultural experiences. Many believe that the large expansion of the human brain evolved due to the complex demands of dealing with social others—competing or cooperating with them, deceiving or empathizing with them, understanding or misjudging them. What kind of "social brain" has this evolutionary past left us with? In this course, we will review core principles, theories, and methods guiding social neuroscience, as well as research examining the brain basis of processes such as theory of mind, emotion, stereotyping, social group identity, empathy, judging faces and bodies, morality, decision-making, the impact of culture and development, among others. Overall, this course will introduce students to the field of social neuroscience and its multi-level approach to understanding the brain in its social context

Spring 2024: PSYC UN2435

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2435	001/11892	M W 2:40pm - 3:55pm 501 Schermerhorn Hall	Jon Freeman	3.00	127/150

Fall 2024: PSYC UN2435

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2435	001/10672	M W 2:40pm - 3:55pm Room TBA	Jon Freeman	3.00	103/120

PSYC UN2450 BEHAVIORAL NEUROSCIENCE. *3.00 points.*
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 or PSYC UN1010 or the instructor's permission.
Prerequisites: PSYC UN1001 or PSYC UN1010 or the instructors permission. Examines the principles governing neuronal activity, the role of neurotransmitter systems in memory and motivational processes, the presumed brain dysfunctions that give rise to schizophrenia and depression, and philosophical issues regarding the relationship between brain activity and subjective experience

Spring 2024: PSYC UN2450

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2450	001/11893	M W 10:10am - 11:25am 141 Uris Hall	Sarah DeMoya	3.00	68/65

PSYC UN2481 Developmental Cognitive Neuroscience. *3.00 points.*
The course will be an introduction to the science of structural and functional brain development beginning in the prenatal period. We will cover major domains in both cognitive and social development. This is a flipped course, where students will watch lectures online (three 55 minute lectures each week) and participate in classroom discussions and exercises (1 hour 50 minutes twice a week) with the Professor and each other when in person

Spring 2024: PSYC UN2481

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2481	001/11895	T Th 4:10pm - 5:25pm 602 Hamilton Hall	Dima Amso	3.00	58/60

NSBV BC3381 Visual Neuroscience: From the Eyeball to the Mind's Eye. *4.00 points.*
By absorbing electromagnetic radiation through their eyes, people are able to catch frisbees, recognize faces, and judge the beauty of art. For most of us, seeing feels effortless. That feeling is misleading. Seeing requires not only precise optics to focus images on the retina, but also the concerted action of millions of nerve cells in the brain. This intricate circuitry infers the likely causes of incoming patterns of light and transforms that information into feelings, thoughts, and actions. In this course we will study how light evokes electrical activity in a hierarchy of specialized neural networks that accomplish many unique aspects of seeing. Students will have the opportunity to focus their study on particular aspects, such as color, motion, object recognition, learning, attention, awareness, and how sight can be lost and recovered. Throughout the course we will discuss principles of neural information coding (e.g., receptive field tuning, adaptation, normalization, etc.) that are relevant to other areas of neuroscience, as well as medicine, engineering, art and design

Please note that PSYC UN2430 Cognitive Neuroscience may be used to fulfill either the Neuroscience requirement or the Psychology requirement, but not both.

Philosophy:

PHIL UN2655 COGNITIVE SCIENCE AND PHILOSOPHY. *3.00 points.*
This course will survey a number of topics at the intersection of cognitive science and philosophy. Potential topics include free will, consciousness, embodied cognition, artificial intelligence, neural networks, and the language of thought

Spring 2024: PHIL UN2655

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PHIL 2655	001/18289	T Th 2:40pm - 3:55pm 331 Uris Hall	Juliette Vazard	3.00	35/40

PHIL UN3252 Philosophy of Language and Mind. *3 points.*
This course will provide an introduction to meaning, reference, understanding, and content in language, thought, and perception. A central concern will be the question of the relation of meaning to truth-conditions, and what is involved in language and thought successfully latching on to reality. If you have not already taken an elementary course in first order logic, you will need to catch up in that area to understand some crucial parts of the course. All the same, the primary concerns of the course will be philosophical, rather than technical.

PHIL UN3655 TOPICS IN COGNITIVE SCIENCE AND PHILOSOPHY. *3.00 points*.

This course will focus on one topic at the intersection of cognitive science and philosophy. Potential topics include free will, consciousness, modularity, mental representation, probabilistic inference, the language of thought, and the computational theory of mind

PHIL UN3912 SEMINAR. *3.00 points*.

Required of senior majors, but also open to junior majors, and junior and senior concentrators who have taken at least four philosophy courses. This exploration will typically involve writing a substantial research paper. Capped at 20 students with preference to philosophy majors

Spring 2024: PHIL UN3912

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PHIL 3912	001/00018	W 4:10pm - 6:00pm 214 Milbank Hall	Christopher Prodoehl	3.00	19/20
PHIL 3912	002/11566	T 4:10pm - 6:00pm 401 Hamilton Hall	Jennifer McDonald	3.00	10/20

Fall 2024: PHIL UN3912

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PHIL 3912	001/12280	W 10:10am - 12:00pm 716 Philosophy Hall	Dhananjay Jagannathan	3.00	16/20
PHIL 3912	002/13514	T 2:10pm - 4:00pm 716 Philosophy Hall	Michele Moody-Adams	3.00	10/20
PHIL 3912	003/12281	T 6:10pm - 8:00pm 716 Philosophy Hall	Melissa Fusco	3.00	0/20

(Please note that only the "Perception" section of the PHIL UN3912 Seminar counts towards the Cognitive Science major; that section is not offered every year.)

Linguistics

LING UN3101 INTRODUCTION TO LINGUISTICS. *3.00 points*.

An introduction to the study of language from a scientific perspective. The course is divided into three units: language as a system (sounds, morphology, syntax, and semantics), language in context (in space, time, and community), and language of the individual (psycholinguistics, errors, aphasia, neurology of language, and acquisition). Workload: lecture, weekly homework, and final examination

Fall 2024: LING UN3101

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
LING 3101	001/11717	M W 11:40am - 12:55pm Room TBA	William Foley	3.00	192/300

Mathematical and Computational Methods

Logic and Decision Theory

ECON GU4850 COGNITIVE MECH # ECON BEHAVIOR. *4.00 points*.

Prerequisites: ECON UN3211 and ECON UN3213 and STAT UN1201
Prerequisites: ECON UN3211 and ECON UN3213 and STAT UN1201
Standard economic theory seeks to explain human behavior (especially in economic settings, such as markets) in terms of rational choice, which means that the choices that are made can be predicted on the basis of what would best serve some coherent objective, under an objectively correct understanding of the predictable consequences of alternative actions. Observed behavior often seems difficult to reconcile with a strong form of this theory, even if incentives clearly have some influence on behavior; and the course will discuss empirical evidence (both from laboratory experiments and observations in the field) for some well-established anomalies. But beyond simply cataloguing anomalies for the standard theory, the course will consider the extent to which departures from a strong version of rational choice theory can be understood as reflecting cognitive processes that are also evident in other domains such as sensory perception; examples from visual perception will receive particular attention. And in addition to describing what is known about how the underlying mechanisms work (something that is understood in more detail in sensory contexts than in the case of value-based decision making), the course will consider the extent to which such mechanisms --- while suboptimal from a normative standpoint that treats perfect knowledge of one's situation as costless and automatic --- might actually represent efficient uses of the limited information and bounded information-processing resources available to actual people (or other organisms). Thus the course will consider both ways in which the realism of economic analysis may be improved by taking into account cognitive processes, and ways in which understanding of cognitive processes might be advanced by considering the economic problem of efficient use of limited (cognitive) resources

PHIL UN1401 INTRODUCTION TO LOGIC. *3.00 points*.

Explicit criteria for recognizing valid and fallacious arguments, together with various methods for schematizing discourse for the purpose of logical analysis. Illustrative material taken from science and everyday life

Spring 2024: PHIL UN1401

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PHIL 1401	001/00012	T Th 11:40am - 12:55pm 405 Milbank Hall	Christopher Prodoehl	3.00	57/80

PHIL UN3411 SYMBOLIC LOGIC. *4.00 points*.

Corequisites: PHILV3413 Required Discussion Section (0 points). Advanced introduction to classical sentential and predicate logic. No previous acquaintance with logic is required; nonetheless a willingness to master technicalities and to work at a certain level of abstraction is desirable

Spring 2024: PHIL UN3411

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PHIL 3411	001/11496	T Th 7:40pm - 8:55pm 309 Havemeyer Hall	Justin Clarke-Doane	4.00	34/100
PHIL 3411	AU1/18957	T Th 7:40pm - 8:55pm Othr Other	Justin Clarke-Doane	4.00	2/2

Fall 2024: PHIL UN3411

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PHIL 3411	001/12277	M W 10:10am - 11:25am Room TBA	Tamar Lando	4.00	65/100

PHIL GU4561 PROBABILITY # DECISION THEORY. *3.00 points*.
Examines interpretations and applications of the calculus of probability including applications as a measure of degree of belief, degree of confirmation, relative frequency, a theoretical property of systems, and other notions of objective probability or chance. Attention to epistimological questions such as Hume's problem of induction, Goodman's problem of projectibility, and the paradox of confirmation

Fall 2024: PHIL GU4561

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PHIL 4561	001/12320	Th 12:10pm - 2:00pm Room TBA	Jessica Collins	3.00	30/30

PSYC UN2235 THINKING AND DECISION MAKING. *3.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: an introductory course in psychology.
Prerequisites: an introductory course in psychology. Models of judgment and decision making in both certain and uncertain or risky situations, illustrating the interplay of top-down (theory-driven) and bottom-up (data-driven) processes in creating knowledge. Focuses on how individuals do and should make decisions, with some extensions to group decision making and social dilemmas

Spring 2024: PSYC UN2235

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2235	001/11891	T Th 11:40am - 12:55pm 501 Schermerhorn Hall	Katherine Fox-Glassman	3.00	126/125

Statistics

ECON BC1007 MATH METHODS FOR ECONOMICS. *4.00 points*.
Covers basic mathematical methods required for intermediate theory courses and upper level electives in economics, with a strong emphasis on applications. Topics include simultaneous equations, functions, partial differentiation, optimization of functions of more than one variable, constrained optimization, and financial mathematics. This course satisfies the Calculus requirement for the Barnard Economics major. NOTE: students who have previously taken Intermediate Micro Theory (ECON BC3035 or the equivalent) are *not* allowed to take Math Methods for Economics

Spring 2024: ECON BC1007

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ECON 1007	001/00737	T Th 10:10am - 11:25am Ll103 Diana Center	Mulu Gebreyohannes	4.00	56/60

Fall 2024: ECON BC1007

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ECON 1007	001/00041	T Th 10:10am - 11:25am 302 Barnard Hall	Sharon Harrison	4.00	22/25

ECON BC2411 STATISTICS FOR ECONOMICS. *4.00 points*.
Elementary computational methods in statistics. Basic techniques in regression analysis of econometric models. One-hour weekly recitation sessions to complement lectures

Fall 2024: ECON BC2411

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ECON 2411	001/00480	T Th 1:10pm - 2:25pm 152 Horace Mann Hall	Mulu Gebreyohannes	4.00	41/50

PSYC BC1101 STATISTCS LECTURE AND RECITATION. *4.00 points*.
Prerequisites: BC1001 and instructor permission. Enrollment limited to 20 students per recitation section.
Prerequisite (or co-requisite): PSYC BC1001. Lecture course and associated recitation section introducing students to statistics and its applications to psychological research. The course covers basic theory, conceptual underpinnings, and common statistics. The following Columbia University courses are considered overlapping and a student cannot receive credit for both the BC course and the equivalent CU course: STAT UN1001 Introduction to Statistical Reasoning; STAT UN1101 Introduction to Statistics; STAT UN1201 Introduction to Statistics

Spring 2024: PSYC BC1101

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1101	001/00435	T Th 10:10am - 11:25am 203 Diana Center	Robert Brotherton	4.00	16/20
PSYC 1101	001/00435	Th 12:10pm - 2:00pm 222 Milbank Hall	Robert Brotherton	4.00	16/20
PSYC 1101	002/00825	T Th 10:10am - 11:25am 203 Diana Center	Robert Brotherton	4.00	15/18
PSYC 1101	002/00825	Th 2:10pm - 4:00pm 222 Milbank Hall	Robert Brotherton	4.00	15/18
PSYC 1101	003/00436	M W 10:10am - 11:25am 328 Milbank Hall	Katherine Thorson	4.00	17/18
PSYC 1101	003/00436	M 12:10pm - 2:00pm 222 Milbank Hall	Katherine Thorson	4.00	17/18
PSYC 1101	004/00437	M W 10:10am - 11:25am 328 Milbank Hall	Katherine Thorson	4.00	22/24
PSYC 1101	004/00437	M 2:10pm - 4:00pm 222 Milbank Hall	Katherine Thorson	4.00	22/24

Fall 2024: PSYC BC1101

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1101	001/00710	M W 2:40pm - 3:55pm 263 Macy Hall	Michelle Greene	4.00	19/18
PSYC 1101	001/00710	M 4:10pm - 6:00pm 222 Milbank Hall	Michelle Greene	4.00	19/18
PSYC 1101	002/00234	M W 2:40pm - 3:55pm 263 Macy Hall	Michelle Greene	4.00	18/18
PSYC 1101	002/00234	W 4:10pm - 6:00pm 222 Milbank Hall	Michelle Greene	4.00	18/18

PSYC UN1610 STATISTCS-BEHAVIORL SCIENTISTS. *4.00 points*.
Lecture and lab. Priority given to psychology majors. Fee $70.

Prerequisites: PSYC UN1001 or PSYC UN1010 Recommended preparation: one course in behavioral science and knowledge of high school algebra.
Corequisites: PSYC UN1611
Prerequisites: PSYC UN1001 or PSYC UN1010 Recommended preparation: one course in behavioral science and knowledge of high school algebra. Corequisites: PSYC UN1611 Introduction to statistics that concentrates on problems from the behavioral sciences

Spring 2024: PSYC UN1610

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1610	001/11877	T Th 10:10am - 11:25am 200b Schermerhorn Hall	Christopher Baldassano	4.00	42/45

Fall 2024: PSYC UN1610

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1610	001/10692	T Th 11:40am - 12:55pm 200b Schermerhorn Hall	Katherine Fox-Glassman	4.00	39/40

STAT UN1001 INTRO TO STATISTICAL REASONING. *3.00 points*.
A friendly introduction to statistical concepts and reasoning with emphasis on developing statistical intuition rather than on mathematical rigor. Topics include design of experiments, descriptive statistics, correlation and regression, probability, chance variability, sampling, chance models, and tests of significance

Spring 2024: STAT UN1001

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
STAT 1001	001/13610	M W 2:40pm - 3:55pm 602 Hamilton Hall	Ronald Neath	3.00	75/86
STAT 1001	002/13674	M W 10:10am - 11:25am 903 School Of Social Work	Shaw-Hwa Lo, Cindy Meekins	3.00	33/50
STAT 1001	003/13611	T Th 6:10pm - 7:25pm 602 Hamilton Hall	Victor de la Pena	3.00	66/86

Fall 2024: STAT UN1001

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
STAT 1001	001/15145	T Th 10:10am - 11:25am Room TBA	Pratyay Datta	3.00	29/75
STAT 1001	002/15159	M W 6:10pm - 7:25pm Room TBA	Anthony Donoghue	3.00	52/75
STAT 1001	003/15146	M W 8:40am - 9:55am Room TBA	Musa Elbulok	3.00	12/75

STAT UN1101 INTRODUCTION TO STATISTICS. *3.00 points*.
Prerequisites: intermediate high school algebra. Designed for students in fields that emphasize quantitative methods. Graphical and numerical summaries, probability, theory of sampling distributions, linear regression, analysis of variance, confidence intervals and hypothesis testing. Quantitative reasoning and data analysis. Practical experience with statistical software. Illustrations are taken from a variety of fields. Data-collection/analysis project with emphasis on study designs is part of the coursework requirement

Spring 2024: STAT UN1101

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
STAT 1101	001/13613	M W 8:40am - 9:55am 517 Hamilton Hall	Alexander Clark	3.00	75/86
STAT 1101	002/13614	T Th 10:10am - 11:25am 602 Hamilton Hall	David Rios	3.00	70/86
STAT 1101	003/13615	M W 6:10pm - 7:25pm 602 Hamilton Hall	Banu Baydil	3.00	71/86

Fall 2024: STAT UN1101

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
STAT 1101	001/15160	T Th 6:10pm - 7:25pm Room TBA	Dobrin Marchev	3.00	18/86
STAT 1101	002/15161	M W 8:40am - 9:55am Room TBA	Alex Pijyan	3.00	10/200

STAT UN1201 CALC-BASED INTRO TO STATISTICS. *3.00 points*.
Prerequisites: one semester of calculus. Designed for students who desire a strong grounding in statistical concepts with a greater degree of mathematical rigor than in STAT W1111. Random variables, probability distributions, pdf, cdf, mean, variance, correlation, conditional distribution, conditional mean and conditional variance, law of iterated expectations, normal, chi-square, F and t distributions, law of large numbers, central limit theorem, parameter estimation, unbiasedness, consistency, efficiency, hypothesis testing, p-value, confidence intervals, maximum likelihood estimation. Serves as the pre-requisite for ECON W3412

Spring 2024: STAT UN1201

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
STAT 1201	001/13616	M W 10:10am - 11:25am 517 Hamilton Hall	Pratyay Datta	3.00	81/86
STAT 1201	002/13617	M W 8:40am - 9:55am 602 Hamilton Hall	Joyce Robbins	3.00	79/85
STAT 1201	003/13618	T Th 10:10am - 11:25am 702 Hamilton Hall	Joyce Robbins	3.00	90/86
STAT 1201	004/13619	M W 6:10pm - 7:25pm 702 Hamilton Hall	Sheela Kolluri	3.00	70/86

Fall 2024: STAT UN1201

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
STAT 1201	001/15162	T Th 8:40am - 9:55am Room TBA	Banu Baydil	3.00	160/160
STAT 1201	002/15163	M W 2:40pm - 3:55pm Room TBA	Chenyang Zhong	3.00	86/86
STAT 1201	003/15164	M W 6:10pm - 7:25pm Room TBA	Tat Sang Fung	3.00	75/75

Computer Science

COMS BC1016 Introduction to Computational Thinking and Data Science. *3.00 points*.
This course and its co-requisite lab course will introduce students to the methods and tools used in data science to obtain insights from data. Students will learn how to analyze data arising from real-world phenomena while mastering critical concepts and skills in computer programming and statistical inference. The course will involve hands-on analysis of real-world datasets, including economic data, document collections, geographical data, and social networks. The course is ideal for students looking to increase their digital literacy and expand their use and understanding of computation and data analysis across disciplines. No prior programming or college-level math background is required

Spring 2024: COMS BC1016

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 1016	001/00255	T Th 10:10am - 11:25am 903 Altschul Hall	Emily Black	3.00	42/42
COMS 1016	002/00256	T Th 11:40am - 12:55pm 903 Altschul Hall	Emily Black	3.00	39/42

Fall 2024: COMS BC1016

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 1016	001/00123	T Th 6:10pm - 7:25pm 202 Milbank Hall	Lisa Soros	3.00	24/25
COMS 1016	002/00124	T Th 2:40pm - 3:55pm 328 Milbank Hall	Lisa Soros	3.00	24/25

COMS W1001 Introduction to Information Science. *3 points*.
Lect: 3.

Basic introduction to concepts and skills in Information Sciences: human-computer interfaces, representing information digitally, organizing and searching information on the internet, principles of algorithmic problem solving, introduction to database concepts, and introduction to programming in Python.

COMS W1002 COMPUTING IN CONTEXT. *4.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

Introduction to elementary computing concepts and Python programming with domain-specific applications. Shared CS concepts and Python programming lectures with track-specific sections. Track themes will vary but may include computing for the social sciences, computing for economics and finance, digital humanities, and more. Intended for nonmajors. Students may only receive credit for one of ENGI E1006 or COMS W1002

Fall 2024: COMS W1002

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 1002	001/11915	T Th 1:10pm - 2:25pm Room TBA	Adam Cannon	4.00	73/160
COMS 1002	002/11916	T Th 1:10pm - 2:25pm Room TBA	Adam Cannon	4.00	13/60
COMS 1002	003/11917	T Th 2:40pm - 3:55pm Room TBA	Adam Cannon	4.00	117/300
COMS 1002	004/11918	T Th 2:40pm - 3:55pm Room TBA	Adam Cannon	4.00	20/40

COMS W1004 Introduction to Computer Science and Programming in Java. *3 points*.
Lect: 3.

A general introduction to computer science for science and engineering students interested in majoring in computer science or engineering. Covers fundamental concepts of computer science, algorithmic problem-solving capabilities, and introductory Java programming skills. Assumes no prior programming background. Columbia University students may receive credit for only one of the following two courses: *1004* or *1005*.

Spring 2024: COMS W1004

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 1004	001/11451	T Th 11:40am - 12:55pm 417 International Affairs Bldg	Adam Cannon	3	123/398
COMS 1004	002/12052	T Th 1:10pm - 2:25pm 417 International Affairs Bldg	Adam Cannon	3	117/398

Fall 2024: COMS W1004

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 1004	001/11919	M W 2:40pm - 3:55pm Room TBA	Paul Blaer	3	72/320
COMS 1004	002/11920	M W 5:40pm - 6:55pm Room TBA	Paul Blaer	3	61/320

COMS W3134 Data Structures in Java. *3 points*.
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: (COMS W1004) or knowledge of Java.
Data types and structures: arrays, stacks, singly and doubly linked lists, queues, trees, sets, and graphs. Programming techniques for processing such structures: sorting and searching, hashing, garbage collection. Storage management. Rudiments of the analysis of algorithms. Taught in Java. Note: Due to significant overlap, students may receive credit for only one of the following three courses: *COMS W3134*, *COMS W3136*, *COMS W3137*.

Spring 2024: COMS W3134

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 3134	001/12067	M W 4:10pm - 5:25pm 301 Uris Hall	Brian Borowski	3	228/250
COMS 3134	002/12068	M W 5:40pm - 6:55pm 301 Uris Hall	Brian Borowski	3	144/250

Fall 2024: COMS W3134

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 3134	001/11932	M W 4:10pm - 5:25pm Room TBA	Brian Borowski	3	142/200
COMS 3134	002/11933	M W 5:40pm - 6:55pm Room TBA	Brian Borowski	3	72/200

COMS W3136 ESSENTIAL DATA STRUCTURES. *4.00 points*.
Prerequisites: (COMS W1004) or (COMS W1005) or (COMS W1007) or (ENGI E1006)
A second programming course intended for nonmajors with at least one semester of introductory programming experience. Basic elements of programming in C and C , arraybased data structures, heaps, linked lists, C programming in UNIX environment, object-oriented programming in C , trees, graphs, generic programming, hash tables. Due to significant overlap, students may only receive credit for either COMS W3134, W3136, or W3137

Fall 2024: COMS W3136

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 3136	001/15424	T Th 5:40pm - 6:55pm Room TBA	Timothy Paine	4.00	16/65

COMS W3137 HONORS DATA STRUCTURES # ALGOL. *4.00 points*.
Prerequisites: (COMS W1004) or (COMS W1007)
Corequisites: COMS W3203
An honors introduction to data types and structures: arrays, stacks, singly and doubly linked lists, queues, trees, sets, and graphs. Programming techniques for processing such structures: sorting and searching, hashing, garbage collection. Storage management. Design and analysis of algorithms. Taught in Java. Note: Due to significant overlap, students may receive credit for only one of the following three courses: COMS W3134, W3136, or W3137

ENGI E1006 INTRO TO COMP FOR ENG/APP SCI. *3.00 points*.
An interdisciplinary course in computing intended for first year SEAS students. Introduces computational thinking, algorithmic problem solving and Python programming with applications in science and engineering. Assumes no prior programming background

Fall 2024: ENGI E1006

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ENGI 1006	001/11994	M W 2:40pm - 3:55pm Room TBA	Daniel Bauer	3.00	46/189

STEM BC2223 PROGRAMMING BEHAV SCIENCES. *4.00 points*.

Specializations
Aesthetics

MUSI UN2320 Introduction to Music Cognition. *3.00 points*.
The aim of music cognition is to understand the musical mind. This course is an introduction to a variety of key topics in this field, including human development, evolution, neural processing, embodied knowledge, memory and anticipation, cross-cultural perspectives, and emotions. The course explores recent research on these topics, as well as ways in which this research can be applied to music scholarship. Readings are drawn from fields as diverse as music theory, psychology, biology, anthropology, and neuroscience, and include general works in cognitive science, theoretical work focused on specific musical issues, and reports of empirical research

SOAR AV4000 SOUND:Music, Math, and Mind. *3.00 points*.
This course is a detailed and hands-on (ears-on) exploration of the fundamental physical, physiological, and psychological aspects of sound. Topics covered include sound waves and their physical nature, the propagation and speed of sound in different mediums, geological and other non-living sound sources, animal and insect sound generating strategies, sound perception mechanisms and abilities in different species, the physiology of human hearing and the structure of the human ear, psycho-acoustics and human sound perception, sonic illusions and tricks of the ear. In-class experiments and research make up the majority of the class. Each student will design and lead at least one experiment/demo session. Students also respond to creative weekly prompts about sound topics on courseworks. We also have visits with a number of special guests during the term

Fall 2024: SOAR AV4000

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
SOAR 4000	001/11632		David Sulzer	3.00	15/15

PSYC GU4239 COG NEURO NARRATIVE FILM. *3.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: (PSYC UN1010 or Equivalent introductory course in neuroscience or cognitive psychology
Prerequisites: (PSYC UN1010 or Equivalent introductory course in neuroscience or cognitive psychology This seminar will provide a broad survey of how narrative stories, films, and performances have been used as tools to study cognition in psychology and neuroscience

MUSI GU4325 Topics in Music Cognition. *3.00 points*.
This advanced seminar builds on the Introduction to Music Cognition (MUSIC UN2320) with an in-depth inquiry into selected key topics in the field of Music Cognition. Specific topics vary each year, depending on interest and availability of instructors, and include human development; evolution; communication and music's relation to language; embodied knowledge; first-person awareness; metaphor; ineffability; neuroscience; mental representations; memory and anticipation; cross-cultural studies; emotions; musical aesthetics; artificial intelligence; agency; creativity; and music's relation to other art forms. Each semester the course delves into recent research on 3–4 of these topics, focusing in particular on how this research can be applied to questions of musical knowledge. Advanced readings are drawn from fields as diverse as music theory, psychology, biology, anthropology, philosophy, and neuroscience. They include general works in cognitive science, theoretical work focused on specific musical issues, and reports of empirical research

Spring 2024: MUSI GU4325

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
MUSI 4325	001/15030	W 4:10pm - 6:00pm 622 Dodge Building	Christopher Peacocke, Mariusz Kozak	3.00	12/15

CLEN GU4728 Literature in the Age of AI. *3.00 points*.
In this course we will consider the long history of literature composed with, for, and by machines. Our reading list will start with Ramon Llull, the thirteenth-century combinatorial mystic, and continue with readings from Gottfried Leibniz, Francis Bacon, Jonathan Swift, and Samuel Butler. We will read "Plot Robots" instrumental to the writing of Hollywood scripts and pulp fiction of the 1920s, the avant-garde poetry of Dada and OULIPO, computer-generated love letters written by Alan Turing, and novels created by the first generation of artificial intelligence researchers in the 1950s and 60s. The course will conclude at the present moment, with an exploration of machine learning techniques of the sort used by Siri, Alexa, and other contemporary chat bots

Spring 2024: CLEN GU4728

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
CLEN 4728	001/12313	M W 2:40pm - 3:55pm 5ab Kraft Center	Dennis Tenen	3.00	57/60

Cognitive Development

PSYC BC2115 COGNITIVE PSYCHOLOGY - LEC. *3.00 points*.
Prerequisites: BC1001 or permission of the instructor.
Prerequisites: PSYC BC1001 Introduction to Psychology or COGS UN1001 Introduction to Cognitive Science or permission of the instructor. Lecture covering selected topics illustrating the methods, findings, and theories of contemporary cognitive psychology. Topics include attention, memory, categorization, perception, and decision making. Special topics include neuropsychology and cognitive neuroscience. Note that this lecture can be taken without its affiliated lab, PSYC BC2114, however, if a student completes this lecture, she cannot enroll in the lab in a later semester. The following Columbia University courses are considered overlapping and a student cannot receive credit for both the BC course and the equivalent CU course: PSYC UN2220 Cognition: Memory and Stress; and PSYC UN2210 Cognition: Basic Processes

Spring 2024: PSYC BC2115

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2115	001/00438	M W 10:10am - 11:25am Ll002 Milstein Center	Lisa Son	3.00	95/100

PSYC BC2129 DEVELOPMENTAL PSYCHOLOGY-LEC. *3.00 points*.
Prerequisites: BC1001 or permission of the instructor.
Prerequisites: PSYC BC1001 Introduction to Psychology or COGS UN1001 Introduction to Cognitive Science or permission of the instructor. Lecture course covering cognitive, linguistic, perceptual, motor, social, affective, and personality development from infancy to adolescence. Note that this lecture can be taken without its affiliated lab, PSYC BC2128, however, if a student completes this lecture, she cannot enroll in the lab in a later semester. The following Columbia University course is considered overlapping and a student cannot receive credit for both the BC course and the equivalent CU course: PSYC UN2280 Introduction to Developmental Psychology

Spring 2024: PSYC BC2129

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2129	001/00439	M W 2:40pm - 3:55pm Ll103 Diana Center	Koleen McCrink	3.00	63/68

Fall 2024: PSYC BC2129

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2129	001/00072	M W 2:40pm - 3:55pm Room TBA	Koleen McCrink	3.00	101/100

PSYC UN2481 Developmental Cognitive Neuroscience. *3.00 points*.
The course will be an introduction to the science of structural and functional brain development beginning in the prenatal period. We will cover major domains in both cognitive and social development. This is a flipped course, where students will watch lectures online (three 55 minute lectures each week) and participate in classroom discussions and exercises (1 hour 50 minutes twice a week) with the Professor and each other when in person

Spring 2024: PSYC UN2481

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2481	001/11895	T Th 4:10pm - 5:25pm 602 Hamilton Hall	Dima Amso	3.00	58/60

PSYC BC3369 Language Development. *4 points*.
Not offered during 2023-2024 academic year.

Prerequisites: BC1001, one Psychology laboratory course, one of the following: PSYC W2240, BC1128/1129, BC1129, or LIN BC V1101, and permission of the instructor. Enrollment limited to 15 students. Examines the acquisition of a first language by children, from babbling and first words to complex sentence structure and wider communicative competence. Signed and spoken languages, cross-linguistic variation and universalities, language genesis and change, and acquisition by atypical populations will be discussed.

Fall 2024: PSYC BC3369

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3369	001/00767	Th 10:10am - 12:00pm Room TBA		4	1/15

PSYC GU4202 Theories of Change in Human Development. *4.00 points*.
What are the agents of developmental change in human childhood? How has the scientific community graduated from nature versus nurture, to nature and nurture? This course offers students an in-depth analysis of the fundamental theories in the study of cognitive and social development

Fall 2024: PSYC GU4202

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4202	001/10699	W 10:10am - 12:00pm 405 Schermerhorn Hall	Dima Amso	4.00	17/15

PSYC GU4222 The Cognitive Neuroscience of Aging (Seminar). *4 points*.
Prerequisites: courses in introductory psychology and cognitive psychology; and the instructor's permission.
Comprehensive overview of various conceptual and methodologic approaches to studying the cognitive neuroscience of aging. The course will emphasize the importance of combining information from cognitive experimental designs, epidemiologic studies, neuroimaging, and clinical neuropsychological approaches to understand individual differences in both healthy and pathological aging.

PSYC GU4498 BEHAVIORAL EPIGENETICS. *4.00 points*.
Prerequisites: basic background in neurobiology (for instance PSYC UN1010, UN2450, UN2460, UN2480, and GU4499) and the instructor's permission.
Prerequisites: basic background in neurobiology (for instance PSYC UN1010, UN2450, UN2460, UN2480, and GU4499) and the instructors permission. This course will provide an overview of the field of epigenetics, with an emphasis on epigenetic phenomena related to neurodevelopment, behavior and mental disorders. We will explore how epigenetic mechanisms can be mediators of environmental exposures and, as such, contribute to psychopathology throughout the life course. We will also discuss the implications of behavioral epigenetic research for the development of substantially novel pharmacotherapeutic approaches and preventive measures in psychiatry

Fall 2024: PSYC GU4498

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4498	001/10665	F 2:10pm - 4:00pm 405 Schermerhorn Hall	Jennifer Blaze	4.00	3/15

Cognitive Linguistics

ANTH UN1009 INTRO TO LANGUAGE # CULTURE. *3.00 points*.
This is an introduction to the study of the production, interpretation, and reproduction of social meanings as expressed through language. In exploring language in relation to culture and society, it focuses on how communication informs and transforms the sociocultural environment

PSYC BC3164 PERCEPTION AND LANGUAGE. *4.00 points*.
Prerequisites: BC 1001 and one of the following: BC2106/2107, BC2109/2110, BC2118/2119, BC2128/2129, or permission of the instructor. Enrollment limited to 20 students
Psychological investigations of spoken communication from a listener's perspective. Topics include perception and sounds of speech and the apprehension of meaning from words and utterances; the perceptual basis for rhyme and rhythm in speech; and the natural history of vocal communication.

PHIL UN3252 Philosophy of Language and Mind. *3 points*.
This course will provide an introduction to meaning, reference, understanding, and content in language, thought, and perception. A central concern will be the question of the relation of meaning to truth-conditions, and what is involved in language and thought successfully latching on to reality. If you have not already taken an elementary course in first order logic, you will need to catch up in that area to understand some crucial parts of the course. All the same, the primary concerns of the course will be philosophical, rather than technical.

PSYC BC3369 Language Development. *4 points*.
Not offered during 2023-2024 academic year.

Prerequisites: BC1001, one Psychology laboratory course, one of the following: PSYC W2240, BC1128/1129, BC1129, or LIN BC V1101, and permission of the instructor. Enrollment limited to 15 students. Examines the acquisition of a first language by children, from babbling and first words to complex sentence structure and wider communicative competence. Signed and spoken languages, cross-linguistic variation and universalities, language genesis and change, and acquisition by atypical populations will be discussed.

Fall 2024: PSYC BC3369

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3369	001/00767	Th 10:10am - 12:00pm Room TBA		4	1/15

LING GU4202 COGNITIVE LINGUISTICS. *3.00 points*.
Prerequisites: LING UN3101 previously or concurrently.
Reading and discussion of scholarly literature on the cognitive approach to language, including: usage-oriented approaches to language, frame semantics, construction grammar, theories of conceptual metaphor and mental spaces; alongside of experimental research on language acquisition, language memory, prototypical and analogous thinking, and the role of visual imagery in language processing

LING GU4206 ADV GRAMMAR AND GRAMMARS. *3.00 points*.
Prerequisites: LING UN3101 *LING W3101*.
An investigation of the possible types of grammatical phenomena (argument structure, tense/aspect/mood, relative clauses, classifiers, and deixis). This typological approach is enriched by the reading of actual grammars of languages from Asia, Africa, Australia, and the Americas in which gramatical descriptions are read with an eye to important notional concepts of grammar: reference and categorization, case and role of arguments with predicates (ergativity), tense/aspect/mood. Discussion of meaning is combined with attention to expression (that is, morphology), which yanks our attention towards language change (grammaticalization)

PSYC GU4244 LANGUAGE AND MIND. *4.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 and Preferably, an additional course in psychology, focusing on cognition, development, or research methods. Instructor permission required.
Prerequisites: PSYC UN1001 and Preferably, an additional course in psychology, focusing on cognition, development, or research methods. Instructor permission required. This seminar explores the relationship between language and thought by investigating how language is mentally represented and processed; how various aspects of language interact with each other; and how language interacts with other aspects of cognition including perception, concepts, world knowledge, and memory. Students will examine how empirical data at the linguistic, psychological, and neuroscientific levels can bear on some of the biggest questions in the philosophy of mind and language and in psychology

Fall 2024: PSYC GU4244

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4244	001/10703	W 2:10pm - 4:00pm Room TBA	Nora Isacoff	4.00	3/15

LING GU4376 PHONETICS # PHONOLOGY. *3.00 points*.
Prerequisites: LING UN3101
Prerequisites: LING UN3101 An investigation of the sounds of human language, from the perspective of phonetics (articulation and acoustics, including computer-aided acoustic analysis) and phonology (the distribution and function of sounds in individual languages)

Fall 2024: LING GU4376

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
LING 4376	001/11715	T Th 11:40am - 12:55pm Room TBA	Meredith Landman	3.00	38/60

Cognitive Neuroscience

PSYC UN2481 Developmental Cognitive Neuroscience. *3.00 points*.
The course will be an introduction to the science of structural and functional brain development beginning in the prenatal period. We will cover major domains in both cognitive and social development. This is a flipped course, where students will watch lectures online (three 55 minute lectures each week) and participate in classroom discussions and exercises (1 hour 50 minutes twice a week) with the Professor and each other when in person

Spring 2024: PSYC UN2481

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2481	001/11895	T Th 4:10pm - 5:25pm 602 Hamilton Hall	Dima Amso	3.00	58/60

NSBV BC3405 NEUROSCIENCE OF TRAUMA. *4.00 points*.
Prerequisites: PSYBC1119
This course provides a comprehensive overview of theoretical models and research relevant to the neurobiology, neurophysiology, neuroanatomy and neurodevelopmental processes underlying psychological trauma. Cognitive, emotional and behavioral symptoms associated with post traumatic experience are examined from a neuroscience perspective. Neurotherapeutic treatment interventions are reviewed and critiqued as models of applied clinical neuroscience

PSYC GU4225 CONSCIOUSNESS # ATTENTION. *4.00 points.*

Prerequisites: the instructor's permission; some basic knowledge of cognitive science and neuroanatomy is desirable, but not necessary. Modern theories attempt to characterize the human mind in terms of information processing. But machines that process information do not seem to feel anything; a computer may for instance receive inputs from a video camera, yet it would be hard to imagine that it sees or experiences the vividness of colors like we do. Nobody has yet provided a convincing theory as to how to explain the subjective nature of our mental lives in objective physical terms. This is called the problem of consciousness, and is generally considered to be one of the last unsolved puzzles in science. Philosophers even debate whether there could be a solution to this problem at all. Students in this course may be recruited for participation in a voluntary research study. Students who choose not to participate in the study will complete the same course requirements as those who do, and an individual's choice will not affect their grade or status as a student in the course

Spring 2024: PSYC GU4225

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4225	001/11916	T 12:10pm - 2:00pm 200c Schermerhorn Hall	Alfredo Spagna	4.00	14/15

PSYC GU4239 COG NEURO NARRATIVE FILM. *3.00 points.*

CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: (PSYC UN1010 or Equivalent introductory course in neuroscience or cognitive psychology

Prerequisites: (PSYC UN1010 or Equivalent introductory course in neuroscience or cognitive psychology This seminar will provide a broad survey of how narrative stories, films, and performances have been used as tools to study cognition in psychology and neuroscience

PSYC GU4415 METHODS/ISSU-COGNITIV NEU. *3 points.*

Please contact the Psychology department for more information.

PSYC GU4498 BEHAVIORAL EPIGENETICS. *4.00 points.*

Prerequisites: basic background in neurobiology (for instance PSYC UN1010, UN2450, UN2460, UN2480, and GU4499) and the instructor's permission.

Prerequisites: basic background in neurobiology (for instance PSYC UN1010, UN2450, UN2460, UN2480, and GU4499) and the instructors permission. This course will provide an overview of the field of epigenetics, with an emphasis on epigenetic phenomena related to neurodevelopment, behavior and mental disorders. We will explore how epigenetic mechanisms can be mediators of environmental exposures and, as such, contribute to psychopathology throughout the life course. We will also discuss the implications of behavioral epigenetic research for the development of substantially novel pharmacotherapeutic approaches and preventive measures in psychiatry

Fall 2024: PSYC GU4498

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4498	001/10665	F 2:10pm - 4:00pm 405 Schermerhorn Hall	Jennifer Blaze	4.00	3/15

Cognitive Psychology

PSYC BC2115 COGNITIVE PSYCHOLOGY - LEC. *3.00 points.*

Prerequisites: BC1001 or permission of the instructor.

Prerequisites: PSYC BC1001 Introduction to Psychology or COGS UN1001 Introduction to Cognitive Science or permission of the instructor. Lecture covering selected topics illustrating the methods, findings, and theories of contemporary cognitive psychology. Topics include attention, memory, categorization, perception, and decision making. Special topics include neuropsychology and cognitive neuroscience. Note that this lecture can be taken without its affiliated lab, PSYC BC2114, however, if a student completes this lecture, she cannot enroll in the lab in a later semester. The following Columbia University courses are considered overlapping and a student cannot receive credit for both the BC course and the equivalent CU course: PSYC UN2220 Cognition: Memory and Stress; and PSYC UN2210 Cognition: Basic Processes

Spring 2024: PSYC BC2115

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2115	001/00438	M W 10:10am - 11:25am Ll002 Milstein Center	Lisa Son	3.00	95/100

PSYC BC2129 DEVELOPMENTAL PSYCHOLOGY-LEC. *3.00 points.*

Prerequisites: BC1001 or permission of the instructor.

Prerequisites: PSYC BC1001 Introduction to Psychology or COGS UN1001 Introduction to Cognitive Science or permission of the instructor. Lecture course covering cognitive, linguistic, perceptual, motor, social, affective, and personality development from infancy to adolescence. Note that this lecture can be taken without its affiliated lab, PSYC BC2128, however, if a student completes this lecture, she cannot enroll in the lab in a later semester. The following Columbia University course is considered overlapping and a student cannot receive credit for both the BC course and the equivalent CU course: PSYC UN2280 Introduction to Developmental Psychology

Spring 2024: PSYC BC2129

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2129	001/00439	M W 2:40pm - 3:55pm Ll103 Diana Center	Koleen McCrink	3.00	63/68

Fall 2024: PSYC BC2129

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2129	001/00072	M W 2:40pm - 3:55pm Room TBA	Koleen McCrink	3.00	101/100

PSYC UN2220 COGNITION: MEMORY AND STRESS. *3.00 points.*

CC/GS: Partial Fulfillment of Science Requirement
Attendance at the first class is mandatory.

Prerequisites: PSYC UN1001 or PSYC UN1010 or the instructor's permission.

Prerequisites: PSYC UN1001 or PSYC UN1010 or the instructors permission. Memory, attention, and stress in human cognition

Fall 2024: PSYC UN2220

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2220	001/10668	M W 1:10pm - 2:25pm Room TBA	Janet Metcalfe	3.00	75/75

PSYC BC3164 PERCEPTION AND LANGUAGE. *4.00 points*.
Prerequisites: BC 1001 and one of the following: BC2106/2107, BC2109/2110, BC2118/2119, BC2128/2129, or permission of the instructor. Enrollment limited to 20 students
Psychological investigations of spoken communication from a listener's perspective. Topics include perception and sounds of speech and the apprehension of meaning from words and utterances; the perceptual basis for rhyme and rhythm in speech; and the natural history of vocal communication.

PSYC BC3394 METACOGNITION. *4.00 points*.
Prerequisites: BC1001, and one psychology laboratory course; final enrollment determined on the first day of class Metacognition is one of the latest psychological buzzwords, but what exactly is metacognition? Metacognition enables us to be successful learners, problem solvers, and decision makers, and as often been used synonymously with words such as language, awareness, and consciousness. In this seminar, we will examine various components of metacognition, including its role in learning and memory, and its existence in various non-human populations. In addition, we will explore the fragility of metacognition, including illusions of confidence and harmful control strategies that people use. Readings will include classic and important recent papers in the field, looking at metacognition as a higher-level cognitive process, and as knowledge individuals use to guide behavior

Fall 2024: PSYC BC3394

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3394	001/00736	W 10:10am - 12:00pm 119 Milstein Center	Lisa Son	4.00	20/20

PSYC GU4225 CONSCIOUSNESS # ATTENTION. *4.00 points*.
Prerequisites: the instructor's permission; some basic knowledge of cognitive science and neuroanatomy is desirable, but not necessary. Modern theories attempt to characterize the human mind in terms of information processing. But machines that process information do not seem to feel anything; a computer may for instance receive inputs from a video camera, yet it would be hard to imagine that it sees or experiences the vividness of colors like we do. Nobody has yet provided a convincing theory as to how to explain the subjective nature of our mental lives in objective physical terms. This is called the problem of consciousness, and is generally considered to be one of the last unsolved puzzles in science. Philosophers even debate whether there could be a solution to this problem at all. Students in this course may be recruited for participation in a voluntary research study. Students who choose not to participate in the study will complete the same course requirements as those who do, and an individual's choice will not affect their grade or status as a student in the course

Spring 2024: PSYC GU4225

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4225	001/11916	T 12:10pm - 2:00pm 200c Schermerhorn Hall	Alfredo Spagna	4.00	14/15

PSYC GU4672 MORAL PSYCHOLOGY. *4.00 points*.
Prerequisites: Two courses in psychology, including at least one course with a focus on research methods and/or statistics, and permission of the instructor.
Prerequisites: Two courses in psychology, including at least one course with a focus on social and/or developmental psychology, and permission of the instructor. Review of theories and current research on moral cognition and behavior. Topics include definitions of morality, the development of moral cognition, the role that other aspects of human experience (e.g. emotion, intentions) play in moral judgments, and the relationship between moral psychology and other areas of study (e.g. religious cognition, prejudice and stereotyping, the criminal justice system)

Consciousness

PSYC UN2210 COGNITION: BASIC PROCESSES. *3.00 points*.

Spring 2024: PSYC UN2210

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2210	001/11888	M W 1:10pm - 2:25pm 501 Schermerhorn Hall	Nora Isacoff	3.00	107/110

PSYC GU4225 CONSCIOUSNESS # ATTENTION. *4.00 points*.
Prerequisites: the instructor's permission; some basic knowledge of cognitive science and neuroanatomy is desirable, but not necessary. Modern theories attempt to characterize the human mind in terms of information processing. But machines that process information do not seem to feel anything; a computer may for instance receive inputs from a video camera, yet it would be hard to imagine that it sees or experiences the vividness of colors like we do. Nobody has yet provided a convincing theory as to how to explain the subjective nature of our mental lives in objective physical terms. This is called the problem of consciousness, and is generally considered to be one of the last unsolved puzzles in science. Philosophers even debate whether there could be a solution to this problem at all. Students in this course may be recruited for participation in a voluntary research study. Students who choose not to participate in the study will complete the same course requirements as those who do, and an individual's choice will not affect their grade or status as a student in the course

Spring 2024: PSYC GU4225

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4225	001/11916	T 12:10pm - 2:00pm 200c Schermerhorn Hall	Alfredo Spagna	4.00	14/15

PSYC GU4244 LANGUAGE AND MIND. *4.00 points.*
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: PSYC UN1001 and Preferably, an additional course in psychology, focusing on cognition, development, or research methods. Instructor permission required.
Prerequisites: PSYC UN1001 and Preferably, an additional course in psychology, focusing on cognition, development, or research methods. Instructor permission required. This seminar explores the relationship between language and thought by investigating how language is mentally represented and processed; how various aspects of language interact with each other; and how language interacts with other aspects of cognition including perception, concepts, world knowledge, and memory. Students will examine how empirical data at the linguistic, psychological, and neuroscientific levels can bear on some of the biggest questions in the philosophy of mind and language and in psychology

Fall 2024: PSYC GU4244

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4244	001/10703	W 2:10pm - 4:00pm Room TBA	Nora Isacoff	4.00	3/15

Decision Science

PSYC BC2178 FORENSIC PSYCHOLOGY. *3.00 points.*
Prerequisites: PSYC BC1001 PSYC BC1001 Introduction to Psychology, or its equivalent. Or permission of the instructor.
Every day there are thousands of individuals interacting with the legal system. Are they mentally competent to stand trial? How can a judge decide if it is in the best interests of a child to live with one, or both (or neither) parent(s)? What is the risk of a violent offender repating the offense? What kinds of information influence juries? Does mediation work to solve disputes? Forensic psychologists apply their knowledge of psychology specifically in legal matters. This semester will focus on the broad area of forensic psychology, exploring important legal cases relevant to forensic psychology, police psychology, what constitutes expert testimony, how assessments are conducted, and working as a psychologist in the correctional system.

Fall 2024: PSYC BC2178

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2178	001/00074	T Th 8:40am - 9:55am 408 Zankel	Kathleen Taylor	3.00	139/150

PSYC UN2235 THINKING AND DECISION MAKING. *3.00 points.*
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: an introductory course in psychology.
Prerequisites: an introductory course in psychology. Models of judgment and decision making in both certain and uncertain or risky situations, illustrating the interplay of top-down (theory-driven) and bottom-up (data-driven) processes in creating knowledge. Focuses on how individuals do and should make decisions, with some extensions to group decision making and social dilemmas

Spring 2024: PSYC UN2235

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2235	001/11891	T Th 11:40am - 12:55pm 501 Schermerhorn Hall	Katherine Fox-Glassman	3.00	126/125

PSYC UN2620 ABNORMAL BEHAVIOR. *3.00 points.*
Prerequisites: An introductory psychology course. Examines definitions, theories, and treatments of abnormal behavior

Spring 2024: PSYC UN2620

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2620	001/11898	F 1:10pm - 3:40pm 303 Uris Hall	Jeffrey Cohen	3.00	53/60

Fall 2024: PSYC UN2620

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2620	001/10697	T Th 4:10pm - 5:25pm Room TBA	E'mett McCaskill	3.00	192/225

PSYC GU4202 Theories of Change in Human Development. *4.00 points.*
What are the agents of developmental change in human childhood? How has the scientific community graduated from nature versus nurture, to nature and nurture? This course offers students an in-depth analysis of the fundamental theories in the study of cognitive and social development

Fall 2024: PSYC GU4202

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4202	001/10699	W 10:10am - 12:00pm 405 Schermerhorn Hall	Dima Amso	4.00	17/15

PSYC GU4241 Mentalizing: How we read people. *4.00 points.*
Success in a social world requires understanding other people's thoughts and feelings, a process typically referred to as mentalizing. Yet, other people's mental states are not directly observable: you cannot see a thought or touch a feeling. Nonetheless, humans are quite proficient in inferring these invisible states of mind. How do we accomplish these mentalizing feats? In this course, we will answer this question from multiple angles, relying heavily on neuroscience and psychology research. The seminar will discuss recent and classic studies that reveal how humans effectively interpret the people around them, as well as when and why they make mistakes

Fall 2024: PSYC GU4241

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4241	001/10738	T 10:10am - 12:00pm 200c Schermerhorn Hall	Meghan Meyer	4.00	0/15
PSYC 4241	002/10740	T 2:10pm - 4:00pm 200c Schermerhorn Hall	Meghan Meyer	4.00	0/15

PSYC GU4430 Learning and the Brain (Seminar). *4 points.*
Prerequisites: courses in introductory psychology and/or neuroscience, and the instructor's permission.
What are the neural mechanisms that support learning, memory, and choices? We will review current theories in the cognitive neuroscience of human learning, discuss how learning and decision making interact, and consider the strengths and weaknesses of two influential methods in the study of human brain and behavior--functional imaging and patient studies.

COGS GU4800 Resource-Constrained Decision Making. *4.00 points*.
There is a fundamental puzzle about human intelligence: How are we incredibly smart and stupid at the same time? Humans deal successfully with the world in a way that no machine can (for now), yet we routinely behave in ways that seem grossly inconsistent with normative canons of rational inference and rational choice. This course will seek to resolve the paradox by exploring the idea that while we make many mistakes, these mistakes are not haphazard; instead, they reflect a brain that is highly efficient at inference and decision making within the information, time, and energy constraints imposed by the finite resources available to it. In other words, our brains may be "resource-rational" even if they fail to conform to ideal canons of rationality. We will explore this idea by considering the structure of errors, biases and illusions in the context of perceptual judgments, more abstract cognitive judgments (perceptions of numerical magnitudes or probabilities), and economic decisions; we will see that there are many analogies between the kinds of characteristic errors that people make in all of these contexts. A potential explanatory framework, which can be applied across contexts, considers what optimal decisions should be like in the case of a decision unit that has only imprecise information about its situation. Hence statistical modeling and statistical inference are key elements in the computational models of human decision making that we wish to discuss

Spring 2024: COGS GU4800

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COGS 4800	001/11459	W 4:10pm - 6:00pm 401 Hamilton Hall	Michael Woodford	4.00	17/15

Human-Computer Interaction

PSYC UN3270 COMPUT APPROACHES-HUMAN VISION. *3.00 points*.
This course will be offered in Fall 2016.

Prerequisites: some background in psychology and/or neurophysiology (e.g., PSYC UN1001, PSYC UN1010, PSYC UN2230, PSYC UN2450; BIOL UN3004 or BIOL UN3005) is desirable. See instructor if you have questions about your background. Some background in mathematics and computer science (e.g., calculus or linear algebra, a programming language) is highly recommended.
Prerequisites: some background in psychology and/or neurophysiology (e.g. PSYC UN1001, PSYC UN1010, PSYC UN2230, PSYC UN2450; BIOL UN3004 or BIOL UN3005) is desirable. See instructor if you have questions about your background. Some background in mathematics and computer science (e.g. calculus or linear algebra, a programming language) is highly recommended. Study of human vision--both behavioral and physiological data--within a framework of computational and mathematical descriptions. Please contact Prof. Graham by e-mail (nvg1@columbia.edu) if you are interested in this course

PSYC BC3399 HUMAN AND MACHINES. *4.00 points*.
Prerequisites: (PSYC BC1001) and Instructor approval
Prerequisites: (PSYC BC1001) and Instructor approval This course will examine the social psychology of Human-Machine interactions, exploring the idea that well-established social psychological processes play critical roles in interactions with non-social objects. The first half of the seminar will examine the social psychology of perception across distinct sensory modalities (shape, motion, voice, touch), whereas the second half will focus on social psychological processes between humans and non-human entities (objects, computers, robots)

COMS W4170 USER INTERFACE DESIGN. *3.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: (COMS W3134 or COMS W3136 or COMS W3137) Introduction to the theory and practice of computer user interface design, emphasizing the software design of graphical user interfaces. Topics include basic interaction devices and techniques, human factors, interaction styles, dialogue design, and software infrastructure. Design and programming projects are required

Spring 2024: COMS W4170

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4170	001/12081	M W 1:10pm - 2:25pm 417 International Affairs Bldg	Lydia Chilton	3.00	414/398
COMS 4170	V01/15381		Lydia Chilton	3.00	20/20

Fall 2024: COMS W4170

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4170	001/11946	T Th 1:10pm - 2:25pm Room TBA	Brian Smith	3.00	0/120

IEME E4200 HUMAN-CENTERED DESIGN AND INNOVATION. *3.00 points*.
Open to SEAS graduate and advanced undergraduate students, Business School, and GSAPP. Students from other schools may apply. Fast-paced introduction to human-centered design. Students learn the vocabulary of design methods, understanding of design process. Small group projects to create prototypes. Design of simple product, more complex systems of products and services, and design of business

PSYC GU4236 Machine Intelligence. *4.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

This course will survey historical and modern developments in machine intelligence from fields such as psychology, neuroscience, and computer science, and from intellectual movements such as cybernetics, artificial intelligence, neural networks, connectionism, machine learning, and deep learning. The emphasis is on the conceptual understanding of topics. The course does not include, nor require background in, computer programming and statistics. A crucial aspect of the seminar is for students to become informed consumers of applications of artificial intelligence

Spring 2024: PSYC GU4236

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4236	001/11918	T 6:10pm - 8:00pm 405 Schermerhorn Hall	Trenton Jerde	4.00	18/18

COMS E6178 Human-Computer Interaction. *3.00 points*.
Human–computer interaction (HCI) studies (1) what computers are used for, (2) how people interact with computers, and (3) how either of those should change in the future. Topics include ubiquitous computing, mobile health, interaction techniques, social computing, mixed reality, accessibility, and ethics. Activities include readings, presentations, and discussions of research papers. Substantial HCI research project required

Spring 2024: COMS E6178

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 6178	001/12109	F 10:10am - 12:40pm 545 Seeley W. Mudd Building	Brian Smith	3.00	30/30

Intelligence

PSYC GU4236 Machine Intelligence. *4.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

This course will survey historical and modern developments in machine intelligence from fields such as psychology, neuroscience, and computer science, and from intellectual movements such as cybernetics, artificial intelligence, neural networks, connectionism, machine learning, and deep learning. The emphasis is on the conceptual understanding of topics. The course does not include, nor require background in, computer programming and statistics. A crucial aspect of the seminar is for students to become informed consumers of applications of artificial intelligence

Spring 2024: PSYC GU4236

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4236	001/11918	T 6:10pm - 8:00pm 405 Schermerhorn Hall	Trenton Jerde	4.00	18/18

COMS W4701 ARTIFICIAL INTELLIGENCE. *3.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: (COMS W3134 or COMS W3136 or COMS W3137) and any course on probability. Prior knowledge of Python is recommended. Prior knowledge of Python is recommended. Provides a broad understanding of the basic techniques for building intelligent computer systems. Topics include state-space problem representations, problem reduction and and-or graphs, game playing and heuristic search, predicate calculus, and resolution theorem proving, AI systems and languages for knowledge representation, machine learning and concept formation and other topics such as natural language processing may be included as time permits

Spring 2024: COMS W4701

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4701	001/12086	M W 2:40pm - 3:55pm 501 Northwest Corner	Tony Dear	3.00	92/164
COMS 4701	002/12087	M W 4:10pm - 5:25pm 501 Northwest Corner	Tony Dear	3.00	102/164
COMS 4701	V01/17158		Tony Dear	3.00	8/99

Fall 2024: COMS W4701

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4701	001/11951	T Th 10:10am - 11:25am Room TBA	Ansaf Salleb-Aouissi	3.00	157/180
COMS 4701	002/11952	T Th 11:40am - 12:55pm Room TBA	Ansaf Salleb-Aouissi	3.00	0/180

COMS W4705 NATURAL LANGUAGE PROCESSING. *3.00 points*.
Lect: 3.

Prerequisites: (COMS W3134 or COMS W3136 or COMS W3137) or the instructor's permission.
Computational approaches to natural language generation and understanding. Recommended preparation: some previous or concurrent exposure to AI or Machine Learning. Topics include information extraction, summarization, machine translation, dialogue systems, and emotional speech. Particular attention is given to robust techniques that can handle understanding and generation for the large amounts of text on the Web or in other large corpora. Programming exercises in several of these areas

Spring 2024: COMS W4705

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4705	001/12088	M W 2:40pm - 3:55pm 451 Computer Science Bldg	Daniel Bauer	3.00	110/110
COMS 4705	002/12090	F 10:10am - 12:40pm 301 Pupin Laboratories	Daniel Bauer	3.00	205/272
COMS 4705	V02/15423		Daniel Bauer	3.00	18/99

Fall 2024: COMS W4705

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4705	001/11953	F 10:10am - 12:40pm Room TBA	Daniel Bauer	3.00	98/240
COMS 4705	002/11954	M W 4:10pm - 5:25pm Room TBA	Zhou Yu	3.00	58/100

COMS W4771 MACHINE LEARNING. *3.00 points*.
Lect: 3.

Prerequisites: Any introductory course in linear algebra and any introductory course in statistics are both required. Highly recommended: COMS W4701 or knowledge of Artificial Intelligence.
Topics from generative and discriminative machine learning including least squares methods, support vector machines, kernel methods, neural networks, Gaussian distributions, linear classification, linear regression, maximum likelihood, exponential family distributions, Bayesian networks, Bayesian inference, mixture models, the EM algorithm, graphical models and hidden Markov models. Algorithms implemented in MATLAB

Spring 2024: COMS W4771

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4771	001/12092	T Th 1:10pm - 2:25pm 451 Computer Science Bldg	Nakul Verma	3.00	76/110
COMS 4771	002/12093	T Th 2:40pm - 3:55pm 451 Computer Science Bldg	Nakul Verma	3.00	79/110
COMS 4771	V01/16720		Nakul Verma	3.00	5/99

Fall 2024: COMS W4771

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4771	001/11957	T Th 2:40pm - 3:55pm Room TBA	Nakul Verma	3.00	0/110

PSYC GR6080 Introduction to Neural Networks and Deep Learning. *3.00 points*.
This seminar will introduce both the concepts and practical implementation in PyTorch of neural networks and deep learning, with a focus on general principles and examples from vision

Learning

PSYC BC2107 PSYCHOLOGY OF LEARNING - LEC. *3.00 points*.
Prerequisites: BC1001 Introduction of Psychology or permission of the instructor. Enrollment limited to 72 students.
Prerequisites: PSYC BC1001 Introduction to Psychology or COGS UN1001 Introduction to Cognitive Science or permission of the instructor. Lecture course covering the basic methods, results, and theory in the study of how experience affects behavior. The roles of early exposure, habitation, sensitization, conditioning, imitation, and memory in the acquisition and performance of behavior are studied. The following Columbia University course is considered overlapping and a student cannot receive credit for both the BC course and the equivalent CU course: PSYC UN1440 Experimental: Learning and Motivation

Fall 2024: PSYC BC2107

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2107	001/00069	T Th 10:10am - 11:25am 408 Zankel	Ken Light	3.00	85/100

COMS W4705 NATURAL LANGUAGE PROCESSING. *3.00 points*.
Lect: 3.

Prerequisites: (COMS W3134 or COMS W3136 or COMS W3137) or the instructor's permission.
Computational approaches to natural language generation and understanding. Recommended preparation: some previous or concurrent exposure to AI or Machine Learning. Topics include information extraction, summarization, machine translation, dialogue systems, and emotional speech. Particular attention is given to robust techniques that can handle understanding and generation for the large amounts of text on the Web or in other large corpora. Programming exercises in several of these areas

Spring 2024: COMS W4705

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4705	001/12088	M W 2:40pm - 3:55pm 451 Computer Science Bldg	Daniel Bauer	3.00	110/110
COMS 4705	002/12090	F 10:10am - 12:40pm 301 Pupin Laboratories	Daniel Bauer	3.00	205/272
COMS 4705	V02/15423		Daniel Bauer	3.00	18/99

Fall 2024: COMS W4705

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4705	001/11953	F 10:10am - 12:40pm Room TBA	Daniel Bauer	3.00	98/240
COMS 4705	002/11954	M W 4:10pm - 5:25pm Room TBA	Zhou Yu	3.00	58/100

COMS W4771 MACHINE LEARNING. *3.00 points*.
Lect: 3.

Prerequisites: Any introductory course in linear algebra and any introductory course in statistics are both required. Highly recommended: COMS W4701 or knowledge of Artificial Intelligence.
Topics from generative and discriminative machine learning including least squares methods, support vector machines, kernel methods, neural networks, Gaussian distributions, linear classification, linear regression, maximum likelihood, exponential family distributions, Bayesian networks, Bayesian inference, mixture models, the EM algorithm, graphical models and hidden Markov models. Algorithms implemented in MATLAB

Spring 2024: COMS W4771

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4771	001/12092	T Th 1:10pm - 2:25pm 451 Computer Science Bldg	Nakul Verma	3.00	76/110
COMS 4771	002/12093	T Th 2:40pm - 3:55pm 451 Computer Science Bldg	Nakul Verma	3.00	79/110
COMS 4771	V01/16720		Nakul Verma	3.00	5/99

Fall 2024: COMS W4771

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4771	001/11957	T Th 2:40pm - 3:55pm Room TBA	Nakul Verma	3.00	0/110

PSYC GR6080 Introduction to Neural Networks and Deep Learning. *3.00 points*.
This seminar will introduce both the concepts and practical implementation in PyTorch of neural networks and deep learning, with a focus on general principles and examples from vision

Memory

PSYC BC2107 PSYCHOLOGY OF LEARNING - LEC. *3.00 points*.
Prerequisites: BC1001 Introduction of Psychology or permission of the instructor. Enrollment limited to 72 students.
Prerequisites: PSYC BC1001 Introduction to Psychology or COGS UN1001 Introduction to Cognitive Science or permission of the instructor. Lecture course covering the basic methods, results, and theory in the study of how experience affects behavior. The roles of early exposure, habitation, sensitization, conditioning, imitation, and memory in the acquisition and performance of behavior are studied. The following Columbia University course is considered overlapping and a student cannot receive credit for both the BC course and the equivalent CU course: PSYC UN1440 Experimental: Learning and Motivation

Fall 2024: PSYC BC2107

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2107	001/00069	T Th 10:10am - 11:25am 408 Zankel	Ken Light	3.00	85/100

PSYC UN2220 COGNITION: MEMORY AND STRESS. *3.00 points*.
CC/GS: Partial Fulfillment of Science Requirement
Attendance at the first class is mandatory.

Prerequisites: PSYC UN1001 or PSYC UN1010 or the instructor's permission.
Prerequisites: PSYC UN1001 or PSYC UN1010 or the instructors permission. Memory, attention, and stress in human cognition

Fall 2024: PSYC UN2220

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2220	001/10668	M W 1:10pm - 2:25pm Room TBA	Janet Metcalfe	3.00	75/75

PSYC UN3445 THE BRAIN AND MEMORY. *4.00 points*.
Prerequisites: (PSYC UN1010) or Equivalent introductory course in neuroscience or cognitive psychology and the instructor's permission
Prerequisites: (PSYC UN1010) or Equivalent introductory course in neuroscience or cognitive psychology and the instructors permission
This seminar will give a comprehensive overview of episodic memory research: what neuroimaging studies, patient studies, and animal models have taught us about how the brain creates, stores, and retrieves memories

Spring 2024: PSYC UN3445

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3445	001/11902	M 2:10pm - 4:00pm 405 Schermerhorn Hall	Mariam Aly	4.00	11/12

PSYC UN3455 Neurobiology of Working Memory. *4.00 points*.
Working memory is our ability to retain information in mind in the absence of sensory stimuli. In this course we will gain a more thorough understanding of what working memory is and how the brain supports it

Fall 2024: PSYC UN3455

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 3455	001/10675	Th 10:10am - 12:00pm 405 Schermerhorn Hall	Sarah DeMoya	4.00	7/15

Natural Language Processing

LING UN3103 Language, Brain and Mind. *3.00 points*.
The ability to speak distinguishes humans from all other animals, including our closest relatives, the chimpanzees. Why is this so? What makes this possible? This course seeks to answer these questions. We will look at the neurological and psychological foundations of the human faculty of language. How did our brains change to allow language to evolve? Where in our brains are the components of language found? Are our minds specialized for learning language or is it part of our general cognitive abilities to learn? How are words and sentences produced and their meanings recognized? The structure of languages around the world varies greatly; does this have psychological effects for their speakers?

Fall 2024: LING UN3103

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
LING 3103	001/11718	M W 2:40pm - 3:55pm Room TBA	William Foley	3.00	45/80

PHIL UN3252 Philosophy of Language and Mind. *3 points*.
This course will provide an introduction to meaning, reference, understanding, and content in language, thought, and perception. A central concern will be the question of the relation of meaning to truth-conditions, and what is involved in language and thought successfully latching on to reality. If you have not already taken an elementary course in first order logic, you will need to catch up in that area to understand some crucial parts of the course. All the same, the primary concerns of the course will be philosophical, rather than technical.

PSYC GU4236 Machine Intelligence. *4.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

This course will survey historical and modern developments in machine intelligence from fields such as psychology, neuroscience, and computer science, and from intellectual movements such as cybernetics, artificial intelligence, neural networks, connectionism, machine learning, and deep learning. The emphasis is on the conceptual understanding of topics. The course does not include, nor require background in, computer programming and statistics. A crucial aspect of the seminar is for students to become informed consumers of applications of artificial intelligence

Spring 2024: PSYC GU4236

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4236	001/11918	T 6:10pm - 8:00pm 405 Schermerhorn Hall	Trenton Jerde	4.00	18/18

PSYC GU4242 Evolution of Language (seminar). *3.00 points*.
Prerequisites: PSYC UN1001 or
This seminar will consider the evolution of language at the levels of the word and grammar, in each instance, phylogenetically and ontogenetically. Since humans are the only species that use language, attention will be paid to how language differs from animal communication.

Spring 2024: PSYC GU4242

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4242	001/11919	T 2:10pm - 4:00pm 405 Schermerhorn Hall	Herbert Terrace	3.00	10/15

COMS W4705 NATURAL LANGUAGE PROCESSING. *3.00 points*.
Lect: 3.

Prerequisites: (COMS W3134 or COMS W3136 or COMS W3137) or the instructor's permission.
Computational approaches to natural language generation and understanding. Recommended preparation: some previous or concurrent exposure to AI or Machine Learning. Topics include information extraction, summarization, machine translation, dialogue systems, and emotional speech. Particular attention is given to robust techniques that can handle understanding and generation for the large amounts of text on the Web or in other large corpora. Programming exercises in several of these areas

Spring 2024: COMS W4705

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4705	001/12088	M W 2:40pm - 3:55pm 451 Computer Science Bldg	Daniel Bauer	3.00	110/110
COMS 4705	002/12090	F 10:10am - 12:40pm 301 Pupin Laboratories	Daniel Bauer	3.00	205/272
COMS 4705	V02/15423		Daniel Bauer	3.00	18/99

Fall 2024: COMS W4705

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COMS 4705	001/11953	F 10:10am - 12:40pm Room TBA	Daniel Bauer	3.00	98/240
COMS 4705	002/11954	M W 4:10pm - 5:25pm Room TBA	Zhou Yu	3.00	58/100

Neuroeconomics

PSYC UN2235 THINKING AND DECISION MAKING. *3.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: an introductory course in psychology.
Prerequisites: an introductory course in psychology. Models of judgment and decision making in both certain and uncertain or risky situations, illustrating the interplay of top-down (theory-driven) and bottom-up (data-driven) processes in creating knowledge. Focuses on how individuals do and should make decisions, with some extensions to group decision making and social dilemmas

Spring 2024: PSYC UN2235

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2235	001/11891	T Th 11:40am - 12:55pm 501 Schermerhorn Hall	Katherine Fox-Glassman	3.00	126/125

ECON BC3035 INTERMEDTE MICROECONOMC THEORY. *4.00 points*.
Prerequisites: An introductory course in microeconomics or a combined macro/micro principles course (ECON BC1003 or ECON W1105, or the equivalent) and one semester of calculus or ECON BC1007, or permission of the instructor. Preferences and demand; production, cost, and supply; behavior of markets in partial equilibrium; resource allocation in general equilibrium; pricing of goods and services under alternative market structures; implications of individual decision-making for labor supply; income distribution, welfare, and public policy. Emphasis on problem solving

Spring 2024: ECON BC3035

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ECON 3035	001/00740	T Th 1:10pm - 2:25pm LI104 Diana Center	Lalith Munasinghe	4.00	37/50

Fall 2024: ECON BC3035

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ECON 3035	001/00481	M W 11:40am - 12:55pm 302 Barnard Hall	Elizabeth Ananat	4.00	45/45
ECON 3035	002/00482	T Th 1:10pm - 2:25pm 328 Milbank Hall	Lalith Munasinghe	4.00	42/60

ECON BC3048 Introduction to Behavioral Economics. *3.00 points*.
Prerequisites: ECON BC3035
This course reviews the assumption of rationality in microeconomic theory and presents evidence (primarily from experimental psychology and economics) of how judgement and decision-making systematically deviate from what rationality predicts

ECON UN3211 INTERMEDIATE MICROECONOMICS. *4.00 points*.
Prerequisites: ECON UN1105 and MATH UN1101 and (MATH UN1201 or MATH UN1207)
Prerequisites: ECON UN1105 and MATH UN1101 and (MATH UN1201 or MATH UN1207) The determination of the relative prices of goods and factors of production and the allocation of resources

Spring 2024: ECON UN3211

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ECON 3211	001/13918	T Th 4:10pm - 5:25pm 310 Fayerweather	Murat Yilmaz	4.00	75/96
ECON 3211	002/13920	M W 11:40am - 12:55pm 310 Fayerweather	Isaac Bjorke	4.00	94/96
ECON 3211	003/13924	M W 1:10pm - 2:25pm 310 Fayerweather	Isaac Bjorke	4.00	95/96
ECON 3211	004/13926	T Th 11:40am - 12:55pm 310 Fayerweather	Caterina Musatti	4.00	73/96

Fall 2024: ECON UN3211

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ECON 3211	001/10851	M W 1:10pm - 2:25pm Room TBA	Susan Elmes	4.00	110/110
ECON 3211	002/11065	T Th 1:10pm - 2:25pm Room TBA		4.00	110/110
ECON 3211	003/10852	T Th 6:10pm - 7:25pm Room TBA		4.00	55/96

ECON GU4020 ECON OF UNCERTAINTY # INFORMTN. *3.00 points*.
Prerequisites: ECON UN3211 and ECON UN3213 and STAT UN1201
Prerequisites: ECON UN3211 and ECON UN3213 and STAT UN1201
Topics include behavior uncertainty, expected utility hypothesis, insurance, portfolio choice, principle agent problems, screening and signaling, and information theories of financial intermediation

Spring 2024: ECON GU4020

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ECON 4020	001/15027	M W 4:10pm - 5:25pm 516 Hamilton Hall	Ingmar Nyman	3.00	33/50

PSYC GU4287 DECISION ARCHITECTURE. *4.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: (PSYC UN2235) or an equivalent course on judgment and decision making ,AND the instructor's permission
Prerequisites: (PSYC UN2235) or an equivalent course on judgment and decision making ,AND the instructors permission This course reviews current research in the domain of decision architecture: the application of research in cognitive and social psychology to real-world situations with the aim of influencing behavior. This seminar will discuss recent and classic studies, both of decision theory and of applied decision research, to explore the effectiveness—as well as the limitations—of a selection of these behavioral "nudges."

Spring 2024: PSYC GU4287

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4287	001/11924	W 2:10pm - 4:00pm 200c Schermerhorn Hall	Katherine Fox-Glassman	4.00	12/12

PSYC GU4289 THE GAMES PEOPLE PLAY:PSYCH OF STRAT DEC. *3.00 points*.
CC/GS: Partial Fulfillment of Science Requirement

Prerequisites: (PSYC UN2235) or equivalent course on judgment and decision-making
Prerequisites: (PSYC UN2235) or equivalent course on judgment and decision-making A seminar course exploring strategic decision making (also known as behavioral game theory). This course examines the psychology underlying situations in which outcomes are determined by choices made by multiple decision makers. The prime objective will be to examine the use of experimental games to test psychological theories

ECON GU4415 GAME THEORY. *3.00 points*.
Prerequisites: ECON UN3211 and ECON UN3213
Prerequisites: ECON UN3211 and ECON UN3213 Introduction to the systematic treatment of game theory and its applications in economic analysis

Spring 2024: ECON GU4415

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ECON 4415	001/13976	M W 10:10am - 11:25am 309 Havemeyer Hall	Evan Sadler	3.00	59/110

Fall 2024: ECON GU4415

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ECON 4415	001/11021	T Th 11:40am - 12:55pm Room TBA	Murat Yilmaz	3.00	96/96

ECON GU4840 BEHAVIORAL ECONOMICS. *3.00 points*.
Prerequisites: ECON UN3211 and ECON UN3213
Prerequisites: ECON UN3211 and ECON UN3213 Within economics, the standard model of behavior is that of a perfectly rational, self interested utility maximizer with unlimited cognitive resources. In many cases, this provides a good approximation to the types of behavior that economists are interested in. However, over the past 30 years, experimental and behavioral economists have documented ways in which the standard model is not just wrong, but is wrong in ways that are important for economic outcomes. Understanding these behaviors, and their implications, is one of the most exciting areas of current economic inquiry. The aim of this course is to provide a grounding in the main areas of study within behavioral economics, including temptation and self control, fairness and reciprocity, reference dependence, bounded rationality and choice under risk and uncertainty. For each area we will study three things: 1. The evidence that indicates that the standard economic model is missing some important behavior 2. The models that have been developed to capture these behaviors 3. Applications of these models to (for example) finance, labor and development economics As well as the standard lectures, homework assignments, exams and so on, you will be asked to participate in economic experiments, the data from which will be used to illustrate some of the principals in the course. There will also be a certain small degree of classroom 'flipping', with a portion of many lectures given over to group problem solving. Finally, an integral part of the course will be a research proposal that you must complete by the end of the course, outlining a novel piece of research that you would be interested in doing

Spring 2024: ECON GU4840

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ECON 4840	001/13983	M W 2:40pm - 3:55pm 142 Uris Hall	Mark Dean	3.00	62/108

ECON GU4850 COGNITIVE MECH # ECON BEHAVIOR. *4.00 points*.

Prerequisites: ECON UN3211 and ECON UN3213 and STAT UN1201
Prerequisites: ECON UN3211 and ECON UN3213 and STAT UN1201
Standard economic theory seeks to explain human behavior (especially in economic settings, such as markets) in terms of rational choice, which means that the choices that are made can be predicted on the basis of what would best serve some coherent objective, under an objectively correct understanding of the predictable consequences of alternative actions. Observed behavior often seems difficult to reconcile with a strong form of this theory, even if incentives clearly have some influence on behavior; and the course will discuss empirical evidence (both from laboratory experiments and observations in the field) for some well-established anomalies. But beyond simply cataloguing anomalies for the standard theory, the course will consider the extent to which departures from a strong version of rational choice theory can be understood as reflecting cognitive processes that are also evident in other domains such as sensory perception; examples from visual perception will receive particular attention. And in addition to describing what is known about how the underlying mechanisms work (something that is understood in more detail in sensory contexts than in the case of value-based decision making), the course will consider the extent to which such mechanisms --- while suboptimal from a normative standpoint that treats perfect knowledge of one's situation as costless and automatic --- might actually represent efficient uses of the limited information and bounded information-processing resources available to actual people (or other organisms). Thus the course will consider both ways in which the realism of economic analysis may be improved by taking into account cognitive processes, and ways in which understanding of cognitive processes might be advanced by considering the economic problem of efficient use of limited (cognitive) resources

ECON GU4860 BEHAVIORAL FINANCE. *3.00 points*.

Prerequisites: ECON UN3211 and ECON UN3213 and ECON UN3412
Prerequisites: ECON UN3211 and ECON UN3213 and ECON UN3412
Neoclassical finance theory seeks to explain financial market valuations and fluctuations in terms of investors having rational expectations and being able to trade without costs. Under these assumptions, markets are efficient in that stocks and other assets are always priced just right. The efficient markets hypothesis (EMH) has had an enormous influence over the past 50 years on the financial industry, from pricing to financial innovations, and on policy makers, from how markets are regulated to how monetary policy is set. But there was very little in prevailing EMH models to suggest the instabilities associated with the Financial Crisis of 2008 and indeed with earlier crises in financial market history. This course seeks to develop a set of tools to build a more robust model of financial markets that can account for a wider range of outcomes. It is based on an ongoing research agenda loosely dubbed "Behavioral Finance", which seeks to incorporate more realistic assumptions concerning human rationality and market imperfections into finance models. Broadly, we show in this course that limitations of human rationality can lead to bubbles and busts such as the Internet Bubble of the mid-1990s and the Housing Bubble of the mid-2000s; that imperfections of markets — such as the difficulty of short-selling assets — can cause financial markets to undergo sudden and unpredictable crashes; and that agency problems or the problems of institutions can create instabilities in the financial system as recently occurred during the 2008 Financial Crisis. These instabilities in turn can have feedback effects to the performance of the real economy in the form of corporate investments

Perception

PSYC BC2110 PERCEPTION-LECTURE. *3.00 points*.

Prerequisites: PSYC BC1001 Introduction to Psychology or COGS UN1001 Introduction to Cognitive Science or permission of the instructor. Lecture course covering an introduction to problems, methods, and research in perception. Discussion of psychological studies of seeing, hearing, touching, tasting, and smelling. Note that this lecture can be taken without its affiliated lab, PSYC BC2109, however, if a student completes this lecture, she cannot enroll in the lab in a later semester. The following Columbia University course is considered overlapping and a student cannot receive credit for both the BC course and the equivalent CU course: PSYC UN1480 Perception and Attention; and PSYC UN2230 Perception and Sensory Processes

Fall 2024: PSYC BC2110

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2110	001/00070	M W 10:10am - 11:25am 323 Milbank Hall	Robert Remez	3.00	47/55

PSYC BC3164 PERCEPTION AND LANGUAGE. *4.00 points*.

Prerequisites: BC 1001 and one of the following: BC2106/2107, BC2109/2110, BC2118/2119, BC2128/2129, or permission of the instructor. Enrollment limited to 20 students
Psychological investigations of spoken communication from a listener's perspective. Topics include perception and sounds of speech and the apprehension of meaning from words and utterances; the perceptual basis for rhyme and rhythm in speech; and the natural history of vocal communication.

NSBV BC3381 Visual Neuroscience: From the Eyeball to the Mind's Eye. *4.00 points*.

By absorbing electromagnetic radiation through their eyes, people are able to catch frisbees, recognize faces, and judge the beauty of art. For most of us, seeing feels effortless. That feeling is misleading. Seeing requires not only precise optics to focus images on the retina, but also the concerted action of millions of nerve cells in the brain. This intricate circuitry infers the likely causes of incoming patterns of light and transforms that information into feelings, thoughts, and actions. In this course we will study how light evokes electrical activity in a hierarchy of specialized neural networks that accomplish many unique aspects of seeing. Students will have the opportunity to focus their study on particular aspects, such as color, motion, object recognition, learning, attention, awareness, and how sight can be lost and recovered. Throughout the course we will discuss principles of neural information coding (e.g., receptive field tuning, adaptation, normalization, etc.) that are relevant to other areas of neuroscience, as well as medicine, engineering, art and design

NSBV BC3389 Hallucinations, illusions, dreaming and imagination. *4.00 points.*

Perception is often taken as the most striking proof of something factual: when we perceive something, we interpret it as real. In this seminar we will challenge this assumption by taking into consideration states of altered perception, wherein the brain creates perceptual experiences that do not correspond to sensory input. Specifically, we will review a number of experiments showing changes in brain activity accompanying illusions, hallucinations, and dreaming across sensory modalities (i.e., vision, hearing, touch), and in both clinical and non-clinical populations. We will examine the similarities and differences between these states of altered perception both at the level of phenomenology and underlying biological mechanisms, specifically focusing on neural oscillations. Using the latest research findings in clinical, cognitive, and computational neuroscience, this seminar offers a great opportunity to learn more about how the brain creates perceptual experiences and why sometimes we perceive something that isn't real

Spring 2024: NSBV BC3389

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
NSBV 3389	001/00048	T 4:10pm - 6:00pm Ll017 Milstein Center	Luca Iemi	4.00	14/12

Fall 2024: NSBV BC3389

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
NSBV 3389	001/00106	W 4:10pm - 6:00pm 405 Barnard Hall	Luca Iemi	4.00	12/12

PSYC GU4225 CONSCIOUSNESS # ATTENTION. *4.00 points.*

Prerequisites: the instructor's permission; some basic knowledge of cognitive science and neuroanatomy is desirable, but not necessary. Modern theories attempt to characterize the human mind in terms of information processing. But machines that process information do not seem to feel anything; a computer may for instance receive inputs from a video camera, yet it would be hard to imagine that it sees or experiences the vividness of colors like we do. Nobody has yet provided a convincing theory as to how to explain the subjective nature of our mental lives in objective physical terms. This is called the problem of consciousness, and is generally considered to be one of the last unsolved puzzles in science. Philosophers even debate whether there could be a solution to this problem at all. Students in this course may be recruited for participation in a voluntary research study. Students who choose not to participate in the study will complete the same course requirements as those who do, and an individual's choice will not affect their grade or status as a student in the course

Spring 2024: PSYC GU4225

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 4225	001/11916	T 12:10pm - 2:00pm 200c Schermerhorn Hall	Alfredo Spagna	4.00	14/15

PSYC GU4280 CORE KNOWLEDGE. *4.00 points.*

Prerequisites: For undergraduates: courses in introductory psychology, cognitive or developmental psychology, and the instructor's permission. Prerequisites: For undergraduates: courses in introductory psychology, cognitive or developmental psychology, and the instructors permission. Core Knowledge explores the origins and development of knowledge in infants and children, with an additional emphasis on evolutionary cognition. In this course, we will examine evidence from cognitive psychology, developmental psychology, comparative psychology, neuroscience, and linguistics to look at the childs conception of objects, number, space, language, agency, morality and the social world. We will look at which aspects of knowledge are uniquely human, which are shared with other animals, and how this knowledge changes as children develop

Social Cognition

PSYC UN1450 RESEARCH METHODS - SOCIAL COGNITION # EMOTION. *4.00 points.*

Attendance at the first class is essential. Priority given to psychology majors. Fee: $70.

Prerequisites: PSYC UN1001 or PSYC UN1010 and a statistics course (PSYC UN1610 or the equivalent), or the instructor's permission. Corequisites: PSYC UN1451

An introduction to research methods employed in the study of human social cognition and emotion. Students gain experience in the design and conduct of research, including ethical issues, observation and measurement techniques, interpretation of data, and preparation of written and oral reports

Fall 2024: PSYC UN1450

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 1450	001/14844	M 10:10am - 12:00pm Room TBA	Kevin Ochsner	4.00	55/55

ANTH UN2004 INTRO TO SOC # CULTURAL THEORY. *3.00 points.*

This course presents students with crucial theories of society, paying particular attention at the outset to classic social theory of the early 20th century. It traces a trajectory of writings essential for an understanding of the social: from Saussure, Durkheim, Mauss, Weber, and Marx, on to the structuralist ethnographic elaboration of Claude Levi-Strauss and the historiographic reflections on modernity of Michel Foucault. We revisit periodically, reflections by Franz Boas, founder of anthropology in the United States (and of Anthropology at Columbia), for a sense of origins, an early anthropological critique of racism and cultural chauvinism, and a prescient denunciation of fascism. We turn as well, also with ever-renewed interest in these times, to the expansive critical thought of W. E. B. Du Bois. We conclude with Kathleen Stewart's A Space on the Side of the Road--an ethnography of late-twentieth-century Appalachia and the haunted remains of coal-mining country--with its depictions of an uncanny otherness within dominant American narratives

Fall 2024: ANTH UN2004

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
ANTH 2004	001/10726	M W 10:10am - 10:25am Room TBA	John Pemberton	3.00	36/60

PSYC UN2435 Social Neuroscience. *3.00 points*.

This course will provide a broad overview of the field of social neuroscience. We will consider how social processes are implemented at the neural level, but also how neural mechanisms help give rise to social phenomena and cultural experiences. Many believe that the large expansion of the human brain evolved due to the complex demands of dealing with social others—competing or cooperating with them, deceiving or empathizing with them, understanding or misjudging them. What kind of "social brain" has this evolutionary past left us with? In this course, we will review core principles, theories, and methods guiding social neuroscience, as well as research examining the brain basis of processes such as theory of mind, emotion, stereotyping, social group identity, empathy, judging faces and bodies, morality, decision-making, the impact of culture and development, among others. Overall, this course will introduce students to the field of social neuroscience and its multi-level approach to understanding the brain in its social context

Spring 2024: PSYC UN2435

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2435	001/11892	M W 2:40pm - 3:55pm 501 Schermerhorn Hall	Jon Freeman	3.00	127/150

Fall 2024: PSYC UN2435

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2435	001/10672	M W 2:40pm - 3:55pm Room TBA	Jon Freeman	3.00	103/120

PSYC UN2630 SOCIAL PSYCHOLOGY. *3.00 points*.

Surveys important methods, findings, and theories in the study of social influences on behavior. Emphasizes different perspectives on the relation between individuals and society.

Fall 2024: PSYC UN2630

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
PSYC 2630	001/10694	T Th 2:40pm - 3:55pm Room TBA	Tory Higgins	3.00	98/150