Research on children’s minds reveals early emerging abilities that help explain the developmental origins and early growth of wonder. We explore how this decline occurs and its consequences. When communities and, early on, they sense how to “harvest” knowledge from these communities. Yet, those joyous moments of discovery also underlying causal patterns that are at the heart of many sciences. They learn not just as individual but also as members of knowledge communities but also have caused linguists and psychologists to re-evaluate their most fundamental theories of language representation and processing in the mind and brain. The course introduces you to the analysis of sign languages at different levels of linguistic structure and related aspects of cognition in the visual modality. The primary goal is to encourage you as linguists, psychologists, and cognitive scientists to consider how natural sign languages can and must inform your linguistic theories (linguistics), models of language and cognition (psychology), and technological applications of language processing (computer science/artificial intelligence). We also consider the ways in which signing communities/Deaf culture interact with the hearing world as marginalized minority groups and reflect upon access to language and information as a basic human right. Some background in linguistic structure, cognitive science, any signed language, or permission of the instructor is preferred.

Natural sign languages like American Sign Language have all of the structure and complexity of spoken languages. They are learned and processed like spoken languages, and activate neural structures that maximally overlap with those activated by spoken languages. These findings have not only had important implications for the sociopolitical status of Deaf people, as a native, American minority community but also have caused linguists and psychologists to re-evaluate their most fundamental theories of language representation and processing in the mind and brain. The course introduces you to the analysis of sign languages at different levels of linguistic structure and related aspects of cognition in the visual modality. The primary goal is to encourage you as linguists, psychologists, and cognitive scientists to consider how natural sign languages can and must inform your linguistic theories (linguistics), models of language and cognition (psychology), and technological applications of language processing (computer science/artificial intelligence). We also consider the ways in which signing communities/Deaf culture interact with the hearing world as marginalized minority groups and reflect upon access to language and information as a basic human right. Some background in linguistic structure, cognitive science, any signed language, or permission of the instructor is preferred.

CGSC 300a / LING 300a / LING 700a / PSYC 309 / PSYC 332a / PSYC 632a, The Cognitive Science of Sign Languages Maria Pinango and Muye Zhang

* CGSC 300a / LING 300a / LING 700a / PSYC 309 / PSYC 332a / PSYC 632a, The Cognitive Science of Sign Languages Maria Pinango and Muye Zhang

CGSC 315a / PSYC 315a, The Modern Unconscious John Bargh

The notion of the unconscious mind traced from the early 1800s through Freud to present-day cognitive science, with a focus on the past thirty years. The power and function of the unconscious as a pervasive part of normal everyday human functioning. Readings from philosophy of mind and evolutionary biology.

CGSC 322a / NSCI 322a / PSYC 322a, Arrested or Adaptive Development of the Adolescent Brain BJ Casey

Study of empirical and theoretical accounts of adolescent-specific changes in the brain and in behavior that relate to the development of self control. Discussions will focus on adaptive and arrested adolescent brain development in the context of relevant legal, social, and health policy issues.

* CGSC 322a / NSCI 322a, Arrested or Adaptive Development of the Adolescent Brain BJ Casey

CGSC 332a / PSYC 332a, The Cognitive Science of Morality Joshua Knobe

Introduction to the emerging field of moral cognition. Focus on questions about the philosophical significance of psychological findings. Topics include the role of emotion in moral judgment; the significance of character traits in virtue ethics and personality psychology; the reliability of intuitions and the psychological processes that underlie them.

* CGSC 332a / PSYC 332a, The Cognitive Science of Morality Joshua Knobe

CGSC 342b / PSYC 42b, Social Perception Brian Scholl

Connections between visual perception, among the earliest and most basic of human cognitive processes, and social cognition, among the most advanced forms of higher-level cognition. The perception of animacy, agency, and goal-directedness; biological motion; face perception (including the perception of facial attractiveness); gaze processing and social attention; “thin-slicing” and “perceptual stereotypes”; and social and cultural influences on perception.

* CGSC 342b / PSYC 42b, Social Perception Brian Scholl

CGSC 345a / PSYC 345a, The Modern Unconscious John Bargh

The notion of the unconscious mind traced from the early 1800s through Freud to present-day cognitive science, with a focus on the past thirty years. The power and function of the unconscious as a pervasive part of normal everyday human functioning. Readings from philosophy of mind and evolutionary biology.

CGSC 352a / NSCI 352a / PSYC 352a, Arrested or Adaptive Development of the Adolescent Brain BJ Casey

Study of empirical and theoretical accounts of adolescent-specific changes in the brain and in behavior that relate to the development of self control. Discussions will focus on adaptive and arrested adolescent brain development in the context of relevant legal, social, and health policy issues.

* CGSC 352a / NSCI 352a, Arrested or Adaptive Development of the Adolescent Brain BJ Casey

CGSC 362a / PSYC 362a, The Cognitive Science of Sign Languages Maria Pinango and Muye Zhang

CGSC 372a / NSCI 372a, The Cognitive Science of Morality Joshua Knobe

Introduction to the emerging field of moral cognition. Focus on questions about the philosophical significance of psychological findings. Topics include the role of emotion in moral judgment; the significance of character traits in virtue ethics and personality psychology; the reliability of intuitions and the psychological processes that underlie them.

* CGSC 372a / NSCI 372a, The Cognitive Science of Morality Joshua Knobe

CGSC 382a / PSYC 382a, The Cognitive Science of Sign Languages Maria Pinango and Muye Zhang

CGSC 392a / PSYC 392a, The Cognitive Science of Sign Languages Maria Pinango and Muye Zhang

CGSC 395a / PHIL 395a, Junior Colloquium in Cognitive Science Joshua Knobe

Survey of contemporary issues and current research in cognitive science. By the end of the term, students select a research topic for the senior essay. Enrollment limited to Cognitive Science majors.

* CGSC 395a / PHIL 395a, Junior Colloquium in Cognitive Science Joshua Knobe

CGSC 420b / PSYC 420b, Social Perception Brian Scholl

Connections between visual perception, among the earliest and most basic of human cognitive processes, and social cognition, among the most advanced forms of higher-level cognition. The perception of animacy, agency, and goal-directedness; biological motion; face perception (including the perception of facial attractiveness); gaze processing and social attention; “thin-slicing” and “perceptual stereotypes”; and social and cultural influences on perception.

* CGSC 420b / PSYC 420b, Social Perception Brian Scholl

CGSC 421b / LING 116b / PSYC 116b, Cognitive Science of Language Robert Frank

The study of language from the perspective of cognitive science. Exploration of mental structures that underlie the human ability to learn and process language, drawing on studies of normal and atypical language development and processing, brain imaging, neuropsychology, and computational modeling. Innate linguistic structure vs. determination by experience and culture; the relation between linguistic and nonlinguistic cognition in the domains of decision making, social cognition, and musical cognition; the degree to which language shapes perceptions of color, number, space, and gender.

* CGSC 421b / LING 116b / PSYC 116b, Cognitive Science of Language Robert Frank

CGSC 422a / PSYC 422a, The Cognitive Science of Sign Languages Maria Pinango and Muye Zhang

CGSC 425b / PSYC 425b, Social Perception Brian Scholl

Connections between visual perception, among the earliest and most basic of human cognitive processes, and social cognition, among the most advanced forms of higher-level cognition. The perception of animacy, agency, and goal-directedness; biological motion; face perception (including the perception of facial attractiveness); gaze processing and social attention; “thin-slicing” and “perceptual stereotypes”; and social and cultural influences on perception.

* CGSC 425b / PSYC 425b, Social Perception Brian Scholl

CGSC 427b / PSYC 427b, The Rise and Fall of Wonder: When Early Passions for Exploration and Discovery Decay with Age Frank Keil

Research on children's minds reveals early emerging abilities that help explain the developmental origins and early growth of wonder. We consider wonder as the joy of exploration and discovery. Preschoolers and even infants are driven to learn not just facts and statistics, but also underlying causal patterns that are at the heart of many sciences. They learn not just as individual but also as members of knowledge communities and, early on, they sense how to “harvest” knowledge from these communities. Yet, those joyous moments of discovery and exploration often fade as children grow older and cease to wonder. We explore how this decline occurs and its consequences. When
people stop wondering, they fail to expand their grasps of the world and become ever more vulnerable to misunderstanding and manipulation by others. We examine possible ways to reverse the decline. Prerequisite: PSYC 110 or CGSC 110.  

* CGSC 437b / PSYC 437b, Minds, Brains, and Machines  Julian Jara-Ettinger
Exploration of the implications that the brain is a kind of computer that gives rise to the mind. Readings combine classical and cutting-edge research in psychology, philosophy, and artificial intelligence.  

* CGSC 471a and CGSC 472b, Directed Research in Cognitive Science  Joshua Knobe
Research projects for qualified students. The student must be supervised by a member of the Cognitive Science faculty, who sets the requirements and directs the research. To register, a student must submit a written plan of study to the director of undergraduate studies and the faculty supervisor. The normal minimum requirement is a written report of the completed research, but individual faculty members may set alternative equivalent requirements. Only one term may be offered toward the major, with permission of the director of undergraduate studies; two terms may be offered toward the bachelor’s degree.  

* CGSC 473a and CGSC 474b, Directed Reading in Cognitive Science  Joshua Knobe
Individual study for qualified students who wish to investigate an area of cognitive science not covered in regular courses. The student must be supervised by a member of the Cognitive Science faculty, who sets the requirements and meets regularly with the student. To register, a student must submit a written plan of study to the director of undergraduate studies and the faculty supervisor. The normal minimum requirement is a term paper, but individual faculty members may set alternative equivalent requirements. Only one term may be offered toward the major, with permission of the director of undergraduate studies; two terms may be offered toward the bachelor’s degree.  

* CGSC 491b, Senior Project  Joshua Knobe
A research colloquium leading to the completion of the senior essay. Students attend regular colloquium presentations. Enrollment limited to Cognitive Science majors.