

COGNITIVE SCIENCE (CGSC)

CGSC 110a / PSYC 130a, Introduction to Cognitive Science Staff

An introduction to the interdisciplinary study of how the mind works. Discussion of tools, theories, and assumptions from psychology, computer science, neuroscience, linguistics, and philosophy. SO

CGSC 175a, The Mystery of Sleep Meir Kryger

The role in which sleep and circadian rhythms affect attention, cognition, and memory through multidisciplinary consideration of neurobiology, epidemiology, and humanities. Psychological aspects of sleep; sleep disorders; sleep deprivation; and the history of sleep in philosophy, literature, and art. This course is not open to students previously enrolled in CSPC 350, CSMC 370, or CSYC 390. SC

CGSC 186b / PHIL 113b / RLST 186b / SAST 270b, Fear, Suffering, Anger, Love:

Buddhist Philosophy of Mind Sonam Kachru

This course introduces students to classical Indian Buddhist philosophy of mind and the reasons why Buddhists pursued it – “the reinvention of ourselves,” or the pursuit of the transformation of persons from unhealthy to healthy ways of being minded. Class materials are drawn from categories and concerns found in theoretical and practical manuals from roughly the first to the fifth centuries C.E., but the topics are salient, including: What is the difference between mind and consciousness? Is there an unconscious? How does one model mental actions, such as attention or categorization? Are our minds structured by primal fear? Or anger? Do we ever have reason to be angry? What is cognitive control? Why do minds wander? Should mental dynamics be merely observed or attenuated or sculpted in some other way? What, if anything, is peace of mind? HU

CGSC 274a / NSCI 361a / PSYC 261a, Algorithms of the Mind Ilker Yildirim

This course introduces computational theories of psychological processes, with a pedagogical focus on perception and high-level cognition. Each week students learn about new computational methods grounded in neurocognitive phenomena. Lectures introduce these topics conceptually; lab sections provide hands-on instruction with programming assignments and review of mathematical concepts. Lectures cover a range of computational methods sampling across the fields of computational statistics, artificial intelligence and machine learning, including probabilistic programming, neural networks, and differentiable programming. Students must have a programming background, ideally in a high-level programming language such as Python, Julia or Matlab. Students must also have college-level calculus. The course will substantially use Julia and Python. QR, SC, SO o Course cr

CGSC 276a / PHIL 276a, Metaphysics Staff

Examination of some fundamental aspects of reality. Topics include time, persistence, modality, causation, and existence. HU o Course cr

CGSC 277b / AFAM 198b / EDST 177b / EP&E 494b / PHIL 177b, Propaganda,

Ideology, and Democracy Jason Stanley

Historical, philosophical, psychological, and linguistic introduction to the issues and challenges that propaganda raises for liberal democracy. How propaganda can work to undermine democracy; ways in which schools and the press are implicated; the use of

propaganda by social movements to address democracy's deficiencies; the legitimacy of propaganda in cases of political crisis. HU o Course cr

CGSC 282a / PHIL 182a / PSYC 182a, Perspectives on Human Nature Staff

Comparison of philosophical and psychological perspectives on human nature. Nietzsche on morality, paired with contemporary work on the psychology of moral judgment; Marx on religion, paired with systematic research on the science of religious belief; Schopenhauer paired with social psychology on happiness. HU o Course cr

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. SO

* **CGSC 395a / PHIL 395a, Junior Colloquium in Cognitive Science** Isaac Davis
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. ½ Course cr

* **CGSC 426b / EP&E 490b / PHIL 426b / PSYC 422b, 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. HU

* **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. SO

* **CGSC 471a, 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, 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.