



major in COGNITIVE SCIENCES

cognitive scientists ask *questions* like:

- ✓ How do people perceive, learn and solve problems?
- ✓ How does the human brain organize and store information?
- ✓ How do we create and use language?
- ✓ How and why do people work the way they do?

their *findings* impact our scientific understanding of diseases and disorders including Alzheimers, schizophrenia and autism

the degree

The bachelor of science in cognitive sciences prepares students for a research career in cognitive science, focusing on any of the current dominant approaches of the field. The study of cognition can be approached through cognitive neuroscience, behavioral experiments, language science, computational and mathematical modeling, or any combination of those. The major combines strong technical skills with deep knowledge of at least one of these approaches. Students in the department may become involved in research by working with faculty members in areas such as cognitive neuroscience, vision, hearing, attention, memory, language, development, and decision-making.

careers

The major prepares students for graduate study by providing a challenging introduction to the field that is strongly grounded in theory and empirical approaches emphasizing experimental/computational methods. The major provides training in critical thinking, experimental design and data analysis – skills that are important in many careers. Cognitive science grads are sought by high-tech startups, research consultancy companies and government science and laboratories.

curriculum highlights

Psychology Fundamentals (Psychology 9A–B–C)
Math 2A–2B and Stats 7
School of Social Sciences Computer technology
requirement: Psychology 114M or ICS 31
Psychology 109: Cognitive Science Research
Seminar
Psychology 110: Quantitative Methods
Concentration Core Course
Research Methods: Psych
H111A–H111BW–H111C
Seminar and Thesis: Psych
H101A–H101B–H101C
Honors in cognitive sciences possible when
overall GPA in major is 3.2 or higher and
thesis is approved by CogSci advisor.



learn more:
www.cogsci.uci.edu

concentrations

cognitive neuroscience

Cognitive neuroscience is an interdisciplinary field that investigates the relationship between mind and brain. With the development of non-invasive functional brain imaging techniques during the last two decades, the integration of cognitive and neural models of information processing has become a major focus in promoting brain research. Cognitive neuroscience intersects closely with research in psychology, neuroscience, biology, computer science, mathematics and engineering.

computational and mathematical modeling

Researchers construct mathematical or computer models of human cognition and behavior. They then test how well these models predict real human or group behavior, and use the models to gain insight in any aspect of human psychology, development, pathology and so on. The models and methods involve probability theory, measurement theory, stochastic calculus, quantum theory, artificial neural networks, Bayes nets and much more.

experimental psychology

Researchers experimentally investigate mental operations such as sensation, perception, attention, learning, memory, reasoning and decision making by measuring changes in human behavior as a function of changes in the environment. The resulting changes are interpreted by comparing them with the predictions of mathematical/computational/neural models motivated by theory and our understanding of brain mechanisms.

language science

Researchers investigate the psychological and neurological bases of the complex system of human language knowledge, from sounds to words to sentences and beyond. They draw on theoretical, experimental and computational techniques to explore questions such as what knowledge of language is, how language is learned, how language knowledge is deployed in real time, and how language knowledge is instantiated in the brain.

undergrad student affairs

The Social Sciences Undergraduate Student Affairs Office provides numerous services and special programs for undergraduate students including course planning, change of major requests, financial aid appeals, course substitutions, and information concerning honors, graduate and professional school, and careers and internships. Visit the Undergraduate Student Affairs Office online at undergradstudies.ss.uci.edu/ugs_usa or call 949.824.6803 today to set up an appointment.

academic resource center

A great starting point for information about academic-related endeavors is the School of Social Sciences Academic Resource Center (SSARC) where students may obtain information about internships, graduate school and prospective careers in a number of social sciences-related fields. Visit the Academic Resource Center online at www.socsci.uci.edu/ssarc or call 949.824.8322 today to set up an appointment.