



CASE WESTERN RESERVE  
UNIVERSITY  
EST. 1826

## DEPARTMENT OF COGNITIVE SCIENCE

### CAREER POSSIBILITIES

The cross-disciplinary preparation of cognitive science gives students a good grounding for a variety of possible careers. A BA in cognitive science will allow you to apply for jobs in any of the fields that are part of cognitive science. For example, you can apply for jobs in both psychology and computer science.

A BA in cognitive science will also allow you to apply to a variety of different graduate and professional programs. For example, you might decide your interest within cognitive science is language, and get advanced training in speech pathology in a Communications department. A BA in cognitive science is also suitable for pre-medicine, pre-law, and pre-management students.

Employers will be pleased to see that your training is broader than that of other candidates. A degree in cognitive science says something about you: "I have multiple interests and skills and can think about problems in a variety of ways. I've been exposed to a lot of different things, and have a substantial knowledge base."

To learn more about the employment value of a degree in Cognitive Science, visit

<http://case.edu/artsci/cogs/careerpossibilities.html>

### NEW COURSES

Cognitive Science is offering several new courses for the 2007-2008 academic year, including:

COGS 204: Cognition and Computation.

COGS 301: Cognition and Design.

COGS 304: Conceptual Integration: This course surveys the cognitive mechanisms of conceptual integration, a defining feature of higher-order human cognition. We will study its role in a range of human behaviors such as learning, invention, mathematical and scientific discovery, language, art, music, gesture, social understanding, institutional performance, reasoning, decision, judgment, choice, design, and engineering.

Cognitive Approaches to the Arts: Courses on music, cognition and visual aesthetic experience, and cognitive approaches to theater and dance.

COGS 330: Cognitive Brain Imaging: An introduction to the theory and practice of human brain imaging, including fMRI.

To learn more about Cognitive Science course offerings, visit <http://case.edu/artsci/cogs/courses.html>

### RESEARCH OPPORTUNITIES

Get involved in research! There are lots of opportunities for undergraduates to do hands-on research with Cognitive Science faculty. For example:

**The Cetacean Cognition Project:** Studying dolphin vocalizations as an exercise in applied cognitive epistemology.

<http://www.case.edu/artsci/phil/cetacean/cetacean2.htm> **The Conceptual Blending Lab:** Studying the dynamics of cognitive creativity. **The**

**Gesture and Cognition Lab:** Studying the relationship between gesture, communication, and thought. **The Brain, Mind, and Consciousness Lab:** Studying self-knowledge, visual awareness, social, cognition, and their biological basis using fMRI. **Laboratory for Applied Research in Cognitive Semiotics.** Work on the cognitive study of meaning! Learn more about our faculty and their research at <http://case.edu/artsci/cogs/people.html>.

## YOU ARE INVITED TO ATTEND THE COGSCI OPEN HOUSE

All interested students are invited to attend the Cogsci Open House to learn more about the field, the faculty, and the future. 4-5pm, Monday, 12 November 2007. Location: 9 Crawford Hall, the Inamori Center.

Would you like to be added to our mailing list for students interested in cognitive science? Send your email address and request for inclusion to Jesse McGuinness at [jessica.mcguinness@case.edu](mailto:jessica.mcguinness@case.edu).



## DEPARTMENT OF COGNITIVE SCIENCE

### B.A. in Cognitive Science

Cognitive science brings the insights and methods of natural science, social science, and some of the humanities to the study of the mind. Cognitive science programs have emerged in recent years in response to a call for an integrated approach that does not restrict the study of the mind to a single discipline. Most programs have been inherently interdisciplinary and centered on psychology, neuroscience, linguistics, and/or computing. Our department's work is grounded in the fundamental cognitive sciences of neurobiology, neuroscience, psychology, biology, and anthropology, but is unique in its special focus on human creativity and invention, particularly art and technology—the systems invented by human beings to guide their thought and action both individually and culturally.

The undergraduate major requires a minimum of 30 semester hours in cognitive science and approved related coursework: 15 credit hours in the foundation component and 15 hours of elective coursework. Please see our website for information about the minor in cognitive science.

#### THE FOUNDATION COMPONENT

All majors must successfully complete the following core courses:

COGS 101	Introduction to Cognitive Science I
COGS 102	Introduction to Cognitive Neuroscience
COGS 201	Human Cognition in Evolution and Development
COGS 202	Human Cognition from a Cultural Perspective
PSCL 282	Quantitative Methods in Psychology or equivalent, particularly ANTH 319 or STAT 201

#### ELECTIVES

All majors must successfully complete five elective courses. Examples of acceptable electives are listed below. Many courses can qualify, subject to departmental approval. At least three of these courses must be at the 200 or 300 level. Some of these courses have additional prerequisites that may not count towards the requirements of the major. While students may enroll in up to 6 credits of independent study in Cognitive Science (COGS 397), only 3 of these credits may count toward the elective component of the major.

ANTH 102	Being Human
ANTH 103	Introduction to Human Evolution
ANTH 220	Language, Culture, and Communication
ANTH 367	Topics in Evolutionary Biology
ANTH 371	Culture, Behavior, and Person
BIOL 225	Evolution
BIOL 302	Human Learning and the Brain
COGS 203	Introduction to Cognitive Linguistics
COGS 301	Topics in Cognitive Science
COGS 304	Conceptual Integration
COGS 315	Mental Space Theory
COGS 327	Gesture in Communication and Cognition
COGS 328	Cognition and Visual Aesthetic Experience
COGS 329	Cognitive Approaches to Theatre and Dance
COGS 397	Independent Study in Cognitive Science
COSI 228	Introduction to Mass Communication
COSI 313	Language Development
ENGL 301	Linguistic Analysis
ENGL 379	Topics in Language Studies

PHIL 203	Natural Philosophy
PHIL 306	Mathematical Logic and Model Theory
PHIL 365	Philosophy of Mind
PSCL 352	Physiological Psychology
PSCL 353	Psychology of Learning
PSCL 355	Sensation and Perception
PSCL 357	Cognitive Psychology
PSCL 370	Human Intelligence

#### ADDITIONAL REQUIREMENTS

A SAGES departmental seminar (COGS 302) and capstone (COGS 397).

#### CORE COURSES IN 2007-2008

COGS 101 Introduction to Cognitive Science I, 3 credits - **Fall**  
A survey of major theories and facts about human cognition (including computational and engineering theories), along with an introduction to the kinds of methodologies available to modern cognitive science.

COGS 102 Introduction to Cognitive Science II, 3 credits - **Fall**  
A survey of the fundamental methods, findings, and theories that attempt to understand the human mind from a neuroscientific standpoint, covering the brain processes underlying such psychological phenomena as consciousness, thought, language, and voluntary action. The approach of this course is cross-disciplinary, including theories and data from clinical and experimental neuropsychology, brain imaging, neuro-electric and neuro-magnetic brain activity, and behavioral neuroscience, among others.

COGS 201 Human Cognition in Evolution and Development, 3 credits - **Spring**. A survey of the unfolding of cognition over time, both the extended time of evolution (across many generations) and the much shorter time of personal development (measured within a single lifetimes). The approach of the course is cross-disciplinary, including approaches that come from complexity theory, biology, anthropology, philosophy, computing science, primatology, and comparative linguistics, among others.

COGS 202 Human Cognition from a Cultural Perspective, 3 credits - **Spring**  
A survey of the fundamental methods, findings, and theories that attempt to understand the growth and evolution of cognition from a social science or humanistic standpoint. Theories of human cultural evolution and change, of the relationship between the cognizing individual and larger social-cognitive structures, and of such phenomena as distributed networks, cooperative mental work, and the phenomenology of human experience.

Cognitive Science is a department of the Case Western Reserve University College of Arts and Sciences.