

# COGNITIVE SCIENCE (BA OR BS)

Cognitive Science is the study of how intelligent beings (including people, animals, and machines) perceive, act, know, and think. It explores the process and content of thought as observed in individuals, distributed through communities, manifested in the structure and meaning of language, modeled by algorithms, and contemplated by philosophies of mind. Its models are formulated using concepts drawn from many disciplines, including psychology, linguistics, logic, communication sciences/disorders, computer science, anthropology, and philosophy, and they are tested using evidence from psychological experiments, clinical studies, field studies, computer simulations, and neurophysiological observation.

This program is intended to prepare students for graduate training in cognitive science and related disciplines or to work in the information sciences. The distribution requirements ensure that students will acquire a truly interdisciplinary education. The research and formal systems requirements provide basic knowledge concerning the experimental and theoretical foundations of cognitive science. Finally, majors are encouraged to learn about theory building and testing in a variety of natural and physical sciences. One way to achieve this is to fulfill the requirements of the Bachelor of Science degree.

## General Requirements

The requirements for the cognitive science major include 40 2000-level or above credits, no more than 21 of which may be taken in any one department. There are several 1000-level courses that are required preparation for the 2000-level and above requirements. These courses should be taken during the first four semesters and may fulfill general education requirements.

A maximum of six 2000-level or above transfer credits may count toward the major with approval of advisor. Students must earn a grade of "C-" (1.7) or higher in each course that is counted toward the major.

Course	Title	Credits
<b>Core Courses</b>		
COGS 2201	Foundations of Cognitive Science	3
COGS 3584	Seminar in Cognitive Science	1
Select four of the following courses:		12
ANTH 3250	Cognitive Anthropology	
CSE 4705	Artificial Intelligence	
LING 2010Q	The Science of Linguistics	
PHIL 3250/3250W	Philosophy of Mind	
PSYC 2501	Cognitive Psychology	
SLHS 4245/4245W	Neuroscience of Cognitive and Communication Disorders	
<b>Research Courses</b>		
<i>Statistics</i>		
Select one of the following for at least three credits:		3
PSYC 2100Q	Principles of Research in Psychology	
	or PSYC 2100W(Principles of Research in Psychology	
STAT 2215Q	Introduction to Statistics II	
STAT 3025Q	Statistical Methods (Calculus level)	

### Research Methods

Select one of the following for at least three credits:		3
ANTH 3003	Field Research in Social Settings	
ANTH 3004	Cultural Research (if elected for three credits)	
ANTH 3090	Directed Field Research in Anthropology (if elected for three credits)	
LING 3110	Experimental Linguistics	
PSYC 3250W	Laboratory in Animal Behavior and Learning	
PSYC 3251/3251W	Laboratory in Physiological Psychology	
PSYC 3253	Sensory Neuroscience Laboratory	
PSYC 3450W	Laboratory in Developmental Psychology	
PSYC 3550W	Laboratory in Cognition	
PSYC 3551W		
PSYC 3552	Laboratory in Sensation and Perception	
<i>Formal Systems Courses</i>		
Select one of the following for three credits:		3
COGS 2500Q	Coding for Cognitive Science	
CSE 2300W		
CSE 2500	Introduction to Discrete Systems	
CSE 3500	Algorithms and Complexity <sup>1</sup>	
CSE 3502	Theory of Computation <sup>1</sup>	
CSE 3802	Numerical Methods in Scientific Computation	
LING 3000Q	Introduction to Computational Linguistics <sup>1</sup>	
LING 3310Q	Phonology <sup>1</sup>	
LING 3410Q	Semantics <sup>1</sup>	
LING 3511Q	Syntax <sup>1</sup>	
MATH 2210Q	Applied Linear Algebra	
MATH 2410Q	Elementary Differential Equations	
MATH 3160	Probability	
MATH 3210	Abstract Linear Algebra	
MATH 3230	Abstract Algebra I	
PHIL 2211Q	Symbolic Logic I	
PHIL 3214	Symbolic Logic II	
<b>Advanced Courses</b>		
Select three courses from at least three departments. Can include core courses not needed to satisfy the core course requirement:		12
ANTH 3200	Human Behavioral Ecology	
ANTH 3405	Religion and Mind	
CSE 3500	Algorithms and Complexity <sup>1</sup>	
CSE 3502	Theory of Computation <sup>1</sup>	
COGS 2345	Language and Racism	
LING 3000Q	Introduction to Computational Linguistics <sup>1</sup>	
LING 3310Q	Phonology <sup>1</sup>	
LING 3410Q	Semantics <sup>1</sup>	
LING 3511Q	Syntax <sup>1</sup>	
LING 3610W	Language and Culture	
PHIL 2208/2208W	Epistemology	
PHIL 2210/2210W	Metaphysics	
PHIL 2212/2212W	Philosophy of Science	
PHIL 3241	Philosophy of Language	

PHIL 3247/3247W	
PHIL 3249W	
PHIL 3256/3256W	
PNB 3251	Biology of the Brain
PSYC 2200	Physiological Psychology
PSYC 2208	Sensory Systems Neuroscience
PSYC 2209	Learning and Memory: From Brain to Behavior
PSYC 2400	Developmental Psychology
PSYC 2500	Learning
PSYC 3100/3100W	The History and Systems of Psychology
PSYC 3270	Current Topics in Behavioral Neuroscience
PSYC 3440	Developmental Cognitive Neuroscience
PSYC 3500	The Psychology of Language
PSYC 3501	Sensation and Perception
PSYC 3502	Psychology of Consciousness
SLHS 2203	Anatomy and Physiology of Speech, Hearing, and Swallowing
SLHS 2204	Speech and Language Acquisition
SLHS 4123	Bilingualism in Typical and Atypical Populations: Language and Cognition
SLHS 4254/4254W	Introduction to Language Disorders in Children
SLHS 4376	
PSYC 3470	Current Topics in Developmental Psychology <sup>2</sup>

**Electives**

One or two additional courses (from above lists or other related courses from any department), chosen with the approval of the advisors 3-6

**Total Credits** 40-43

<sup>1</sup> May be used to fulfill both the Formal Systems and Advanced Courses requirements. In this event, two electives are required.

<sup>2</sup> Variable topics course and may be counted as an advanced course toward the major with advisors' approval.

## Competency and Writing Requirements

The exit requirement for information literacy will be met by satisfaction of the Research Methods Requirement. The exit requirements for writing in the major are met by taking any W course on the Plan of Study.

A minor in Cognitive Science is described in the "Minors" section.

## University General Education Requirements

Every student must meet a set of core requirements to earn a baccalaureate degree, in addition to those required by the student's major course of study and other requirements set by the student's school or college. For more information about these requirements, please see General Education Requirements (<https://catalog.uconn.edu/undergraduate/gen-ed-requirements/>).

## College of Liberal Arts and Sciences Degree Requirements

Students must meet a set of requirements established by the college in addition to the University's General Education requirements. For more information, see the College of Liberal Arts and Sciences (<https://catalog.uconn.edu/undergraduate/liberal-arts-sciences/#requirementstext>) section of this catalog.