

# COGNITIVE SCIENCE, BACHELOR OF ARTS

College of Letters & Science

## The Major Programs

The Cognitive Science major is designed to provide a broad interdisciplinary approach to the study of mind that includes courses from different departments and attracts students with a variety of interests. It emphasizes a multifaceted approach to the study of the mind integrating concepts and techniques from psychology, artificial intelligence, linguistics, neurology, philosophy and other relevant fields.

For students interested in the liberal arts the Cognitive Science major can be pursued as a Bachelor of Arts (A.B.) program. Alternatively, it can be pursued as a Bachelor of Science (B.S.) program for students with a stronger interest in the mathematical, neurological and computational foundations of the discipline. The main objective of both programs is to give the student a broad grounding in the integrated sciences of the mind and to connect approaches from different fields. Students must complete a number of core courses for the degree, as well as a number of specialty courses on such wide-ranging topics as logic for artificial intelligence, computational linguistics, cognitive neuroscience, animal cognition and the psychology of music.

## Career Alternatives

A degree in Cognitive Science provides broad intellectual foundations useful for careers in a variety of areas, including teaching, business, social work/counseling and the information technology industry. Undergraduate education in cognitive science also prepares the student for graduate study in appropriate subfields of psychology, linguistics, philosophy and informatics. It is also suitable training for pre-medicine, pre-law, and pre-management students.

## Major Advisors

Staff advisors are located in Young Hall; cogsciadvising@ucdavis.edu; 530 752 5104. For more information on how to make an appointment or join Drop-In Advising hours, see Yellow Cluster Undergraduate Advising Center (<https://yellowcluster.ucdavis.edu/advising/undergraduate/>).

Code	Title	Units
<b>Preparatory Subject Matter</b>		
<i>Cognitive Science</i>		
CGS 001/PHI 010	Introduction to Cognitive Science	4
<i>Linguistics</i>		
LIN 001	Introduction to Linguistics	4
or LIN 001Y	Introduction to Linguistics	
<i>Philosophy</i>		
PHI 012	Introduction to Symbolic Logic	4
PHI 013G	Minds, Brains, & Computers with Discussion	4
<i>Psychology</i>		
PSC 001	General Psychology	4
or PSC 001Y	General Psychology	
<i>Statistics</i>		
STA 013	Elementary Statistics	4
or STA 013Y	Elementary Statistics	

or STA 100	Applied Statistics for Biological Sciences	
<i>Research Methods</i>		
PSC 041	Research Methods in Psychology (recommended to take Statistics before Research Methods)	4
Preparatory Subject Matter Subtotal		28
<b>Depth Subject Matter</b>		
<i>Group A: Core</i>		
All courses from Group A:		12
PSC 100	Introduction to Cognitive Psychology	
or PSC 100Y	Introduction to Cognitive Psychology	
PHI 112	Intermediate Symbolic Logic	
CGS Topical Course: one upper division CGS course <sup>1</sup>		
<i>Group B: Computation</i>		
One course from Group B:		4
LIN 177	Computational Linguistics	
PHI 133	Logic, Probability, & Artificial Intelligence	
CMN 150V	Computational Social Science	
CMN 151	Simulating Communication Processes	
<i>Concentration Areas: 16 units from your choice of two groups from Groups B-F</i>		16
<i>CGS Electives: 12 additional units from Groups B-G</i>		12
<i>Group C: Neuroscience</i>		
CGS/ECN 107/	Neuroeconomics/Reinforcement Learning & Decision Making	
PSC 133	Neuroeconomics/Reinforcement Learning & Decision Making	
PSC 121	Physiological Psychology	
PSC 135	Cognitive Neuroscience: The Biological Foundations of the Mind	
PSC 139	Advanced Cognitive Neuroscience	
PSC 145	Developmental Cognitive Neuroscience	
<i>Group D: Linguistics</i>		
LIN 103A	Linguistic Analysis I: Phonetics, Phonology, Morphology	
LIN 103B	Linguistic Analysis II: Morphology, Syntax, Semantics	
LIN 131	Introduction to Syntactic Theory	
LIN 141	Semantics	
LIN 171	Introduction to Psycholinguistics	
LIN/EDU 173	Language Development	
<i>Group E: Philosophy</i>		
PHI 103	Philosophy on Mind	
PHI 104	The Evolution of Mind	
PHI 129	Knowledge & the A Priori	
PHI 136	Formal Epistemology	
<i>Group F: Psychology</i>		
PSC 101	Introduction to Biological Psychology	
PSC 130	Human Learning & Memory	
PSC 131	Perception	
PSC 132	Language & Cognition	
PSC 136	Psychology of Music	
PSC 137	Neurobiology of Learning & Memory	
PSC 140	Developmental Psychology	
or PSC 140Y	Developmental Psychology	

PSC 141 or HDE 101	Cognitive Development Cognitive Development	
<i>Group G: Other</i>		
CMN 101	Communication Theories	
CMN 101Y	Communication Theories	
CMN 121	Language Use in Conversation	
EDU 110	Educational Psychology: General	
EDU/LIN 173	Language Development	
HDE 100C	Adulthood & Aging	
HDE 161	Technology Use, Health, & Aging	
HDE 163	Cognitive Neuropsychology in Adulthood & Aging	
LIN 112	Phonetics	
LIN 121	Morphology	
LIN 150	Languages of the World	
LIN 152	Language Universals & Typology	
LIN 182	Multilingualism	
PHI 102	Theory of Knowledge	
PHI 112	Intermediate Symbolic Logic	
PHI 125	Theory of Action	
PHI 128	Rationality	
PHI 137A	Philosophy of Language: Theory of Reference	
PHI 137B	Philosophy of Language: Truth & Meaning	
PHI 137C	Philosophy of Language: Semantics & Pragmatics	
PSC 113	Developmental Psychobiology	
PSC/NPB 124	Comparative Neuroanatomy	
PSC 142 or HDE 102	Social & Personality Development Social & Personality Development	
PSC 148	Developmental Disorders	
PSC 152	Social Cognition	
STA 106	Applied Statistical Methods: Analysis of Variance	
STA 108	Applied Statistical Methods: Regression Analysis	
Depth Subject Matter Subtotal		44
<b>Total Units</b>		<b>72</b>

<sup>1</sup> For a list of approved *CGS Topical Courses*, please see the major worksheet (<https://yellowcluster.ucdavis.edu/cognitivescience/>).