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 Pathways

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 the Blue Ridge Office Building. For information about how to contact a major advisor, see Major Advising (https://yellowcluster.ucdavis.edu/advising/undergraduate/major-advising/).

The major requirements below are in addition to meeting University Degree Requirements (https://catalog.ucdavis.edu/undergraduate-education/university-degree-requirements/) & College Degree Requirements (https://catalog.ucdavis.edu/undergraduate-education/college-degree-requirements/); unless otherwise noted. The minimum number of units required for the Cognitive Science Bachelor of Arts is 72.

Code	Title	Units
Preparatory Subject Matter		
Cognitive Science		
CGS 001/PHI 010	Introduction to Cognitive Science	4
Linguistics		
LIN 001	Introduction to Linguistics	4
or LIN 001Y	Introduction to Linguistics	
Philosophy		
PHI 012	Introduction to Symbolic Logic	4
PHI 013G	Minds, Brains, & Computers with Discussion	4
Psychology		
PSC 001	General Psychology	4
or PSC 001V	General Psychology	
or PSC 001Y	General Psychology	
Statistics		
STA 013	Elementary Statistics	4
or STA 013Y	Elementary Statistics	
or STA 100	Applied Statistics for Biological Sciences	
Research Methods		
PSC 041	Research Methods in Psychology (recommended to take Statistics before Research Methods)	4
or PSC 041V	Research Methods in Psychology	
Preparatory Subject Matter Subtotal		28
Depth Subject Matter		
Important: Each course may only be used to satisfy one Cognitive Science major requirement; the same course cannot be used for multiple groups.		
PSC 100	Introduction to Cognitive Psychology	4
or PSC 100Y	Introduction to Cognitive Psychology	
PHI 112	Intermediate Symbolic Logic	4
Group A: Cognitive Science Topical Courses		*4*
CGS Topical Course: choose 1 upper division course from this list. (https://ucdavis.box.com/s/qvabknkdo6tuazt836bq3uycctznzjjc/) [1]		
Group B: Computation		
Choose one from Group B:		4
LIN 177	Computational Linguistics	
PHI 133	Logic, Probability, & Artificial Intelligence	
CMN 150V	Computational Social Science	
CMN 151	Simulating Communication Processes	
Concentration Areas		*16*
Choose 16 units from your choice of two groups from Groups B-F		
CGS Electives		*12*
Choose 12 additional units from Groups B-G		
Group C: Neuroscience		
CGS/ECN 107/ 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	
Group D: Linguistics		
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	
Group E: Philosophy		

PHI 103	Philosophy on Mind
PHI 104	The Evolution of Mind
PHI 129	Knowledge & the A Priori
PHI 136	Formal Epistemology
Group F: Psychology	
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 140V	Developmental Psychology
or PSC 140Y	Developmental Psychology
PSC 141	Cognitive Development
or HDE 101	Cognitive Development
Group G: Breadth Electives [2]	
CMN 101	Communication Theories
or CMN 101V	Communication Theories
or 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	Social & Personality Development
or HDE 102	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
Total Units	**72**

1

For a list of approved *CGS Topical Course*s, please see the major worksheet (https://yellowcluster.ucdavis.edu/cognitivescience/).

2

These breadth electives allow students to expand their methodological/analytical toolkit and/or see how their core cognitive science classes intersect with broader interdisciplinary topics.