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

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 001Y General Psychology

Statistics

STA 013 Elementary Statistics 4

or STA 100 Applied Statistics for Biological Sciences

Research Methods

PSC 041 Research Methods in Psychology (recommended to take Statistics before Research Methods) 4

Preparatory Subject Matter Subtotal 28

Depth Subject Matter

Group A: Core

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

Group B: Computation

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

Concentration Areas: 16 units from your choice of two groups from Groups B-F

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

PSC 141 Cognitive Development

or HDE 101 Cognitive Development

CGS Electives: 12 additional units from Groups B-G 12

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

PSC 141 Cognitive Development

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

Total Units 72

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