

Cognitive Science (BHA Concentration)

Erik Thiessen, BHA Cognitive Science Concentration Advisor (BH 342D)

BHA Cognitive Science Concentration

(87 units minimum)

The field of cognitive science has grown out of increasingly active interaction among psychology, linguistics, artificial intelligence, philosophy, and neuroscience. All of these fields share the goal of understanding intelligence. By combining these diverse perspectives, students of cognitive science are able to understand cognition at a deep level. Because this concentration is administered by the Psychology Department, it focuses on human cognition and the experimental study of the human mind as illuminated by the techniques of the above disciplines.

Prerequisite Courses

		Units
15-112	Fundamentals of Programming and Computer Science	12
21-120	Differential and Integral Calculus (prerequisite: 21-090)	10-20
or 21-111 & 21-112	Differential Calculus and Integral Calculus	
21-127	Concepts of Mathematics	12

Statistics Course (1 course, 9 units)

36-218	Probability Theory for Computer Scientists	9
or 36-225	Introduction to Probability Theory	
or 36-309	Experimental Design for Behavioral & Social Sciences	
or 85-309	Statistical Concepts and Methods for Behavioral and Social Science	

Computational/Cognitive Modeling Core (3 courses, 33 units)

Complete two of the following courses:

15-122	Principles of Imperative Computation	12
15-150	Principles of Functional Programming	12
15-251	Great Ideas in Theoretical Computer Science	12

Plus one of the following courses:

85-412	Cognitive Modeling	9
85-414	Cognition in the Age of AI	9
85-419	Introduction to Parallel Distributed Processing	9
85-420	Biologically Intelligent Exploration	9

Cognitive Psychology Core (4 courses, 36 units minimum)

85-110	Cognitive Psychology	9
or 85-213	Human Information Processing and Artificial Intelligence	
85-300	Introduction to Research Methods	9

Plus two of the following (one of which must be 85-3xx or 85-4xx):

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85-170	Foundations of Brain and Behavior	9
or 85-106	Animal Minds	
85-310	Research Methods in Cognitive Psychology	9
85-370	Cognitive Neuropsychology Research Methods	9
85-408	Visual Cognition	9
85-411	Introduction to Music Cognition Research	9
85-413	Perception	9
85-416	Applications of Cognitive Science	9
85-471	How the Brain Makes Meaning	9
85-472	Cognitive Neuropsychology	9
80-310	Formal Logic	9
80-315	Logics for Knowledge and Belief	9
80-381	Meaning in Language	9
80-383	Language in Use	9
05-413	Human Factors	9
11-344	Machine Learning in Practice	12

Cognitive Science Elective (1 course, 9 units)

Choose one elective in consultation with your concentration advisor.