

BHA-Cognitive Science

Fall 2024

Bachelor of Humanities and Arts (BHA)

Dietrich College (DC) Concentration in Cognitive Science

87 units (minimum)

Advisor: Erik Thiessen, Baker Hall 342G, 412-268-6747, thiessen@andrew.cmu.edu

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.

BHA students take at least 9 courses in their DC concentration, for a minimum of 81 units. A completed DC Concentration Declaration Sheet must be approved by the concentration advisor and submitted to the BXA office by spring mid-semester break of the student's sophomore year. BHA students who are admitted through internal transfer must have chosen a DC concentration at the time of their application, which serves as declaration.

Prerequisite Courses

15-112	Fundamentals of Programming and Computer Science	12
21-120	Differential and Integral Calculus	10
or		
21-111	Calculus I	20
& 21-112	Calculus II	
21-127	Concepts of Mathematics	12

Statistics Course

(1 course, 9 units)

36-309	Experimental Design for Behavioral & Social Sciences	9
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 Theoretical Ideas in Computer Science	12

Plus one of the following courses:

85-412	Cognitive Modeling	9
85-419	Introduction to Parallel Distributed Processing	9
85-435	Biologically Intelligent Exploration	9

Cognitive Psychology Core

(4 courses, 36 units minimum)

85-211	Cognitive Psychology	9
or 85-213	Human Information Processing and Artificial Intelligence	
85-310	Research Methods in Cognitive Psychology	9
or 85-314	Cognitive Neuroscience Research Methods	

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

85-219	Biological Foundations of Behavior	9
or 85-106	Animal Minds	
85-359	Introduction to Music Cognition Research	9
85-360	Origins of Intelligence	9
85-370	Perception	9
85-395	Applications of Cognitive Science	9
85-407	How the Brain Makes Meaning	9
85-408	Visual Cognition	9
85-414	Cognitive Neuropsychology	9
85-421	Language and Thought	9
80-310	Formal Logic	9
80-315	Modal Logic	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

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Cognitive Science Elective

(1 course, 9 units)

Choose one elective in consultation with your concentration advisor.