Logic & Computation (BHA Concentration)

Pat Doyle, BHA Logic & Computation Concentration Advisor (BH 161G)

BHA Logic & Computation Concentration

(81 units minimum)

Students in the program take a common core of courses in logic, methodology, and computer science, together with an associated seminar in their senior year. The individual focus is achieved by selecting a sequence of at least three advanced and closely related electives.

The resulting education in logic, analytic philosophy, mathematics, statistics and computer science enables students to pursue professional careers or graduate study. The analytic and communication skills developed in the major support a wide range of career choices, including those among the fields of technology, business and law. Fields of graduate study for which students are well prepared include, for example, computer science, cognitive science, philosophy, logic and linguistics.

Prerequisites

		Units
80-211	Logic and Mathematical Inquiry (Recommended prior to 21-127)	9
or 80-210	Logic and Proofs	
15-112	Fundamentals of Programming and Computer Science	12
21-127	Concepts of Mathematics	12

Introduction to Formal Systems (1 course, 9 units)

80-150	Nature of Reason	9

Logic Core (2 courses, 18 units)

80-310	Formal Logic	9
80-311	Undecidability and Incompleteness	9

Computer Science Core (2 courses, 24 units)

15-122	Principles of Imperative Computation	12
15-150	Principles of Functional Programming	12

Logic & Computation Electives (3-4 courses, 30 units minimum)

Bearing in mind prerequisites, Logic & Computation students must complete at least three advanced courses in areas that use logical and computational tools, such as philosophy, computer science, linguistics, mathematical logic, psychology or statistics. The sequence of courses, mostly at the 300-level, must be selected in consultation with the concentration advisor.