

Computer Science and Philosophy, BS

The computer science and philosophy combined major offers an opportunity to obtain a fluency in formal logic, including logical proofs and the ability to represent arguments clearly and evaluate them for cogency. Students will find that logic plays a fundamental role in computer science as they experience an in-depth programming foundation. The philosophy curriculum also focuses on oral and written communication, as well as ethical and social issues related to computing and information technologies.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

University-Wide Requirements

All undergraduate students are required to complete the University-Wide Requirements (<http://catalog.northeastern.edu/undergraduate/university-academics/university-wide-requirements/>).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (<http://catalog.northeastern.edu/undergraduate/university-academics/nupath/>).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 2800 and CS 2801	Logic and Computation and Lab for CS 2800	5
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3800	Theory of Computation	4
CS 4500 or CS 4530	Software Development Fundamentals of Software Engineering	4

Khoury Elective

With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken for upper-division electives.

Complete 8 credits of upper-division CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:

CS 2500 or higher, except CS 5010

CY 2000 or higher, except CY 4930

DS 2500 or higher, except DS 4900

IS 2000 or higher, except IS 4900

Philosophy Courses

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325 or PHIL 2330	Ancient Philosophy and Political Thought Modern Philosophy	
PHIL 1145	Technology and Human Values	4
PHIL 4515	Advanced Logic	4
PHIL 5005 or PHIL 5010	Information Ethics AI Ethics	4

Electives

Take four additional PHIL courses, at least one of which is 4000 or above 16

Integrative Course Requirement

Code	Title	Hours
These courses will double count in other areas of your major:		
CS 3800	Theory of Computation	
PHIL 4515	Advanced Logic	

Computer Science English Requirement

Code	Title	Hours
College Writing		
ENGW 1111 or ENGW 1102	First-Year Writing First-Year Writing for Multilingual Writers	4
Advanced Writing in the Disciplines		
Complete one course from the following: 4		
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3309	Advanced Writing in the Humanities	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 44 credits of general electives.		44

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data

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- Writing-Intensive in the Major
- Interpreting Culture
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Experiential Liberal Arts

All undergraduate students in the College of Social Sciences and Humanities are required to complete the Experiential Liberal Arts Requirement (<http://catalog.northeastern.edu/undergraduate/social-sciences-humanities/#ela>).

Program Requirement

133 total semester hours required

Plan of Study

Sample Patterns:

Four Years, Two Co-ops in Summer 2/Fall

Year 1				
Fall	Hours Spring	Hours Summer 1	Hours Summer 2	Hours
CS 1200	1 CS 2510 and CS 2511	5 CS 3500 and CS 3501	5 Vacation	
CS 1800 and CS 1802	5 CS 2800 and CS 2801	5 Elective	4	
CS 2500 and CS 2501	5 PHIL 2325, POLS 2325, or PHIL 2330	4		
ENGW 1111	4 Elective	4		
PHIL 1115	4			
	19	18	9	0
Year 2				
Fall	Hours Spring	Hours Summer 1	Hours Summer 2	Hours
CS 3000	4 Khoury Elective	4 ENGW 3302, 3309, or 3315	4 Co-op	
PHIL 1145	4 PHIL elective 2	4 Elective	4	
PHIL elective 1	4 PHIL elective 3	4		
Elective	4 Elective CS 1210	4 1		
	16	17	8	0
Year 3				
Fall	Hours Spring	Hours Summer 1	Hours Summer 2	Hours
Co-op	CS 3800	4 Elective	4 Co-op	
	Khoury Elective	4 Elective	4	
	PHIL 4515	4		

Elective			
	Hours Spring	Hours Summer 1	Hours Summer 2
	4		
	0	16	8
			0
Year 4			
Fall	Hours Spring	Hours Summer 1	Hours Summer 2
Co-op	CS 4500	4 Elective	4
	PHIL intermediate/advanced elective	4 Elective	4
	PHIL capstone	4	
	Elective	4	
	0	16	8

Total Hours: 135

Five Years, Three Co-ops in Summer 2/Fall

Year 1				
Fall	Hours Spring	Hours Summer 1	Hours Summer 2	Hours
CS 1200	1 CS 2510 and CS 2511	5 Vacation	Vacation	
CS 1800 and CS 1802	5 CS 2800 and CS 2801	5		
CS 2500 and CS 2501	5 PHIL 2325, POLS 2325, or PHIL 2330	4		
ENGW 1111	4 Elective	4		
PHIL 1115	4			
	19	18	0	0
Year 2				
Fall	Hours Spring	Hours Summer 1	Hours Summer 2	Hours
CS 3000	4 Khoury Elective	4 Vacation	Co-op	
CS 3500 and CS 3501	5 PHIL elective 1	4		
PHIL 1145	4 PHIL elective 2	4		
Elective	4 Elective CS 1210	4 1		
	17	17	0	0
Year 3				
Fall	Hours Spring	Hours Summer 1	Hours Summer 2	Hours
Co-op	CS 3800	4 ENGW 3302, 3309, or 3315	4 Co-op	
	PHIL 4515	4 Elective	4	
	PHIL elective 3	4		
	Elective	4		
	0	16	8	0
Year 4				
Fall	Hours Spring	Hours Summer 1	Hours Summer 2	Hours
Co-op	Khoury Elective	4 Elective	4 Co-op	

	PHIL intermediate/ advanced elective	4	Elective	4
	Elective	4		
	Elective	4		
	0	16	8	0

Year 5

Fall	Hours Spring	Hours
Co-op	CS 4500	4
	PHIL capstone	4
	Elective	4
	Elective	4
	0	16

Total Hours: 135