

Computer Science and Philosophy, BS (Boston)

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.

Universitywide Requirements

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

NUPath Requirements

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

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200 or PHIL 1000	First Year Seminar Philosophy at Northeastern	1
CS 1210 or EESH 2000	Professional Development for Khoury Co-op Professional Development for Co-op	1
Computer Science Fundamental Courses		
All students can take a self-assessment to attempt to place out of CS 2000 and CS 2001. Students who place out of CS 2000 and CS 2001 will instead substitute 4-5 semester hours of CS, CY, or DS coursework at the 3000 level or higher not otherwise required in the degree.		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2000 and CS 2001	Introduction to Program Design and Implementation and Lab for CS 2000	5
CS 2100 and CS 2101	Program Design and Implementation 1 and Lab for CS 2100	5
Computer Science Required Courses		
CS 2800	Logic and Computation	4
CS 3000	Algorithms and Data	4
CS 3100 and CS 3101	Program Design and Implementation 2 and Lab for CS 3100	5
CS 3800	Theory of Computation	4
CS 4530 or CS 4535	Fundamentals of Software Engineering Professional Practicum Capstone	4
Khoury Approved Electives		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken for upper-division electives.		
Complete 8 semester hours from within the following options:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
MKTG 4606	Digital, Analytics, Technology, and Automation Research Practicum	

Philosophy Courses

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 1145	Technology and Human Values	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
or PHIL 2330	Modern Philosophy	
PHIL 4515	Advanced Deductive Logic	4
or PHIL 4516	Advanced Inductive Logic	
PHIL 5005	Information Ethics	4
or PHIL 5010	AI Ethics	
or PHIL 4050	Artificial Intelligence and Society	
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirement:		4
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3512	Religion, Race, and Politics	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Take three additional PHIL courses not used to fulfill another requirement, at least one of which is 4000 or above.		12

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 Deductive Logic	
or PHIL 4516	Advanced Inductive Logic	

Computer Science English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
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 semester hours of general electives.		44

Khoury College GPA Requirement

Minimum cumulative 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
- Writing-Intensive in the Major
- Interpreting Culture
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Students must arrange to take a NUpath capstone using either a course in CS, CY, DS, IS or PHIL, or as a general elective.

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

Program Requirement

133 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER FIRST HALF

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000		1 CS 2100 and CS 2101		5 CS 3100 and CS 3101		5 General Elective	4
CS 1800 and CS 1802		5 CS 2800		4 General Elective		4 General Elective	4
CS 2000 and CS 2001		5 PHIL 2325, POLS 2325, or PHIL 2330		4			
ENGW 1111		4 General Elective		4			
PHIL 1115		4					
	19		17		9		8

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 or EESH 2000		1 Co-op		0 Co-op		0 General Elective	4
CS 3000		4				General Elective	4
PHIL 1145		4					
PHIL Elective		4					
General Elective		4					
	17		0		0		8

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Khoury Elective		4 Co-op		0 Co-op		0 ENGW 3302, 3309, or 3315	4
PHIL Elective		4				General Elective	4
PHIL Elective		4					
General Elective		4					
	16		0		0		8

Year 4

Fall	Hours	Spring	Hours
CS 3800		4 PHIL 4515	4
CS 4530 or 4535		4 PHIL 5005, 5010, or 4050	4
Critical Philosophy Elective		4 General Elective	4
General Elective		4 Khoury Elective	4
	16		16

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SUMMER SECOND HALF/FALL

Year 1							
Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000		1 CS 2100 and CS 2101		5 CS 3000		4 General Elective	4
CS 1800 and CS 1802		5 CS 2800		4 General Elective		4 General Elective	4
CS 2000 and CS 2001		5 PHIL 2325, POLS 2325, or PHIL 2330		4			
ENGW 1111		4 General Elective		4			
PHIL 1115		4					
	19		17		8		8
Year 2							
Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3100 and CS 3101		5 CS 1210 or EESH 2000		1 General Elective		4 Co-op	0
PHIL 1145		4 Khoury Elective		4 General Elective		4	
PHIL Elective		4 PHIL Elective		4			
General Elective		4 PHIL Elective		4			
		General Elective		4			
	17		17		8		0
Year 3							
Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		0 CS 3800		4 ENGW 3302, 3309, or 3315		4 Co-op	0
		PHIL 4515		4 General Elective		4	
		Khoury Elective		4			
		General Elective		4			
	0		16		8		0
Year 4							
Fall	Hours	Spring	Hours				
Co-op		0 CS 4530 or 4535		4			
		PHIL 5005, 5010, or 4050		4			
		Critical Philosophy Elective		4			
		General Elective		4			
	0		16				

Total Hours: 134