Computer Science and Media Arts, BS (Boston)

The computer science and media arts combined major is ideal for creative students who love technology. Students have an opportunity to acquire a solid foundation in both fields through a curriculum that spans photography, animation, video, database design, computer graphics, and human-computer interaction.

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	First Year Seminar	1
or ARTF 1000	Art and Design at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
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 2484	Principles of Human-Computer Interaction	4
CS 3000	Algorithms and Data	4
CS 3100 and CS 3101	Program Design and Implementation 2 and Lab for CS 3100	5
CS 3200	Introduction to Databases	4
CS 4300	Computer Graphics	4
CS 4530	Fundamentals of Software Engineering	4
or CS 4535	Professional Practicum Capstone	
Khoury Approved Electives		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as 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	

Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Media Arts Courses

Code	Title	Hours
Fundamentals Required		
ARTF 1200	Representational Drawing	2
ARTF 1240 and ARTF 1241	Making with Video, Sound, and Animation and Making with Video, Sound, and Animation Tools	2
Fundamentals Electives		
Complete 4 semester hours of the following:		4
ARTF 1210	Abstract Drawing	
ARTF 1220	Elements of Visual Composition (with optional ARTF 1221)	
ARTF 1230 and ARTF 1231	Making with Form and Materials and Making with Form and Materials Tools	
ARTF 1250 and ARTF 1251	Designing Interactive Experiences and Designing Interactive Experiences Tools	

Code	Title	Hours
Media Arts Required		
ARTD 1001 and ARTD 1002	Media Art, Culture, and Social Justice and Seminar for ARTD 1001	4
ARTD 2100	Narrative Basics	4
ARTD 3000	Topics in Media Arts	4
Media Arts Electives		
Complete 28-31 semester hours as long as prerequisites have been met. At least two must be a 3000-level course:		28-31
Basics		
ARTD 2000	Introduction to Immersive Media	
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	
Photography		
ARTD 3460	Photography: Concept + Process	
ARTD 4565	Photography: Visual Strategies + Context	
ARTD 4660	Studio Photography	
ARTD 4661	Photography: Experimental Processes	
Animation		
ARTD 3470	Animation 1	
ARTD 3471	Virtual Environment Design	
ARTD 3472	Character Design for Animation	
ARTD 3473	Animation for Games	
ARTD 3490	Data Art and Hacktivism	
ARTD 4570	Animation 2	
ARTD 4575	Animation 3	
Video		
ARTD 3480	Video: Sound and Image	

ARTD 3485	Experimental Video	
History		
ARTH 2212	Survey of the Still and Moving Image	
Media Arts Capstone		
ARTD 4530	Media Arts Degree Project	4

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 2331	Linear Algebra	4
Computing and Social Issues		
Complete one of the following:		4
AFCS 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
DS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
JRNL 3700	Data Storytelling	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Technology and Society	

Integrative Courses

Code	Title	Hours
The following courses are fulfilled through the computer science requirement:		
CS 2484	Principles of Human-Computer Interaction	
CS 4300	Computer Graphics	

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World

- Exploring Creative Expression and Innovation

- Conducting Formal and Quantitative Reasoning

- Analyzing and Using Data

- Writing in the First Year

- Advanced Writing in the Disciplines

- Writing-Intensive in the Major

- Integrating Knowledge and Skills Through Experience

- Demonstrating Thought and Action in a Capstone

Khoury College GPA Requirement

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

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 ARTF 1000	1	ARTF 1200	2	CS 3100 and CS 3101	5	General Elective	4
CS 1800 and CS 1802	5	ARTF 1240 and ARTF 1241	2	ARTF elective	2	General Elective	4
CS 2000 and CS 2001	5	ARTD 2100	4	ARTF elective	2		
ARTD 1001 and ARTD 1002	4	CS 2100 and CS 2101	5				
ENGW 1111	4	CS 3200	4				
		EEAM 2000 (For CAMD Students)	1				
	19		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 (For Khoury Students)	1	Co-op	0	Co-op	0	MATH 2331	4
CS 2484	4					General Elective	4
CS 3000	4						
Khoury Elective	4						
ARTD elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 4300	4	Co-op	0	Co-op	0	ENGW 3302, 3314, or 3315	4
Khoury Elective	4					General Elective	4
ARTD elective	4						
ARTD elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ARTD 3000	4	ARTD 4530	4
CS 4530 or 4535	4	Computing and social issues	4
ARTD elective	4	ARTD elective	4
ARTD elective	4	ARTD elective	4
	16		**16**

Total Hours: 135

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 ARTF 1000	1	ARTF 1200	2	CS 3000	4	General Elective	4
CS 1800 and CS 1802	5	ARTF 1240 and ARTF 1241	2	ARTF elective	2	General Elective	4
CS 2000 and CS 2101	5	ARTD 2100	4	ARTF elective	2		
ARTD 1001 and ARTD 1002	4	CS 2100 and CS 2101	5				
ENGW 1111	4	CS 3200	4				

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
		EEAM 2000 (For CAMD Students)	1				
	19		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3100 and CS 3101	5	CS 1210 (For Khoury Students)	1	MATH 2331	4	Co-op	0
Computing and scial issues	4	CS 2484	4	General Elective	4		
Khoury Elective	4	Khoury Elective	4				
ARTD elective	4	ARTD elective	4				
		ARTD elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ARTD 3000	4	ENGW 3302, 3314, or 3315	4	Co-op	0
		CS 4300	4	General Elective	4		
		ARTD elective	4				
		ARTD elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ARTD 4530	4
		CS 4530 or 4535	4
		ARTD elective	4
		ARTD elective	4
	0		**16**

Total Hours: 135