

Computer Science and Media Arts, BS

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

- Concentrations and course offerings may vary by campus and/or by program modality. Please consult with your advisor or admissions coach for the course availability each term at your campus or within your program modality.
- Certain options within the program may be *required* at certain campuses or for certain program modalities. Please consult with your advisor or admissions coach for requirements at your campus or for your program modality.

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 ARTF 1000	First Year Seminar Art and Design at Northeastern	1
CS 1210 or EEAM 2000	Professional Development for Khoury Co-op Professional Development for 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 3000	Algorithms and Data	4
CS 3200	Introduction to Databases	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4300	Computer Graphics	4
CS 4500 or CS 4530	Software Development Fundamentals of Software Engineering	4
IS 4300	Human Computer Interaction	4
Khoury Elective Courses		
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 of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
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

Writing Requirement

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

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 two 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 any seven courses as long as prerequisites have been met. At least two must be a 3000-level course:		28-31
<i>Basics</i>		
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	
<i>Photography</i>		
ARTD 3460	Photography: Concept + Process	
ARTD 4565	Photography: Visual Strategies + Context	
ARTD 4660	Studio Photography	
ARTD 4661	Photography: Experimental Processes	
<i>Animation</i>		
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	
<i>Video</i>		
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
<i>History</i>		
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	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
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 4300	Computer Graphics	
IS 4300	Human Computer Interaction	

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 Plan of Study: Four Years, Two Co-ops in Spring/Summer 1**

Year 1							
Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or ARTF 1000		1 ARTF 1200		2 CS 3500 and CS 3501		5 Elective	4
ARTD 1001 and ARTD 1002		4 ARTF 1240 and ARTF 1241		2 ARTF elective		2 Elective	4
CS 1800 and CS 1802		5 ARTD 2100		4 ARTF elective		2	
CS 2500 and CS 2501		5 CS 2510 and CS 2511		5			
ENGW 1111		4 CS 3200		4			
		19		17		9	8
Year 2							
Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 or EEAM 2000		1 Co-op		0 Co-op		0 MATH 2331	4
CS 3000		4				Elective	4
IS 4300		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				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 4500 or 4530		4 Computing and social issues		4			
ARTD elective		4 ARTD elective		4			
ARTD elective		4 ARTD elective		4			
		16		16			
Total Hours: 134							

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/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 Elective	4
ARTD 1001 and ARTD 1002		4 ARTF 1240 and ARTF 1241		2 ARTF elective		2 Elective	4
CS 1800 and CS 1802		5 ARTD 2100		4 ARTF elective		2	
CS 2500 and CS 2501		5 CS 2510 and CS 2511		5			
ENGW 1111		4 CS 3200		4			
		19		17		8	8

Year 2							
Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501		5 CS 1210 or EEAM 2000		1 MATH 2331		4 Co-op	0
Computing and social issues		4 IS 4300		4 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 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		4			
		ARTD elective		4			
		ARTD elective		4			
		0			16		

Total Hours: 134