

Computer Science and Media Arts, BS

The computer science and media arts combined major is ideal for creative students who love technology. Students will acquire a solid foundation in both fields through 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.

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 or ARTF 1000	Leadership Skill Development 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		
A grade of C– or higher is required in all computer science fundamental courses except CS 1802:		
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	Database Design	4
CS 3500	Object-Oriented Design	4
CS 4300	Computer Graphics	4
CS 4500 and CS 4501	Software Development and Recitation for CS 4500	4
IS 4300	Human Computer Interaction	4

Presentation Requirement

THTR 1170	The Eloquent Presenter	1
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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 credits 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 2000 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302 or ENGW 3315	Advanced Writing in the Technical Professions Interdisciplinary Advanced Writing in the Disciplines	4

Media Arts Courses

Code	Title	Hours
Required Media Arts Courses		
ARTF 1120	Observational Drawing	4
Complete one course in the following range. ARTF 1143 is recommended.		
ARTF 1141 to ARTF 1149		
ARTF 1122	2D Fundamentals: Surface and Drawing (with optional ARTF 1123)	4
ARTF 1124 and ARTF 1125	3D Fundamentals: Structure and Drawing and 3D Tools	5
ARTD 2100	Narrative Basics	4
ARTF 2220	4D Fundamentals: Sequence and Drawing (with optional ARTF 2221)	4

Media Arts Electives

Complete any six courses as long as prerequisites have been met. At least two must be a 3000-level course.

Basics

ARTD 2360	Photo Basics	
ARTD 2370	Animation Basics	
ARTD 2380	Video Basics	

Photography

ARTD 3460	Photography 1	
ARTD 4565	Photography 2	
ARTD 4660	Studio Photography	
ARTD 4661	Alternative Photographic Processes	

Animation

ARTD 3470	Animation 1	
ARTD 3471	Virtual Environment Design	
ARTD 3472	Character Design for Animation	
ARTD 3473	Animation for Games	
ARTD 4570	Animation 2	
ARTD 4575	Animation 3	
ARTD 4577	Digital Sculpture and Model Making	

Video	
ARTD 3480	Video: Sound and Image
ARTD 5582	Collaborative Video and Community Engagement

History	
ARTH 2212	Survey of the Still and Moving Image

Media Arts Capstone	
ARTD 4530	Media Arts Degree Project 1

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 2331	Linear Algebra	4
Computing and Social Issues		
Complete one of the following:		4
ANTH 3418	Wired/Unwired: Cybercultures and Technopolitics	
ENGL 2150	Literature and Digital Diversity	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 3485	Environment, Technology, and Society	
SOCL 4528	Computers 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 20 credits of general electives.		20

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

Program Requirement

131 total semester hours required

Plan of Study

Sample Pattern, Five Years, Three Co-ops in Spring/Summer 1

Year 1							
Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	
CS 1200	1	CS 2510 and CS 2511	5	CS 3500	4	Vacation	0
CS 1800 and CS 1802	5	CS 3200	4	Elective	4		
CS 2500 and CS 2501	5	ARTF 1122 (with optional ARTF 1123)	4				
ARTF 1143	4	ARTF 1120	4				
ENGW 1111	4						
		19	17	8	0	0	
Year 2							
Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	
CS 1210	1	Co-op		Co-op		Elective	4
IS 4300	4					Elective	4
CS 3000	4						
ARTD 2100	4						
ARTF 1124 and ARTF 1125	5						
		18	0	0	0	8	
Year 3							
Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	
THTR 1170	1	Co-op		Co-op		Vacation	0
MATH 2331	4						
Khoury elective	4						
ARTF 2220 (with optional ARTF 2221)	4						
Media arts elective	4						
		17	0	0	0	0	
Year 4							
Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	
CS 4300	4	Co-op		Co-op		Vacation	0
Media arts elective	4	ENGW 3302	4				
Khoury elective	4						
Media arts elective	4						
		16	4	0	0	0	
Year 5							
Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	
CS 4500 and CS 4501	4	ARTD 4530	4				

Media arts elective	4	Computing and social issues	4
Media arts elective	4	Media arts elective	4
Elective	4	Elective	4
		16	16

Total Hours: 139

*Indicates course must be taken in the term listed.

Sample Pattern, Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510	4	CS 3500	4	Vacation	0
CS 1800 and CS 1802	5	CS 2511	1	Elective	4		
CS 2500	4	CS 3200	4				
CS 2501	1	ARTF 1122 (with optionals ARTF 1123)	4				
ARTF 1143	4	ARTF 1120	4				
ENGW 1111	4						
		19	17	8			0

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		MATH 2331	4
IS 4300	4					Elective	4
CS 3000 (Media arts elective)	4						
ARTD 2100	4						
ARTF 1124 and ARTF 1125	5						
		18	0	0			8

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 1170	1	Co-op		Co-op		Elective	4
CS 4300	4	ENGW 3302	4			Media arts elective	4
Khoury elective	4						
ARTF 2220 (with optional ARTF 2221)	4						
Media arts elective	4						
		17	4	0			8

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
CS 4500 and CS 4501	4	ARTD 4530	4	Elective	4

Khoury elective	4	Computing and social issues	4	Elective	4
Media arts elective	4	Media arts elective	4		
Media arts elective	4	Media arts elective	4		
		16	16	8	

Total Hours: 139

*Indicates course must be taken in the term listed.