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.

Universitywide Requirements
All undergraduate students are required to complete the Universitywide 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

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 1200 or ARTF 1000</td>
<td>First Year Seminar or Art and Design at Northeastern</td>
<td>1</td>
</tr>
<tr>
<td>CS 1210 or EEAM 2000</td>
<td>Professional Development for Khoury Co-op or Professional Development for Co-op</td>
<td>1</td>
</tr>
</tbody>
</table>

Computer Science Fundamental Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 1800 and CS 1802</td>
<td>Discrete Structures and Seminar for CS 1800</td>
<td>5</td>
</tr>
<tr>
<td>CS 2500 and CS 2501</td>
<td>Fundamentals of Computer Science 1 and Lab for CS 2500</td>
<td>5</td>
</tr>
<tr>
<td>CS 2510 and CS 2511</td>
<td>Fundamentals of Computer Science 2 and Lab for CS 2510</td>
<td>5</td>
</tr>
</tbody>
</table>

Computer Science Required Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 3000</td>
<td>Algorithms and Data</td>
<td>4</td>
</tr>
<tr>
<td>CS 3200</td>
<td>Database Design</td>
<td>4</td>
</tr>
<tr>
<td>CS 3500 and CS 3501</td>
<td>Object-Oriented Design and Lab for CS 3500</td>
<td>5</td>
</tr>
<tr>
<td>CS 4300</td>
<td>Computer Graphics</td>
<td>4</td>
</tr>
<tr>
<td>CS 4500</td>
<td>Software Development</td>
<td>4</td>
</tr>
<tr>
<td>or CS 4530</td>
<td>Fundamentals of Software Engineering</td>
<td></td>
</tr>
<tr>
<td>IS 4300</td>
<td>Human Computer Interaction</td>
<td>4</td>
</tr>
</tbody>
</table>

Khoury Elective Courses

With adviser 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:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS 2500 or higher, except DS 4900</td>
<td>IS 2000 or higher, except IS 4900</td>
<td></td>
</tr>
</tbody>
</table>

Writing Requirement

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGW 1111</td>
<td>First-Year Writing</td>
<td>4</td>
</tr>
</tbody>
</table>

Advanced Writing in the Disciplines

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGW 3302</td>
<td>Advanced Writing in the Technical Professions</td>
<td>4</td>
</tr>
<tr>
<td>or ENGW 3314</td>
<td>Advanced Writing in the Arts, Media, and Design</td>
<td></td>
</tr>
<tr>
<td>or ENGW 3315</td>
<td>Interdisciplinary Advanced Writing in the Disciplines</td>
<td></td>
</tr>
</tbody>
</table>

Media Arts Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTD 2100</td>
<td>Narrative Basics</td>
<td>4</td>
</tr>
<tr>
<td>ARTF 1122</td>
<td>Color and Composition (with optional ARTF 1123)</td>
<td>4</td>
</tr>
<tr>
<td>ARTF 1124 and ARTF 1125</td>
<td>Form and Structure and Form and Structure Tools</td>
<td>5</td>
</tr>
<tr>
<td>ARTF 2220 and ARTF 2221</td>
<td>Movement and Time and Movement and Time Tools</td>
<td>5</td>
</tr>
<tr>
<td>ARTF 2223 and ARTF 2224</td>
<td>Experience and Interaction and Experience and Interaction Tools</td>
<td>5</td>
</tr>
<tr>
<td>ARTD 3000</td>
<td>Topics in Media Arts</td>
<td>4</td>
</tr>
</tbody>
</table>

Media Arts Electives

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

Basics

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTD 2360 and ARTD 2361</td>
<td>Introduction to Photography and Photo Tools</td>
<td></td>
</tr>
<tr>
<td>ARTD 2370 and ARTD 2371</td>
<td>Animation Basics and Animation Tools</td>
<td></td>
</tr>
<tr>
<td>ARTD 2380 and ARTD 2381</td>
<td>Video Basics and Video Tools</td>
<td></td>
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</tbody>
</table>

Photography

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTD 3460</td>
<td>Photography: Concept + Process</td>
<td></td>
</tr>
<tr>
<td>ARTD 4565</td>
<td>Photography: Visual Strategies + Context</td>
<td></td>
</tr>
<tr>
<td>ARTD 4660</td>
<td>Studio Photography</td>
<td></td>
</tr>
<tr>
<td>ARTD 4661</td>
<td>Photography: Experimental Processes</td>
<td></td>
</tr>
</tbody>
</table>

Animation

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTD 3470</td>
<td>Animation 1</td>
<td></td>
</tr>
<tr>
<td>ARTD 3471</td>
<td>Virtual Environment Design</td>
<td></td>
</tr>
<tr>
<td>ARTD 3472</td>
<td>Character Design for Animation</td>
<td></td>
</tr>
<tr>
<td>ARTD 3473</td>
<td>Animation for Games</td>
<td></td>
</tr>
<tr>
<td>ARTD 4570</td>
<td>Animation 2</td>
<td></td>
</tr>
<tr>
<td>ARTD 4575</td>
<td>Animation 3</td>
<td></td>
</tr>
</tbody>
</table>

Video

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTD 3480</td>
<td>Video: Sound and Image</td>
<td></td>
</tr>
</tbody>
</table>
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
AFAM 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
ENGL 2150   Literature and Digital Diversity
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   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.

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
137 total semester hours required

Plan of Study
Sample 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 and CS 3501  5 Elective  4

CS 1800 and CS 1802  5             CS 2511      1 Elective

CS 2500     4             CS 3200      4

CS 2501     1             ARTF 1122 (with optionals ARTF 1123)  4

ARTF 1124 and ARTF 1125  5             ARTF 2223 and ARTF 2224  5

ENGW 1111   4

Total 20 18 9 8

Year 2
Fall        Hours Spring  Hours Summer 1  Hours Summer 2  Hours
CS 1210     1 Co-op      Co-op        0              0              0              MATH 2331  4

IS 4300     4

CS 3000     4

ARTF 2220 and ARTF 2221  5

ARTD 2100   4

Total 18 0 0 8

Year 3
Fall        Hours Spring  Hours Summer 1  Hours Summer 2  Hours
CS 4300     4 Co-op      0 Co-op      0              0              0              Elective  4

Khoury elective

Media arts elective

Media arts elective  4

Total 16 4 0 8

Year 4
Fall        Hours Spring  Hours
CS 4500     4 ARTD 4530  4

Elective  4 Computing and social issues

Media arts elective  4 Media arts elective  4
| Media arts elective | 4 Media arts elective | 4 | 16 | 16 |

Total Hours: 141

*Indicates course must be taken in the term listed.