The Department of Mathematics and the Department of Art + Design offer a combined major in mathematics and graphic and information design. Students interested in the combined major integrate the study of mathematical reasoning including methods for analyzing and solving problems encountered in the physical world with the design of message and meaning, integrating text and image to visualize concepts and data to enhance human understanding of complex and vital knowledge.

**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).

### Graphic and Information Design Requirements

#### Art and Design at Northeastern
- **ARTF 1000** Art and Design at Northeastern 1

#### Art and Design Fundamentals
- **ARTF 1122** 2D Fundamentals: Surface and Drawing and 2D Tools 5
- **ARTF 2220** 4D Fundamentals: Sequence and Drawing and 4D Tools 5

#### Art and Design History
- **ARTH 2210** Modern Art and Design History 4
- **ARTH 2215** History of Graphic Design 4

#### Design
- **ARTG 1250** Design Process Context and Systems 4
- **ARTG 2250** Typography 1 and Type Tools 5
- **ARTG 2252** Graphic Design 1 4
- **ARTG 3350** Typography 2 4
- **ARTG 3451** Information Design 1 4

#### Degree Project
- **ARTG 4550** Design Degree Project 1 4

#### Art and Design Elective
Complete one of the following: 4-5
- **ARTD 2360** Photo Basics and Photo Tools
- **ARTD 2370** Animation Basics and Animation Tools
- **ARTD 2380** Video Basics and Video Tools
- **ARTG 2260** Programming Basics

### Mathematics Requirements

#### Math Reasoning
- **MATH 1365** Introduction to Mathematical Reasoning 4

#### Calculus
A grade of C or higher is required:
- **MATH 1341** Calculus 1 for Science and Engineering 4
- **MATH 1342** Calculus 2 for Science and Engineering 4
- **MATH 2321** Calculus 3 for Science and Engineering 4

#### Intermediate Math
- **MATH 2341** Differential Equations and Linear Algebra for Engineering 4
- **MATH 2331** Linear Algebra 4
- **MATH 3081** Probability and Statistics 4

#### Advanced Elective
Complete one of the following: 4
- **MATH 3150** Real Analysis
- **MATH 3175** Group Theory
- **MATH 3560** Geometry

#### Mathematics Elective
**MATH 4025** can count as an upper-level math elective as well as a capstone.
Complete one course in the following range: 4
- **MATH 3101 to MATH 4899**

#### Integrative Requirement
- **ARTG 3451** Information Design 1 4

### Combined-Major Credit Requirement
Complete 88 semester hours in the major.
Program Requirement
128 total semester hours required