# *Information Systems, MSIS (Boston)*

We offer cutting-edge expertise in a variety of courses that combine technological advances and business practices. We stress creative and inventive approaches to problem solving, which necessitates empowering students so that they can take charge of their own software projects to become originally productive. Our information systems program (https://coe.northeastern.edu/academics-experiential-learning/academic-departments/mgen/ms-insy/) is as much an art as a science. It bypasses mechanical learning and highlights the value and excitement of engineering thinking that gets things done efficiently as well as imaginatively. We balance theory and practice, on the premise that they are always intertwined and interdependent.

We seek to provide a basic foundation for our students and then seek to push them to new heights to advance their information technology skills in a way that keeps up and, better yet, exceeds the necessarily fast pace of this progressive field. It is not for us just a question of not being left behind; we strive to be at the forefront of software innovation in an effort to transform contemporary society even more radically than technology has already done—to take gigantic strides in business, medicine, education, and security.

The program offers a wide range of courses that reflect current and future industry trends:

- Cryptocurrency and Smart Contract Engineering

- Engineering of Big-Data Systems

- Business Intelligence and Data Analytics

- Cybersecurity Engineering and Development

- Digital Business

- Full-Stack Software Engineering

- User Experience Design

- Data Science and Machine Learning Systems Engineering

## Gordon Institute of Engineering Leadership

### MASTER'S DEGREE IN INFORMATION SYSTEMS WITH GRADUATE CERTIFICATE IN ENGINEERING LEADERSHIP

Students may complete a master's degree in Information Systems in addition to earning a Graduate Certificate in Engineering Leadership (https://catalog.northeastern.edu/graduate/engineering/multidisciplinary/engineering-leadership-graduate-certificate/). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 semester hours of advisor-approved information systems technical courses. For students who enroll in the Graduate Certificate in Engineering Leadership, 16 semester hours of the certificate coursework may be applied to this program's elective requirements.

## Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

### Core Requirements

| Code | Title | Hours |
|---|---|---|
| INFO 5100 and INFO 5101 | Application Engineering and Development and Lab for INFO 5100 | 4 |

### Options

Complete one of the following options. Students may also choose to complete the Optional Concentration in Medical Software Engineering (p. 2) and apply concentration coursework to restricted electives or other electives requirements of these options.

#### COURSEWORK OPTION

| Code | Title | Hours |
|---|---|---|
| Complete 16 semester hours from the restricted electives course list below. (p. 2) | | 16 |
| Complete 12 semester hours from the other electives course list below. (p. 2) | | 12 |

**PROJECT OPTION**

| Code | Title | Hours |
|------|-------|------:|
| INFO 7945 | Master's Project | 4 |
| Complete 12 semester hours from the restricted electives course list below. (p. 2) | | 12 |
| Complete 12 semester hours from the other electives course list below. (p. 2) | | 12 |

**THESIS OPTION**

| Code | Title | Hours |
|------|-------|------:|
| INFO 7945 | Master's Project | 4 |
| INFO 7990 | Thesis | 4 |
| Complete 8 semester hours from the restricted electives course list below. (p. 2) | | 8 |
| Complete 12 semester hours from the other electives course list below. (p. 2) | | 12 |

In addition to completing the thesis course, students must successfully complete the thesis submission process, including securing committee and Graduate School of Engineering signatures and submission of an electronic copy of their MS thesis to ProQuest.

## Optional Concentration in Medical Software Engineering

A concentration is not required. Students may complete the following concentration in medical software engineering and apply concentration courses to restricted electives or other electives requirements of the program's coursework, project, or thesis options.

| Code | Title | Hours |
|------|-------|------:|
| CSYE 7280 | User Experience Design and Testing | 4 |
| INFO 7405 | Advances in Engineering Medical Information Systems | 4 |
| INFO 7410 | Advanced Medical Device Software Engineering | 4 |

## Optional Co-op Experience

| Code | Title | Hours |
|------|-------|------:|
| Complete the following (students must complete ENCP 6000 to qualify for co-op experience): | | |
| ENCP 6000 | Career Management for Engineers | 1 |
| ENCP 6964 | Co-op Work Experience | 0 |
| or ENCP 6954 | Co-op Work Experience - Half-Time | |
| or ENCP 6955 | Co-op Work Experience Abroad - Half-Time | |
| or ENCP 6965 | Co-op Work Experience Abroad | |

## Program Credit/GPA Requirements

32 total semester hours required (33 with optional co-op)
Minimum 3.000 GPA required

**RESTRICTED ELECTIVES COURSE LIST**

| Code | Title | Hours |
|------|-------|------:|
| Complete courses from the following subject code: | | |
| INFO | | |

**OTHER ELECTIVES COURSE LIST**

| Code | Title | Hours |
|------|-------|------:|
| Complete courses from any of the following subject codes: | | |
| CSYE (except CSYE 6220) | | |
| DAMG | | |
| INFO | | |
| TELE | | |