

Information Technology, BS

The Bachelor of Science in Information Technology focuses on the skills and knowledge needed to promote career advancement and pursue advanced degrees in information technology and to provide the critical-thinking and information technology skills needed by local, national, and global employers.

Students have the opportunity to develop strengths in the analysis, applied design, development, implementation, and management of modern information technology systems. Courses cover the critical technology areas of programming for traditional, web, and mobile applications and for networking, database, and information security. The curriculum also includes courses focused on key business areas needed to integrate and manage technology and technology projects in the workplace.

The curriculum develops the technical and problem-solving skills that allow graduates to pursue careers in the professional areas of applications development, web and multimedia design, systems and network administration, database administration, and business analysis.

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.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (<https://catalog.northeastern.edu/professional-studies/university-academics/nupath/>).

Foundation Courses

27 semester hours required

Code	Title	Hours
English		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3105 and ENG 3106	Writing for the Professions: Science and Engineering and Lab for ENG 3105	4
Management		
MGT 1100	Introduction to Business	3
MGT 2310	Organizational Behavior	3
Mathematics		
MTH 1100	College Algebra	3
Complete one of the following:		3
MTH 2400	Technology and Applications of Discrete Mathematics	
MTH 2450	Discrete Structures (Required for Computer Programming Concentration)	
Philosophy		
Computer programming concentration students must take ITC 3620. Other students complete any one of the following:		3

ITC 3620	Legal and Ethical Issues in Cybersecurity
PHL 2100	Business Ethics
PHL 2140	Ethical Issues in Science and Engineering

Major Requirements

33 semester hours required

Code	Title	Hours
ITC Core Discipline Areas		
ITC 1200	Operating Systems Concepts	3
ITC 2016	End-User Data Analysis Tools	3
ITC 2050	Designing the User Experience	3
ITC 2100	Introduction to Programming (Java)	3
ITC 2200	Networking Foundations	3
ITC 2300	Database Management Systems	3
ITC 2400	Web and Mobile Development	3
Complete one of the following:		3
ITC 2000	Principles of Systems Analysis and Design	
ITC 2430	E-Commerce Systems	
Professionalism		
ITC 3500	IT Project Management	3
ITC 4600	Information Security Management	3
Capstone		
ITC 4850	Information Technology Project	3

Professional Electives

Code	Title	Hours
Complete a concentration listed below. Those who do not want a concentration should take 27 additional semester hours in the following subject areas:		27
ALY, CET, GET, ITC		

Optional Concentrations

- Analytics (p. 2)
- Applications Development (p. 2)
- Computer Programming (p. 3)
- Systems Administration and Cybersecurity (p. 3)

Note: Please consult with your advisor.

ANALYTICS CONCENTRATION

Code	Title	Hours
ALY 2010	Probability Theory and Introductory Statistics	3
ALY 2100	Introduction to Programming for Data Analytics	3
ALY 3015	Intermediate Statistics for Data Analytics	3
ALY 3040	Data Mining	3
ALY 3070	Communication and Visualization for Data Analytics	3
ALY 4000	Analytics Using R	3
ITC 3300	Structured Query Language (SQL)	3
Complete two additional ITC or ALY courses that have not been taken to fulfill major or concentration requirements.		6

APPLICATIONS DEVELOPMENT CONCENTRATION

Code	Title	Hours
Complete seven of the following that have not been taken to fulfill major requirements:		21
ALY 2010	Probability Theory and Introductory Statistics	
ALY 2100	Introduction to Programming for Data Analytics	
CET 2200	Data Structures and Algorithms	
GET 2100	Computer Engineering Programming and Analysis	

ITC 2430	E-Commerce Systems
ITC 3100	Advanced Applications Development (Android)
ITC 3150	Database Websites
ITC 3300	Structured Query Language (SQL)
ITC 3320	Data Warehousing Technologies
ITC 3400	Web Design and Multimedia
ITC 4690	Software Engineering and Security
ITC 4973	Topics in Emerging Information Technologies
PJM 3000	Leading Agile Projects

Complete two courses (6 semester hours) from the systems administration and cybersecurity concentration. 6

COMPUTER PROGRAMMING CONCENTRATION

Code	Title	Hours
ALY 2010	Probability Theory and Introductory Statistics	3
ALY 2100	Introduction to Programming for Data Analytics	3
CET 2200	Data Structures and Algorithms	3
ITC 3100	Advanced Applications Development (Android)	3
ITC 3150	Database Websites	3
or ITC 3300	Structured Query Language (SQL)	
ITC 3220	Mobile and Wireless Networking	3
ITC 4200	Network Security	3
ITC 4690	Software Engineering and Security	3
ITC 4973	Topics in Emerging Information Technologies	3

SYSTEMS ADMINISTRATION AND CYBERSECURITY CONCENTRATION

Code	Title	Hours
Complete seven of the following that have not been taken to fulfill major requirements:		21
ITC 3220	Mobile and Wireless Networking	
ITC 3250	UNIX Systems Administration	
ITC 3620	Legal and Ethical Issues in Cybersecurity	
ITC 4200	Network Security	
ITC 4260	Database Administration	
ITC 4660	Encryption Concepts	
ITC 4670	Software Vulnerabilities	
ITC 4680	Forensics in Information Technology	
ITC 4690	Software Engineering and Security	
ITC 4973	Topics in Emerging Information Technologies	

Complete two courses (6 semester hours) from the applications development or computer programming concentrations. 6

Open Electives

Complete a minimum of 33 semester hours of NUpath and open electives to reach 120 semester hours.

NUpath Requirements Satisfied

- Analyzing/Using Data (AD)
- Capstone Experience (CE)
- Engaging Differences/Diversity (DD)
- Ethical Reasoning (ER)
- Conducting Formal/Quantitative Reasoning (FQ)
- Natural/Designed World (ND)
- Writing-Intensive in the Major (WI)
- Advanced Writing in the Disciplines (WD)

Students are responsible for using the general electives in this program to complete the Interpreting Culture (IC) and Societies and Institutions (SI) NUpath requirements not satisfied by the required courses in this program.

Plan of Study

Term 1	Hours	
ENG 1105 and ENG 1106		4
ITC 1200		3
MGT 1100		3
MTH 1100		3
Complete one of the following:		3
ITC 3620		
PHL 2100		
PHL 2140		
		16
Term 2	Hours	
ENG 1107 and ENG 1108		4
ITC 2016		3
ITC 2050		3
MTH 2400 or 2450		3
Open elective		3
		16
Term 3	Hours	
ITC 2200		3
ITC 2400		3
MGT 2310		3
Complete one of the following:		3
ITC 2000		
ITC 2430		
MGT 2210		
Open elective		3
		15
Term 4	Hours	
ITC 2100		3
Concentration or major elective		3
Open elective		3
Open elective		3
Open elective		3
		15
Term 5	Hours	
ENG 3105 and ENG 3106		4
ITC 2300		3
Concentration or major elective		3
Open elective		3
Open elective		3
		16
Term 6	Hours	
ITC 3500		3
Concentration or major elective		3
Concentration or major elective		3
Concentration or major elective		3
Open elective		3
		15

Term 7	Hours	
ITC 4600		3
Concentration or major elective		3
Concentration or major elective		3
Open elective		3
Open elective		3

15

Term 8	Hours	
ITC 4850		3
Concentration or major elective		3
Concentration or major elective		3
Open elective		3

12

Total Hours: 120