

# Cybersecurity and Business Administration, BS

The cybersecurity and business combined major delivers a technical and security-focused degree with a strong grounding in business. Students will complete most of the requirements of a business major, including macroeconomics and microeconomics, while also focusing on the conceptual and practical computer science skills that will enable them to contribute to ensuring the reliability and security of cyberspace.

## 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/>).

## Cybersecurity Major Requirements

| Code  | Title  | Hours |
|---|--|-------|
| <b>Computer Science Overview</b>            |  |       |
| CS 1200<br>or BUSN 1102                     | First Year Seminar<br>Personal Skill Development for Business  | 1     |
| CS 1210<br>or BUSN 1103                     | Professional Development for Khoury<br>Co-op<br>Professional Development for Business Co-op                      | 1     |
| <b>Computer Science Fundamental Courses</b> |  |       |
| CS 1800<br>and CS 1802                      | Discrete Structures<br>and Seminar for CS 1800   | 5     |
| CS 2500<br>and CS 2501                      | Fundamentals of Computer Science 1<br>and Lab for CS 2500  | 5     |
| CS 2510<br>and CS 2511                      | Fundamentals of Computer Science 2<br>and Lab for CS 2510  | 5     |
| <b>Computer Science Required Courses</b>    |  |       |
| CS 3000                                     | Algorithms and Data  | 4     |
| CS 3500<br>and CS 3501                      | Object-Oriented Design<br>and Lab for CS 3500  | 5     |
| CS 3650                                     | Computer Systems   | 4     |
| CS 3700                                     | Networks and Distributed Systems   | 4     |
| <b>Cybersecurity Required Courses</b>       |  |       |
| CY 2550                                     | Foundations of Cybersecurity   | 4     |
| CY 3740                                     | Systems Security   | 4     |
| CY 4170<br>or CY 5240                       | The Law, Ethics, and Policy of Data and<br>Digital Technologies<br>Cyberlaw: Privacy, Ethics, and Digital Rights | 4     |
| CY 4740                                     | Network Security   | 4     |
| <b>Cybersecurity Electives</b>              |  |       |

If courses require prerequisites, those should be taken using general electives.

| Complete one course from the following: |  | 3-4 |
|---|--|-----|
| COMM 2551                               | Free Speech in Cyberspace  |     |
| CRIM 2340                               | Corporate Security: Securing the Private Sector                                      |     |
| CRIM 3030                               | Global Criminology   |     |
| CRIM 4040                               | Crime Prevention   |     |
| CS 2800                                 | Logic and Computation  |     |
| CS 4240                                 | Large-Scale Parallel Data Processing   |     |
| CS 4400                                 | Programming Languages  |     |
| CS 4500                                 | Software Development   |     |
| CS 4710                                 | Mobile and Wireless Systems  |     |
| CS 6710                                 | Wireless Network   |     |
| CY 5200                                 | Security Risk Management and Assessment  |     |
| CY 5210                                 | Information System Forensics   |     |
| CY 5770                                 | Software Vulnerabilities and Security  |     |
| DS 4300                                 | Large-Scale Information Storage and Retrieval  |     |
| DS 4400                                 | Machine Learning and Data Mining 1   |     |
| EECE 2322<br>and EECE 2323              | Fundamentals of Digital Design and<br>Computer Organization<br>and Lab for EECE 2322 |     |
| EECE 3324                               | Computer Architecture and Organization   |     |
| EECE 4534<br>and EECE 4535              | Microprocessor-Based Design<br>and Lab for EECE 4534                                 |     |
| IS 4300                                 | Human Computer Interaction   |     |
| LPSC 1101                               | Introduction to Law  |     |
| LPSC 2301                               | Introduction to Law, Policy, and Society   |     |
| LPSC 3303                               | Topics in Law and Public Policy  |     |
| MATH 3527                               | Number Theory 1  |     |
| MATH 4575                               | Introduction to Cryptography   |     |
| PHIL 1145                               | Technology and Human Values  |     |
| POLS 2390                               | Science, Technology, and Public Policy   |     |
| POLS 3307                               | Public Policy and Administration   |     |
| POLS 3324                               | Law and Society  |     |
| POLS 3406                               | International Law  |     |
| POLS 3408                               | International Security   |     |
| POLS 3420                               | U.S. National Security Policy  |     |
| POLS 3423                               | Terrorism and Counterterrorism   |     |

## Business Requirements

| Code                           | Title                              | Hours |
|--------------------------------|------------------------------------|-------|
| <b>Accounting</b>              |                                    |       |
| ACCT 1201                      | Financial Accounting and Reporting | 4     |
| ACCT 2301                      | Managerial Accounting              | 4     |
| <b>Finance</b>                 |                                    |       |
| FINA 2201                      | Financial Management               | 4     |
| <b>Organizational Behavior</b> |                                    |       |
| ORGB 3201                      | Organizational Behavior            | 4     |
| <b>Marketing</b>               |                                    |       |

|                   |                           |   |
|-------------------|---------------------------|---|
| MKTG 2201         | Introduction to Marketing | 4 |
| <b>Statistics</b> |                           |   |
| MGSC 2301         | Business Statistics       | 4 |
| <b>Strategy</b>   |                           |   |
| STRT 4501         | Strategy in Action        | 4 |

### Business Concentration

Complete a four-course business concentration from the following list.

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- Accounting (<http://catalog.northeastern.edu/undergraduate/business/concentrations/accounting/>)
- Accounting and Advisory Services (<http://catalog.northeastern.edu/undergraduate/business/concentrations/accounting-advisory-services/>)
- Brand Management (<http://catalog.northeastern.edu/undergraduate/business/concentrations/brand-management/>)
- Business Analytics (<http://catalog.northeastern.edu/undergraduate/business/concentrations/business-analytics/>)
- Corporate Innovation (<http://catalog.northeastern.edu/undergraduate/business/concentrations/corporate-innovation/>)
- Entrepreneurial Startups (<http://catalog.northeastern.edu/undergraduate/business/concentrations/entrepreneurial-startups/>)
- Family Business (<http://catalog.northeastern.edu/undergraduate/business/concentrations/family-business/>)
- Finance (<http://catalog.northeastern.edu/undergraduate/business/concentrations/finance/>)
- Fintech (<http://catalog.northeastern.edu/undergraduate/business/concentrations/fintech/>)
- Healthcare Management and Consulting (<http://catalog.northeastern.edu/undergraduate/business/concentrations/healthcare-management-consulting/>)
- International Business (<http://catalog.northeastern.edu/undergraduate/business/concentrations/international-business/>) (available only as a second concentration)
- Management (<http://catalog.northeastern.edu/undergraduate/business/concentrations/management/>)
- Marketing (<http://catalog.northeastern.edu/undergraduate/business/concentrations/marketing/>)
- Marketing Analytics (<http://catalog.northeastern.edu/undergraduate/business/concentrations/marketing-analytics/>)
- Social Innovation and Entrepreneurship (<http://catalog.northeastern.edu/undergraduate/business/concentrations/social-innovation-entrepreneurship/>)
- Supply Chain Management (<http://catalog.northeastern.edu/undergraduate/business/concentrations/supply-chain-management/>)

### Business Cooperative Education Requirement

Complete one six-month co-op experience.

### Integrative Requirement

| Code      | Title                          | Hours |
|-----------|--------------------------------|-------|
| MISM 2301 | Management Information Systems | 4     |

### Supporting Courses

| Code                           | Title | Hours |
|--------------------------------|-------|-------|
| <b>Mathematics Courses</b>     |       |       |
| Complete one of the following: |       | 4     |

|                                |  |
|--------------------------------|--|
| MATH 1341                      | Calculus 1 for Science and Engineering |
| MATH 1231                      | Calculus for Business and Economics    |
| <b>Economics</b>               |  |
| Complete one of the following: |  |
| ECON 1115                      | Principles of Macroeconomics           |
| ECON 1116                      | Principles of Microeconomics           |

### Writing Requirements

| Code                                       | Title   | Hours |
|--|---|-------|
| <b>College Writing</b>                     |   |       |
| ENGW 1111                                  | First-Year Writing  | 4     |
| or ENGW 1102                               | First-Year Writing for Multilingual Writers                 |       |
| <b>Advanced Writing in the Disciplines</b> |   |       |
| Complete one of the following courses:     |   | 4     |
| ENGW 3302                                  | Advanced Writing in the Technical Professions               |       |
| or ENGW 3304                               | Advanced Writing in the Business Administration Professions |       |
| or ENGW 3315                               | Interdisciplinary Advanced Writing in the Disciplines       |       |

### Required General Electives

| Code                                      | Title | Hours |
|---|-------|-------|
| Complete 16 credits of general electives. |       | 16    |

### Khoury College GPA Requirement

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

### Business GPA Requirement

Minimum 2.000 GPA required in all business courses.

### NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

*Integrating Knowledge and Skills Through Experience* is satisfied through co-op.

### Program Requirement

133 semester hours required

### Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

**Year 1**

| Fall                   | Hours Spring             | Hours Summer 1           | Hours Summer 2 | Hours |
|------------------------|--------------------------|--------------------------|----------------|-------|
| CS 1200                | 1 CS 2510<br>and CS 2511 | 5 CS 3500<br>and CS 3501 | 5 Vacation     |       |
| CS 1800<br>and CS 1802 | 5 CY 2550                | 4 Elective 1             | 4              |       |
| CS 2500<br>and CS 2501 | 5 MATH 1341<br>or 1231   | 4                        |                |       |
| ENGW 1111              | 4 ACCT 1201              | 4                        |                |       |
| ECON 1115<br>or 1116   | 4                        |                          |                |       |
|                        | 19                       | 17                       | 9              | 0     |

**Year 2**

| Fall      | Hours Spring                     | Hours Summer 1 | Hours Summer 2 | Hours |
|-----------|----------------------------------|----------------|----------------|-------|
| CS 3000   | 4 CS 3700                        | 4 MKTG 2201    | 4 Co-op        |       |
| CS 3650   | 4 CY 3740                        | 4 Elective 3   | 4              |       |
| ACCT 2301 | 4 Business<br>concentration<br>1 | 4              |                |       |
| MGSC 2301 | 4 Elective 2                     | 4              |                |       |
|           | CS 1210                          | 1              |                |       |
|           | 16                               | 17             | 8              | 0     |

**Year 3**

| Fall  | Hours Spring                   | Hours Summer 1 | Hours Summer 2 | Hours |
|-------|--------------------------------|----------------|----------------|-------|
| Co-op | CY 4170 or<br>5240             | 4 FINA 2201    | 4 Co-op        |       |
|       | Business<br>concentration<br>2 | 4 ORGB 3201    | 4              |       |
|       | Business<br>concentration<br>3 | 4              |                |       |
|       | CY 4740                        | 4              |                |       |
|       | 0                              | 16             | 8              | 0     |

**Year 4**

| Fall  | Hours Spring                   | Hours Summer 1 | Hours |
|-------|--------------------------------|----------------|-------|
| Co-op | ENGW 3302                      | 4 STRT 4501    | 4     |
|       | MISM 2301                      | 4 Elective 4   | 4     |
|       | Business<br>concentration<br>4 | 4              |       |
|       | Cybersecurity<br>elective      | 4              |       |
|       | 0                              | 16             | 8     |

Total Hours: 134