# MASTER OF SCIENCE IN CYBERSECURITY

The Master of Science in Cybersecurity brings together cybersecurity courses from three of Quinnipiac's schools – Business, Engineering and Law. Through this interdisciplinary program, students will be prepared to address technology and policy challenges of present-day and future information systems and networks.

## Master of Science in Cybersecurity Program of Study

The core of the 36-credit Master of Science in Cybersecurity is made up of coursework that embodies the knowledge units set forth by the National Centers of Academic Excellence in Cyber Defense Education (CAE-CDE). Degree course work culminates with a capstone project that challenges students to examine the architecture of a complex system, identify vulnerabilities and determine the specific security approaches that should be employed.

For individuals working in the field seeking to fine tune their current skill sets without immediately pursuing a complete degree, you may elect to take any of the 1-credit courses listed below as stackable credentials. Any credits earned may be applied toward the completion of a degree at the later date.

The following courses are core requirements of the Cybersecurity program:

| Code | Title | Credits |
|---|---|---|
| **Core Requirements** | | |
| CYB 500 | Special Topics Cyber Security | 3 |
| CYB 501 | Security I (Intro to Security Design) | 1 |
| CYB 502 | Security II (Intro to Cyber Threats) | 1 |
| CYB 503 | Security III (Intro to Cyber Defense) | 1 |
| CYB 504 | Systems I (Systems Administration) | 1 |
| CYB 505 | Systems II (IT Infrastructure) | 1 |
| CYB 506 | Systems III (Systems Programming) | 1 |
| CYB 509 | Operating Systems Security (Processes) | 1 |
| CYB 510 | Operating Systems II (Storage) | 1 |
| CYB 511 | Operating Systems III (Performance) | 1 |
| CYB 515 | Theory of Computation II (Computability) | 1 |
| CYB 514 | Theory of Computation I (Automata) | 1 |
| CYB 516 | Theory of Computation III (Compexity) | 1 |
| CYB 517 | Cryptography I (Symmetric-Key Systems) | 1 |
| CYB 518 | Cryptography II (Public-Key Systems and Digital Signatures) | 1 |
| CYB 519 | Cryptography III (Security Protocols and Advanced Topics) | 1 |
| CYB 524 | Database I (Relational Databases) | 1 |
| CYB 525 | Database II (Database Management Systems) | 1 |
| CYB 526 | Non-relational Database Security | 1 |
| CYB 540 | Networking I (Intro to Networking) | 1 |
| CYB 541 | Networking II (Networking Infrastructure) | 1 |
| CYB 550 | Cyber Policy | 3 |
| CYB 610 | Operating Systems IV (Security) | 1 |
| CYB 625 | Database IV (Database Security) | 1 |
| CYB 640 | Networking III (Intro to Network Defense) | 1 |
| CYB 641 | Networking IV (Advanced Networking Defense) | 1 |
| CYB 650 | Cyber Operations | 1 |
| CYB 660 | Scripting for Investigations | 1 |
| CYB 670 | Embedded Device Security | 1 |
| CYB 691 | Capstone I | 1 |
| CYB 692 | Capstone II | 2 |
| Total Credits | | 36 |

## Admission

Admission to Quinnipiac University's graduate programs is competitive. To be admitted to the MS in Cybersecurity program, a prospective student must have successfully completed a BS or BA degree in Computer Science or documented completion of appropriate prerequisite courses. Those courses include:

- Introductory Programming
- Data Structures
- Discrete Mathematics
- Algorithms