

# INFORMATION TECHNOLOGY - CYBERSECURITY, ASSOCIATE OF APPLIED BUSINESS



Students will prepare for careers dealing with networking and system administration fundamentals, with the primary focus being defensive strategies to securing networks and systems. Skills acquired will assist students in preparing to take nationally and internationally recognized industry certification exams.

**Program contact:** Learn more

## Related Degrees and Certificates

- Cybersecurity Post-Degree Professional Certificate

## Program Admission Requirements

- High School Diploma/GED.
- ENG-0995 Applied College Literacies or appropriate score on English Placement Test.
- MATH-0955 Beginning Algebra with "C" or higher or qualified Math Placement.

## Program Learning Outcomes

This program is designed to prepare students to demonstrate the following learning outcomes:

1. Take continuous, pro-active measures to intimately know and understand the complete physical and logical structure of your network so that during normal operations and monitoring, security issues can be quickly identified, isolated and resolved, including measures to prevent future occurrences.
2. Apply fundamental concepts of operating systems, business applications, networking, security, backup and recovery procedures to troubleshoot, maintain, and support hardware and software to ensure efficient and effective business operations.
3. Apply principles of security to install, configure, maintain, and secure business operations.
4. Explain what a risk assessment is, what types of assessments there are and how it can impact an organization. Also Explain drivers to information security policy/standard development, security governance, compliance to external regulation and internal policies and standards.
5. Identify common industry security frameworks and explain why these exist. (NIST, Cyber Security Framework, CYBER, COBIT, ISO27001, etc.)
6. Apply analytical, critical and creative thinking and problem solving/troubleshooting techniques to reduce risk in business operations.
7. Communicate effectively utilizing verbal, written and presentation skills in person, on the phone, and via the Internet with diverse audiences to provide high level customer service to internal and external constituents at all levels in the organization.
8. Work independently and effectively within a team to meet the needs of the organization.
9. Operate within diverse business cultures with professionalism, integrity and accountability.
10. Adapt to change within their profession by demonstrating a commitment to continuous learning and the flexibility to deal with different requirements from different clients with a wide range of personality styles and prior computer knowledge.
11. Plan, organize, and prioritize tasks in order to meet project deadlines.
12. Understand and apply legal, privacy, and ethical concepts; recognize and assess legal, privacy, and ethical issues; and demonstrate ethical, privacy, and legal behavior.

## Suggested Semester Sequence

| Summer Start                 |  | Credit Hours |
|------------------------------|--|--------------|
| IT-1025                      | Information Technology Concepts for Programmers  | 3            |
| MATH-1190                    | Algebraic and Quantitative Reasoning (or higher Approved Ohio Transfer 36 Mathematics course) <sup>1</sup> | 3            |
| Select one of the following: |  | 3            |
| ENG-1010                     | College Composition I  |              |
| ENG-101H                     | Honors College Composition I   |              |
| <b>Credit Hours</b>          |  | <b>9</b>     |
| <b>First Semester</b>        |  |              |
| BADM-1020                    | Introduction to Business   | 3            |
| IT-1050                      | Programming Logic  | 3            |
| IT-2740                      | Fundamentals of Client Operating Systems and Hardware for Cybersecurity                                    | 4            |
| ITNT-2300                    | Networking Fundamentals  | 3            |
| Select one of the following: |  | 3            |
| COMM-1010                    | Fundamentals of Speech Communication   |              |
| COMM-101H                    | Honors Speech Communication  |              |
| <b>Credit Hours</b>          |  | <b>16</b>    |
| <b>Second Semester</b>       |  |              |
| BADM-1070                    | Introduction to Project Management   | 3            |
| ITNT-2320                    | Network Administration I   | 3            |
| ITNT-2370                    | Network Security Fundamentals  | 3            |
| ITNT-2380                    | Linux Administration   | 3            |
| <b>Credit Hours</b>          |  | <b>12</b>    |
| <b>Third Semester</b>        |  |              |
| EET-1303                     | Cisco I <sup>2</sup>   | 3            |
| EET-2303                     | Cisco II <sup>2</sup>  | 3            |
| IT-2750                      | Scripting Fundamentals for Cybersecurity   | 3            |
| Natural Science (lecture)    |  | 3            |
| Select one of the following: |  | 3            |
| BADM-2010                    | Business Communications  |              |

|                              |                                     |              |
|------------------------------|-------------------------------------|--------------|
| BADM-201H                    | Honors Business Communications      |              |
| <b>Credit Hours</b>          |                                     | <b>15</b>    |
| <b>Fourth Semester</b>       |                                     |              |
| BADM-1050                    | Professional Success Strategies     | 3            |
| IT-2710                      | Advanced Topics in Network Security | 3            |
| Select one of the following: |                                     | 3            |
| PHIL-2020                    | Ethics                              |              |
| PHIL-202H                    | Honors Ethics                       |              |
| Select one of the following: |                                     | 1-3          |
| IT-2830                      | Cooperative Field Experience        |              |
| IT-2xxx                      | 2000-level ITNT elective course     |              |
| <b>Credit Hours</b>          |                                     | <b>10-12</b> |
| <b>Total Credit Hours</b>    |                                     | <b>62-64</b> |

<sup>1</sup> [MATH-1100 Mathematical Explorations or MATH-1240 Contemporary Mathematics taken prior to Fall 2024 will be accepted to meet mathematics requirement for this program.](#)

<sup>2</sup> Consecutive Eight Week Course.

## ELECTIVES

| Code    | Title   | Credit Hours |
|---------|---|--------------|
| IT-2720 | Ethical Hacking and Systems Defense                 | 3            |
| IT-2730 | Intrusion Detection/Prevention Systems Fundamentals | 3            |
| IT-2760 | Introduction to Digital Forensics                   | 3            |

MATH-1140, MATH-1141, MATH-1200, MATH-1270, and MATH-1280 can no longer count towards fulfilling the college-level mathematics requirement. These courses were re-classified as developmental mathematics by the state of Ohio in 2016. Tri-C established a 5-year transitioning window for students who had completed these courses prior to 2016 to apply them towards meeting graduation requirements, which expired in Summer 2021. It is highly recommended to see a counselor to determine the appropriate math required for your current major.