

Cybersecurity, BS

Program Description

The Bachelor of Science in Cybersecurity prepares students for a variety of careers, including roles such as cybersecurity analyst, information security manager, security consultant, and network security engineer. The program focuses on practical, hands-on experience, enabling students to apply their knowledge to protect systems and data in real-world scenarios. Through this applied approach, cybersecurity majors develop the skills and expertise necessary to identify, assess, and mitigate security threats, ensuring the integrity, confidentiality, and availability of information across various organizational settings.

Program Curriculum

120 credits

Utah Tech General Education Requirements

All Utah Tech General Education requirements must be fulfilled. A previously earned degree may fulfill those requirements, but courses must be equivalent to Utah Tech's minimum General Education standards in American Institutions, English, and Mathematics.

General Education Core Requirements (<https://catalog.utahtech.edu/programs/generaleducation/#gerequirementstext>)

| Code | Title | Hours |
|------------------------------|-------|-------|
| English | | 3-7 |
| Mathematics | | 3-5 |
| American Institutions | | 3-6 |
| Life Sciences | | 3-10 |
| Physical Sciences | | 3-5 |
| Fine Arts | | 3 |
| Literature/Humanities | | 3 |
| Social & Behavioral Sciences | | 3 |

Cybersecurity Core Requirements

| Code | Title | Hours |
|---------------------------|--|-------|
| Required Courses | | |
| CS 1400 | Fundamentals of Programming | 3 |
| CS 1410 | Object Oriented Programming | 3 |
| CS 2420 | Introduction to Algorithms and Data Structures | 3 |
| MATH 1040 or MATH 1050 | Introduction to Statistics (MA) College Algebra / Pre-Calculus (MA) | 3-4 |
| IT 1100 | Introduction to Unix/Linux | 3 |
| IT 1200 | A+ Computer Hardware/Windows OS | 3 |
| IT 1500 | Cloud Fundamentals | 1 |
| IT 2400 | Intro to Networking | 3 |
| IT 2500 | Cloud Computing | 3 |
| IT 2700 | Information Security | 3 |
| ENGL 2100 or ENGL 3010 | Technical Writing (ALCS) Professional Writing and Business Ethics | 3 |
| IT 3100 | Systems Design and Administration | 3 |
| IT 3110 | System Automation | 3 |
| IT 3150 | Windows Servers | 3 |
| IT 3400 | Intermediate Computer Networking | 3 |
| IT 3700 | CyberOps | 3 |
| IT 3710 | Network Defense | 3 |
| IT 4510 | Ethical Hacking & Network Defense | 3 |

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|-------------------------|---|---|
| IT 4600 | Senior Capstone | 3 |
| MGMT 3050 or CJ 3830 | Business Law I: Law in the Commercial Environment International Criminal Justice Systems | 3 |
| SE 3200 | Web Application Development I | 3 |
| SE 3250 | Internet of Things Programming | 3 |
| SE 1400 | Web Design Fundamentals (ALCS) | 3 |
| IT 4700 | Cybersecurity Architecture | 3 |

Cybersecurity Elective Requirements

| Code | Title | Hours |
|--|--|-------|
| Choose four (4) of the following courses: | | |
| Breadth courses | | |
| CJ 4975R | Digital Forensics Travel Study: Domestic & International | 1-3 |
| CS 3005 | Programming in C++ | 3 |
| CS 2450 | Software Engineering | 3 |
| CS 2810 | Computer Organization and Architecture | 3 |
| IT 2300 | Database Design & Management | 3 |
| IT 3300 | DevOps Virtualization | 3 |
| IT 4100 | Files Systems and Storage Technologies | 3 |
| IT 4200 | DevOps Lifecycle Management | 3 |
| IT 4310 | Database Administration | 3 |
| IT 4400 | Network Design & Management | 3 |
| IT 4990 | Special Topics in Information Technology | 0.5-3 |
| IT 4991R | Competitive Cybersecurity | 2 |
| IT 4920R | Internship | 1-3 |
| SE 4200 | Web Application Development II | 3 |
| SE 1400 | Web Design Fundamentals (ALCS) | 3 |
| Open Electives | | |
| Open Elective Credit | | 9 |

Graduation Requirements

1. Complete a minimum of 120 college-level credits (1000 and above).
2. Complete at least 40 upper-division credits (3000 and above).
3. Complete at least 30 upper-division credits at Utah Tech for institutional residency.
4. Cumulative GPA 2.5 or higher.
5. Grade B- or higher in lower-division Cybersecurity courses and a minimum C in all Cybersecurity courses.