

CYBERSECURITY PATHWAYS

CYBERSECURITY CERTIFICATES

BSC offers a variety of certificates designed to meet specific and unique occupational needs. Certificates can be stacked toward a diploma, associate or bachelor's degree. Choose from our hands-on Cybersecurity certificates to enhance your career and expand your skillset.

ENTRY-LEVEL

CYBERSECURITY FUNDAMENTALS courses provide an understanding of fundamental cybersecurity, network security, cloud security, SOC security, information security and networking. Students will identify and protect against cyberattacks by understanding the fundamentals, principles and concepts of cybersecurity. They will learn how to create interfaces, security zones, authentication and policies - all for next generation firewalls.

COMPUTER NETWORKING courses provide students with the fundamentals of computer networking, including the practical and conceptual skills needed to enter the industry. Students will gain an understanding of basic networking, build simple local area networks, perform basic device configurations, implement IP address schemes, and configure and troubleshoot routers and switches.

SECURITY AND HACKING courses give students practical experience using security tools on Linux and Windows systems. Courses expand students' knowledge of information security, which will provide them with the principles, technologies and practices to secure computers and networks. Students will gain skills necessary to protect systems and organizations from cyber vulnerabilities and risks.

CYBERSECURITY FUNDAMENTALS

| | |
|----------------|------------------------------------|
| CIS 140 | Cybersecurity Foundation |
| CIS 141 | Network Security Fundamentals |
| CIS 142 | Cloud Security Fundamentals |
| CIS 143 | Security Operations Fundamentals |
| CIS 147 | Principles of Information Security |
| CIS 164 | Networking Fundamentals 1 |

COMPUTER NETWORKING

| | |
|----------------|---|
| CIS 164 | Networking Fundamentals 1 |
| CIS 165 | Networking Fundamentals 2 |
| CIS 212 | Windows Operating System Client |
| CIS 216 | Implementing Windows Network Infrastructure |
| CIS 223 | Linux System Administration |

SECURITY AND HACKING

| | |
|----------------|-------------------------------------|
| CIS 107 | Linux Fundamentals |
| CIS 147 | Principles of Information Security |
| CIS 197 | Cooperative Education/Internship |
| CIS 255 | Computer and Network Security |
| CIS 274 | Cybersecurity Operations |
| CIS 282 | Ethical Hacking and Network Defense |

ADVANCED

MODERN COMPUTING courses give students opportunities to gain experience installing, configuring, securing, and administering data center services. Instructors will guide students in data center configuration and incident mitigation. Students will also learn the methods, policies and procedures needed to maintain systems availability and response.

OFFENSIVE AND DEFENSIVE SECURITY courses cover digital forensics, installing, configuring and managing firewalls. Students will learn theory and extended configuration features necessary to set up traffic handling, advanced content, user identification and next-generation firewall technologies. Students will also learn network penetration testing to apply cybersecurity defensive skills.

SECURE PROGRAMMING courses give students a background in the Python and Java languages for computer programming. Secure programming classes attempt to ensure that software is protected from vulnerabilities, threats or direct attacks. Students will use a structured high-level language approach to programming, with an emphasis on problem solving and design.

MODERN COMPUTING

| | |
|----------------|---|
| CIS 226 | Linux Network & Security Administration |
| CIT 320 | Disaster Recovery & Incident Response |
| CIT 330 | Virtualization |
| CIT 410 | Wireless Networking & Mobile Security |
| CIT 430 | Cloud Computing & Security |
| CIT 397 | Cooperative Education/Internship |

OFFENSIVE AND DEFENSIVE SECURITY

| | |
|----------------|--|
| CIS 241 | Digital Forensics Fundamentals |
| CIT 367 | Cybersecurity Infrastructure Configuration |
| CIT 368 | Cybersecurity Prevention & Countermeasures |
| CIT 470 | Penetration Testing |
| CIT 475 | Emerging Threats & Defenses |
| CIT 397 | Cooperative Education/Internship |

SECURE PROGRAMMING

| | |
|-----------------|--------------------------------------|
| CIS 185 | Introduction to Programming (Python) |
| CIS 204 | Database Design & SQL |
| CSCI 160 | Computer Science 1 (Java) |
| CIT 381 | IT Project Management |
| CIT 450 | Database & Web Application Security |