

CYBERSECURITY, ASSOCIATE IN SCIENCE

The Cybersecurity program prepares students for careers as security analysts. Students who complete the program will be able to secure networks by performing penetration testing, security audits, digital forensics and investigations, developing security policies, and providing overall security guidance to organizations. Topics include network security, Windows and Linux security, intruder detection systems and firewalls, web security and protocols, virtualization and cloud security, and security policies and procedures.

To obtain an Associate in Science (AS) degree in Cybersecurity, students must complete 33-37 specified major units, plus General Education (GE) requirements.

Course ID	Title	Units/Hours
REQUIRED CORE: Complete the following (25-28 units)		
CNSE M01	Networking Fundamentals *	4
CNSE M06	Cisco Fundamentals of IT Essentials: PC Hardware & Software *	4
CNSE M18	Cisco System Computer Networking A *	4
CNSE M30	MS Windows Administration *	3
CNSE M55	Linux Networking and System Administration *	3
CNSE M57	Scripting for Security Management	3
CNSE M82	Introduction to Network Security *	3
CNSE M80	Internship in Computer Network Systems Engineering	1-4
Units from Elective Courses Group A		3-4
Units from Elective Courses Group B		5
Total Required Major Units: 33-37		
Restrictive Electives: Group A - select and complete one course (3-4 units)		
CNSE M13	Internetworking and TCP/IP	4
CNSE M19	Cisco System Computer Networking B *	4
CNSE M31	MS Windows Network Server *	3
Restrictive Electives: Group B - select and complete two courses (5-6 units)		
CNSE M56	CompTIA Advanced Security Practitioner Preparation *	3
CNSE M83	Introduction Computer Forensics *	3
CNSE M84	Certified Ethical Hacker *	2
CNSE M86	Firewall Administration *	3
CNSE M100	Cybersecurity Analysis *	3
CNSE M105	AWS Cloud Foundations *	3
CNSE M111	Azure Cloud Fundamentals *	3
CNSE M170	Cloud Security *	3
MC General Education Pattern: 28		
Double-Counted Units: 0		
Electives to meet 60 associate degree units: 0		
Total units required for the A.S. in Cybersecurity: 61 - 65		

* Prepares student to pass Professional Industry Certification Exam

Year 1		
Fall Semester		Units/Hours
CNSE M01	Networking Fundamentals	4
CNSE M06	Cisco Fundamentals of IT Essentials: PC Hardware & Software	4
CNSE M30	MS Windows Administration	3
Units/Hours		11
Spring Semester		Units/Hours
CNSE M18	Cisco System Computer Networking A	4
CNSE M55	Linux Networking and System Administration	3
Units/Hours		7
Summer Semester		Units/Hours
CNSE M82	Introduction to Network Security	3
Units/Hours		3
Year 2		
Fall Semester		Units/Hours
Select any 3 Units Group A and any 3 Units Group B		
Example: Student selected M13 Group A and M100 Group B		
CNSE M31	MS Windows Network Server	3
CNSE M100	Cybersecurity Analysis	3
Units/Hours		6
Spring Semester		Units/Hours
Select any 6 Units Group B and 1 Unit for Internship Requirement		
Example: Student selected M56 and M105 Group B		
CNSE M56	CompTIA Advanced Security Practitioner Preparation	3
CNSE M105	AWS Cloud Foundations	3
Student Selected REQUIRED Internship in Final Semester		
CNSE M80	Internship in Computer Network Systems Engineering	1-4
Units/Hours		7-10
Total Units/Hours		34-37

Upon successful completion of this program, students will be able to:

- design, build, and maintain secure networks that includes varied systems such as a virtual system, windows system, Linux system, firewall, wireless devices, and technology systems both on premise and on the cloud.
- demonstrate proficiency to design, recommend and use security strategies and resources that mitigate threats.
- demonstrate use of cyber defense tools, and apply cyber defense methods to mitigate threats as they apply to systems and networks both on premise and on the cloud.
- demonstrate effective troubleshooting skills and utilize both oral and written communication skills.
- perform reliable independent work and develop the skills necessary for effective teamwork.