

CYBER AND HOMELAND SECURITY, AS

Program code: CYHM-AS

Location: Naugatuck Valley, Tunxis

Program Description

The program provides preparation for students to obtain entry-level positions in the field of cybersecurity, homeland security and computer crime deterrence. The program provides essential skills required to gain and to maintain employment at entry level positions as computer crime investigators, computer security specialists, and federal law enforcement officers. This program combines elements of both Computer Information Systems and Criminal Justice course work to offer students an understanding the investigative nature of cybersecurity in the criminal justice realm as well as gaining technical skills in computer science, networking, and programming.

Learning Outcomes

1. Explain the landscape, key terms, challenges, and concepts related to the many layers of cybersecurity.
2. Explain fundamental architectures of networks (networks build on each other) and demonstrate an understanding of network security.
3. Demonstrate an understanding of the legal and ethical issues and concepts associated with cybersecurity responsibilities.
4. Effectively communicate technical information and approaches for incident analysis and response verbally, in writing, and in presentations.
5. Determine if and when criminal charges will be initiated for different security breaches. Analyze a range of security breaches and identify if/when criminal charges are appropriate.
6. Apply counter measures that would secure network systems against threats.
7. Identify and discuss career opportunities and the necessary skills that will increase the likelihood of success in the field of cybersecurity, e.g., technical skills, network certifications, interpersonal communications, critical thinking, and leadership skills.

Students pursuing this degree will take computer-related, as well as criminal justice courses. Topics may include:

- cyber-crime law and investigations
- cybersecurity
- introduction to criminal justice
- threat of terrorism and crime
- computer and network security
- computer science
- networking
- cyber law and ethics
- information systems design
- applied statistics
- additional information technology topics

This degree will begin to prepare students for common certification exams such as:

- CompTIA Security+
- CompTIA Network+
- CompTIA Project+
- CompTIA A+

Degree Requirements

Code	Title	Credits
General Education Core		
ENG 1010	Composition	3
MATH 1000 or higher		3-4
Elective ARHX - Arts & Humanities Course		3-4
Elective SCRX - Scientific Reasoning Course or Elective SCKX - Scientific Knowledge Course		3-4
Elective SBSX - Social / Behavioral Science Course or Elective HISX - Historical Knowledge Course		3
Elective ORAX - Oral Communication Course or Elective WRIX - Written Communication II Course		3
CCS 1001	College and Career Success	3
Program Courses		
CIS 1001 or CIS 1141	Introduction to Computers Introduction to Management Information Systems	3
CJS 1010	Introduction to Criminal Justice	3
CST 1221	Networking I	4
CYS 2111	Network Security	3
Choose one of the following:		3
CJS 2240	Computer Crimes	
CJS 2350	Information Warfare and Security	
CJS 2340	Computer Security and Data Protection	
CIS 1143	Project Management	3
CIS 1104	Introduction to Operating Systems	3
Designated Electives		
Choose enough courses from list to meet minimum total credit count of 60		17-19
CIS 2144	Systems Analysis and Design	
CJS 2110	Criminal Law I	
CJS 2220	Computer Investigation Techniques	
CJS 2240	Computer Crimes	
CJS 2340	Computer Security and Data Protection	
CJS 2350	Information Warfare and Security	
CST 1141	Linux System Administration	
CST 2222	Networking II	
CST 2223	Networking III	
CST 2161	Virtualization and Cloud Computing	
CYS 1101	Practices in Security Management	
CYS 2131	Computer Forensics and Network Intrusions	
CYS 2151	Ethical Hacking and Pen Testing I	
CYS 2152	Ethical Hacking and Pen Testing II	
CST 2124	Voice over IP Networking	
Elective CPL - Computer Programming Language Course		

CIS 1211 or CSC 2235	Database Design I Introduction to Database Design
Total Credits	60-65

- Cyber and Homeland Security Certificate
- Cybersecurity Certificate
- Cybersecurity: Computer Science, AS
- Cybersecurity: Networking, AS