

# COMPUTER AND INFORMATION SCIENCES: CYBERSECURITY (A.S.)

## ASSOCIATE OF SCIENCE

The program is designed to prepare students for the high growth profession – information security, by offering training on the cutting-edge skills and knowledge sought by the industry, aiming to provide students opportunities for career change or advancement. Graduates of the program will have a comprehensive understanding of the current security challenges in the cyberspace, and will be equipped with the knowledge and skills needed to help design and implement policies and systems able to support a dependable organization's information infrastructure. Possible career opportunities include entry level cybersecurity analyst, cybersecurity specialist, and cybersecurity engineer, etc.

## Program Student Learning Outcomes

- Students identify common network protocols.
- Students configure security settings on network devices.
- Students recognize common risks and threats in information systems.
- Students collect digital forensic evidence.
- Students carry out network scanning for open ports and IP addresses.
- Students create simple scripts to complete a task in a programming language.

## Program Requirements

Code Number	Course Title	Units
<b>Required Courses</b>		
CIS 170I	Cisco Network Security	3.5
CIS 170P	Introduction to Ethical Hacking	3.5
CIS 170R	Computer and Digital Forensics	3.5
CIS 170L	Cybersecurity Fundamentals	3.5
<b>Programming</b>		
Select one of the following:		3.0-3.5
CIS 103	Computer Programming Logic (3.5)	
CIS 164	JavaScript Programming (3.5)	
CIS 183	Java Programming (3.5)	
CIS 185	Discrete Structures (3)	
CIS 189C	Special Topics in Software Development (3)	
<b>Networking</b>		
Select one of the following:		3.0-3.5
CIS 170A	Networking Fundamentals (3.5)	
CIS 170B	Network + Certification (3.5)	
CIS 170H	TCP/IP Fundamentals (3)	
CIS 171A	Introduction to Cloud Computing (3)	
CIS 200A	Apple Mac OS Support Essentials (3.5)	
CIS 212	Introduction to Microsoft Windows Administration (3.5)	
CIS 213F	Microsoft Windows Server Administration (3.5)	

CIS 214	Unix and Linux Operating Systems (3.5)	
<b>Electives</b>		
Select at least 17 units from the following courses not already taken:		17.0
CIS 58A	PC Operating System A+ Certification (3.5)	
CIS 58B	PC Core Hardware A+ Certification (3)	
CIS 101	Introduction to Computer Information Systems (3)	
CIS 103	Computer Programming Logic (3.5)	
CIS 164	JavaScript Programming (3.5)	
CIS 170A	Networking Fundamentals (3.5)	
CIS 170B	Network + Certification (3.5)	
CIS 170E	Router Configurations and Protocol (3.5)	
CIS 170F	Advanced Switching and Routing (3.5)	
CIS 170G	Wide Area Networks (3.5)	
CIS 170H	TCP/IP Fundamentals (3)	
CIS 170S	Network Defense (3.5)	
CIS 171A	Introduction to Cloud Computing (3)	
CIS 171B	Amazon Web Services-Data Storage (3)	
CIS 171C	Amazon Web Services-Computing Services (3)	
CIS 171D	Amazon Web Services-Security (3)	
CIS 183	Java Programming (3.5)	
CIS 200A	Apple Mac OS Support Essentials (3.5)	
CIS 212	Introduction to Microsoft Windows Administration (3.5)	
CIS 213F	Microsoft Windows Server Administration (3.5)	
CIS 214	Unix and Linux Operating Systems (3.5)	

**Total Units** **37-38**

## ASSOCIATE OF SCIENCE DEGREE REQUIREMENTS

Complete a minimum of 60 units to include (1) the above course requirements, (2) General Education requirements, and (3) electives as needed.