

Atlantic Cape Community College

CISM 146
Computer Networking

Course Description: This course is designed to prepare students for a career in supporting computer networks. This course provides a strong foundation in networking software, hardware, support and network design.

Learning Outcomes:

- The student will be able to describe networking technologies and basic design principles.
- The student will have the knowledge and skills necessary to manage, maintain, troubleshoot, install, operate and configure basic network infrastructure.
- The student will be able to install, configure, and maintain Network Security tools.

Assessment Strategies

The student will be able to describe networking technologies and basic design principles.	Quiz, exam
The student will have the knowledge and skills necessary to manage, maintain, troubleshoot, install, operate and configure basic network infrastructure.	Lab projects
The student will be able to install, configure, and maintain Network Security tools.	Lab projects, exam

Materials: LabSim for Network Pro, TestOut, ISBN: 9781935080435

Course Goals/Objectives:

1.0 Networking Concepts

- 1.1 Compare the layers of the OSI and TCP/IP models.
- 1.2 Classify how applications, devices, and protocols relate to the OSI model layers.
- 1.3 Explain the purpose and properties of IP addressing.
- 1.4 Explain the purpose and properties of routing and switching.
- 1.5 Identify common TCP and UDP default ports.
- 1.6 Explain the function of common networking protocols.
- 1.7 Summarize DNS concepts and its components.
- 1.8 Implement network troubleshooting Methodology.
- 1.9 Identify virtual network components.

2.0 Network Installation and Configuration

- 2.1 Install and configure routers and switches.
- 2.2 Install and configure a wireless network.
- 2.3 Explain the purpose and properties of DHCP.
- 2.4 Troubleshoot common wireless problems.
- 2.5 Troubleshoot common router and switch problems.
- 2.6 Given a set of requirements, plan and implement a basic SOHO network.

3.0 Network Media and Topologies

- 3.1 Categorize standard media types and associated properties.
- 3.2 Categorize standard connector types based on network media.
- 3.3 Compare and contrast different wireless standards.
- 3.4 Categorize WAN technology types and properties.
- 3.5 Describe different network topologies.
- 3.6 Troubleshoot common physical connectivity problems.
- 3.7 Compare and contrast different LAN technologies.
- 3.8 Identify components of wiring distribution.

4.0 Network Management

- 4.1 Explain the purpose and features of various network appliances.
- 4.2 Use appropriate hardware tools to troubleshoot connectivity issues.
- 4.3 Use appropriate software tools to troubleshoot connectivity issues.
- 4.4 Use the appropriate network monitoring resource to analyze traffic.
- 4.5 Describe the purpose of configuration management documentation.
- 4.6 Explain different methods and rationales for network performance optimization.

5.0 Network Security

- 5.1 Implement appropriate wireless security measures.
- 5.2 Explain the methods of network access security.
- 5.3 Explain methods of user authentication.
- 5.4 Explain common threats, vulnerabilities, and mitigation techniques.
- 5.5 Install and configure a basic firewall.
- 5.6 Categorize different types of network security appliances and methods.

ADA Accommodations

ADA accommodations for disabilities can be provided to students who provide documentation to Atlantic Cape's Disability Support Services (DSS) office. A licensed healthcare professional must provide this documentation and it must be current within the last five years. No accommodations can be provided for a course unless a student is first registered with the DSS office. For more information, please contact Lucy McGlynn (email: lmcglynn@atlantic.edu and/or phone: 609-343-5090).

COURSE EVALUATION

Scale:

Grade	Percentage Range	Grade Point Value
A	93-100%	4.0
A-	90-92%	3.7
B+	87-89%	3.3
B	83-86%	3.0
B-	80-82%	2.7
C+	77-79%	2.3
C	70-76%	2.0
D	60-69%	1.0
F	0-59%	0.0