



Advanced Networking Practices

Outline of Instruction

Course Information

Organization	Monroe County Community College
Developers	William Hilliker
Course Number	IAS 210
Division	Business
Potential Hours of Instruction	45
Total Credits	3

Prerequisites: CIS 130 and CIS 209

Description

This course will cover concepts and functions of networks and related business technology. The course emphasizes administration client/server and peer-to-peer networks. The course includes description of equipment, networking procedures, and protocols. It will also include installing, configuring, and troubleshooting a computer network. It then provides coverage of the most important concepts in contemporary networking, such as TCP/IP, Ethernet, wireless transmission, and security. The course will prepare students for selecting the best network design, hardware, and software for the application or environment.

Major Units

- Unit 1: Introduction to Networking
- Unit 2: Networking Standards and the OSI Model
- Unit 3: Transmission Basics and Networking Media
- Unit 4: Introduction to Network Protocols
- Unit 5: Physical and Logical Topologies
- Unit 6: Network Hardware
- Unit 7: WANS and Remote Connectivity
- Unit 8 Wireless Networking
- Unit 9: Network Operating Systems
- Unit 10: TCP/IP
- Unit 11: VOIP
- Unit 12: Networking Security
- Unit 13: Troubleshooting Network Problems
- Unit 14: Data Integrity and Availability
- Unit 15: Network Management

Exit Learning Outcomes

Program Outcomes

- A. Identify different networking concepts, operating systems and computers that are used in today's businesses.
- B. Set-up and maintain different networks, operating systems and computers that are used in today's businesses.
- C. Demonstrate foundation knowledge of information security/assurance within the organization.
- D. Update and upgrade different computer hardware and operating systems in today's businesses.
- E. Perform routine maintenance on the different computer hardware and operating systems used in today's businesses.

Course Outcomes

In order to evidence success in this course, students will be able to:

1. **Define a network**
Linked Program Outcomes
Identify different networking concepts, operating systems and computers that are used in today's businesses.
2. **Describe the common elements in a network**
Linked Program Outcomes
Identify different networking concepts, operating systems and computers that are used in today's businesses.
3. **Describe the different types of networks**
Linked Program Outcomes
Set-up and maintain different networks, operating systems and computers that are used in today's businesses.
4. **Define networking standards and where to find them**
Linked Program Outcomes
Set-up and maintain different networks, operating systems and computers that are used in today's businesses.
Update and upgrade different computer hardware and operating systems in today's businesses.
5. **Describe TCP/IP, IPv4, IPv6, DNS and application layer protocols**
Linked Program Outcomes
Identify different networking concepts, operating systems and computers that are used in today's businesses.
Set-up and maintain different networks, operating systems and computers that are used in today's businesses.
6. **Define network topologies and Ethernet Standards**
Linked Program Outcomes
Identify different networking concepts, operating systems and computers that are used in today's businesses.
7. **Describe networking hardware**
Linked Program Outcomes
Update and upgrade different computer hardware and operating systems in today's businesses.
Perform routine maintenance on the different computer hardware and operating systems used in today's businesses.
8. **Define LAN, WAN, PAN, MAN and remote connectivity**
Linked Program Outcomes
Identify different networking concepts, operating systems and computers that are used in today's businesses.
9. **Describe Wireless networking**
Linked Program Outcomes
Identify different networking concepts, operating systems and computers that are used in today's businesses.
Set-up and maintain different networks, operating systems and computers that are used in today's businesses.
10. **Describe Networking Operating Systems**
Linked Program Outcomes
Identify different networking concepts, operating systems and computers that are used in today's businesses.

11. Define network security and what that means

Linked Program Outcomes

Identify different networking concepts, operating systems and computers that are used in today's businesses.

Demonstrate foundation knowledge of information security/assurance within the organization.

12. Define network integrity and availability

Linked Program Outcomes

Identify different networking concepts, operating systems and computers that are used in today's businesses.

Perform routine maintenance on the different computer hardware and operating systems used in today's businesses.