Networking Essentials Course Outline

Chapter /Section	Goals/Objectives
Chapter 1. Ever Wonder How it Works?	Explain how end-user devices and local networks interact with the global Internet.
1.1 Communicating in a Connected World	Explain the concept of network communication.
1.2 Local Networks	Explain the roles of devices in a network.
1.3 Building a Simple Network	Build a functioning network.
Chapter 2. Networks in Our Daily Lives	Explain the requirements for network connectivity.
2.1 Getting Online	Explain the basic requirements for getting online.
2.2 Other Network Considerations	Explain the importance of network representations.
2.3 Cabling and Media	Build an Ethernet cable.
Chapter 3. Communicating on a Local Network	Build a small network using an integrated network router.
3.1 Principles of Communications	Explain the importance of standards and protocols in network communications.
3.2 Talking the Language of Networking	Explain how protocol model layers represent network functionality.
3.3 How do Ethernet Networks Work?	Explain how communication occurs on Ethernet networks.
3.4 How are Networks Built?	Explain why routers and switches are important in a network.
3.5 Routing Across Networks	Configure devices on a LAN.
Chapter 4. Network Addressing	Explain the importance of IP addressing.
4.1 IPv4 Addresses and Subnet Masks	Explain the features of an IP address.
4.2 Types of IPv4 Addresses	Explain the features of the different types of IPv4 addresses.
4.3 How IPv4 Addresses are Obtained	Configure a DHCP server.
4.4 IPv4 Address Management	Explain the need for public and private addressing.
4.5 Addressing with IPv6	Explain the need for IPv6.
Chapter 5. Providing Network Services	Explain how the protocols of the TCP/IP suite enable network communication.
5.1 How Clients and Servers Work Together	Explain how clients access Internet services.
5.2 Transport Layer Protocols at Work	Explain how the protocols of the transport layer support network communications.
5.3 Application Protocols and Services	Explain the function of common Internet client/server applications.
Chapter 6. Building a Home Network	Configure an integrated wireless router and wireless clients to connect securely to the Internet.

Chapter /Section	Goals/Objectives
6.1 What Does a Home Network Look Like?	Compare different types of network connections.
6.2 How Does Wi-Fi Work?	Explain how Wi-Fi functions.
6.3 Setting Up Your Wireless Network	Connect wireless PC clients to a wireless router.
6.4 Choosing ISP Services	Compare the options available for connecting to the ISP.
6.5 Security Considerations on a Home Network	Configure a wireless LAN device to protect data and the network.
6.6 Mobile Devices in the Network	Explain how to configure mobile devices to use various wireless technologies.
Chapter 7. Network Security	Configure basic network security.
7.1 Am I at Risk?	Explain network security threats.
7.2 Methods of Attack	Explain other types of network security threats.
7.3 How Can I Protect My Network?	Explain how software tools can mitigate network security threats.
7.4 How Do Firewalls Protect Networks?	Configure a firewall to control network traffic.
Chapter 8. Configuring Cisco Devices	Build a simple computer network using Cisco devices.
8.1 Cisco LAN Devices	Explain the basic features of Cisco LAN switches.
8.2 Internetworking Devices	Explain the features of a Cisco small business router.
8.3 Exploring the Cisco IOS	Explain how to use the Cisco IOS.
8.4 Using Show Commands	Use common show commands to view device status.
8.5 Configuring a Cisco Network	Build a switch and router network.
Chapter 9. Testing and Troubleshooting	Troubleshoot common network issues found in home and small business networks.
9.1 What To Do When It Does not Work	Explain the steps to take when a new configuration does not work as expected.
9.2 Troubleshooting Issues in Networks	Troubleshoot network problems with common network utilities.
9.3 Identifying and Fixing Common Problems	Troubleshoot a network connectivity problem.
9.4 Working with Customer Support	Explain how to work with customer support.