

CCNA Security

Course Outline

MODULE I Fundamentals of Network Security

Lesson 1 Networking Security Concepts and Common Principles

Lesson 1.1 Understanding Network And Information Security Basics

Lesson 1.2 Confidentiality, Integrity, And Availability

Lesson 1.3 Classifying Assets

Lesson 1.4 Types of Security Vulnerabilities

Lesson 1.5 Classifying Countermeasures

Lesson 1.6 Attack Methods & Vectors

Lesson 1.7 Applying Fundamental Security Principles To Network Design

Lesson 1.8 Understanding Security Attack Surface in Different Network Topologies

Lesson 2 Common Security Threats

Lesson 2.1 Network Security Threat Landscape

Lesson 2.2 Distributed Denial of Service (DDoS) Attacks

Lesson 2.3 Social Engineering Methods

Lesson 2.4 Man-in-the-middle Attacks

Lesson 2.5 Malware Identification Tools

Lesson 2.6 Data Loss and Exfiltration Methods

MODULE II Virtual Private Networks (VPNs)

Lesson 3 Fundamentals of VPN Technology and Cryptography

Lesson 3.1 Understanding VPNs and Why We Use Them

Lesson 3.2 Cryptography Basic Components

Lesson 3.3 Public Key Infrastructure

Lesson 3.4 Putting the Pieces of PKI to Work

Lesson 4 Fundamentals of IP Security

Lesson 4.1 IPsec Concepts, Components, and Operations

Lesson 4.2 IKE version 1 Fundamentals

Lesson 4.4 IKE version 2 Fundamentals

Lesson 5 Implementing IPsec Site-to-Site VPNs

Lesson 5.1 Configuring IPsec Site-to-Site VPNs in Cisco IOS Devices

Lesson 5.2 Troubleshooting IPsec Site-to-Site VPNs in Cisco IOS Devices

Lesson 5.3 Configuring IPsec Site-to-Site VPNs in Cisco ASA

Lesson 5.4 Troubleshooting IPsec Site-to-Site VPNs in Cisco ASA

Lesson 6 Implementing SSL Remote Access VPNs Using Cisco ASA

Lesson 6.1 Introduction to Clientless SSL VPN

Lesson 6.2 Configuring Clientless SSL VPNs in the Cisco ASA

Lesson 6.3 Introduction to AnyConnect

Lesson 6.4 Installing AnyConnect

Lesson 6.5 AnyConnect for Mobile Devices

MODULE III Content and Endpoint Security

Lesson 7 Mitigation Technologies for Email-based and Web-based Threats

Lesson 7.1 Introduction to E-mail-Based Threats and Email Security

Lesson 7.2 Cisco Cloud E-mail Security

Lesson 7.3 Cisco Hybrid E-mail Security

Lesson 7.4 Cisco E-mail Security Appliance

Lesson 7.5 Introduction to Cisco Web Security

Lesson 7.6 Cisco Cloud Web Security (CWS)

Lesson 7.7 Cisco Web Security Appliance (WSA)

Lesson 7.8 Cisco Content Security Management Appliance (SMA)

Lesson 8 Mitigation Technology for Endpoint Threats

Lesson 8.1 Antivirus and Anti-malware Solutions

Lesson 8.2 Personal Firewalls And Host Intrusion Prevention Systems

Lesson 8.3 Cisco Advanced Malware Protection (AMP) For Endpoints

Lesson 8.4 Hardware and Software Encryption Of Endpoint Data

MODULE IV Cisco Firewall Technologies and Intrusion Prevention System Technologies

Lesson 9 Understanding Firewall Fundamentals

Lesson 9.1 What is a Firewall and How They are Used

Lesson 9.2 Understanding Stateful vs Stateless Inspection

Lesson 9.3 Network Address Translation (NAT) Overview

Lesson 10 Implementing Cisco IOS Zone-Based Firewalls

Lesson 10.1 Differences between IOS Firewalls and the ASA Firewall Appliance

Lesson 10.2 Basic Configuration and Features

Lesson 10.3 NAT Configuration on the IOS Firewall

Lesson 10.4 Using Cisco Configuration Professional (CCP)

Lesson 11 Configuring Basic Firewall Policies on Cisco ASA

Lesson 11.1 Basic Configuration of the ASA

Lesson 11.2 Introduction to Network Objects and Access Control Policies

Lesson 11.3 NAT Configuration on the ASA

Lesson 11.4 Advanced Deployment Scenarios — High Availability

Lesson 12 Cisco IPS Fundamentals

Lesson 12.1 IPS Inspection vs Firewall Inspection

Lesson 12.2 IPS Deployment Considerations

Lesson 12.3 Tuning the IPS for Inspection - Basics

Lesson 12.4 Tuning the IPS for Inspection - Signatures

Lesson 12.5 IOS IPS Configuration

MODULE V Secure Routing and Switching

Lesson 13 Securing Layer 2 Technologies

- Lesson 13.1 L2 Attack and Defense on Cisco Switches
- Lesson 13.3 Spanning-Tree Issues and Troubleshooting
- Lesson 13.3 All About VLANs
- Lesson 13.4 VLAN Security

Lesson 14 Network Foundation Protection

- Lesson 14.1 NPF Overview (Management, Control & Data Planes)

Lesson 15 Securing the Management Plane on Cisco IOS Devices

- Lesson 15.1 Introduction to the Management Plane & AAA
- Lesson 15.2 Protecting Access to IOS
- Lesson 15.3 RADIUS vs. TACACS+
- Lesson 15.4 Configuring & Troubleshooting AAA
- Lesson 15.5 Privilege Levels and Parser Views
- Lesson 15.6 Configuring Secure Management Protocols
- Lesson 15.7 Using CCP

Lesson 16 Securing the Data Plane

- Lesson 16.1 What is IPv6
 - Lesson 16.2 Security Plan for IPv4 and IPv6
 - Lesson 16.3 New Threats with IPv6
 - Lesson 16.4 IPv6 ACLs
 - Lesson 16.5 Understanding the Data Plane
- ### **Lesson 17** Securing Routing Protocols and the Control Plane
- Lesson 17.1 Understanding the Control Plan
 - Lesson 17.2 Control Plane Policing/Protection
 - Lesson 17.3 IPv6 Routing
 - Lesson 17.4 Securing Routing Protocols

MODULE VI Secure Access

Lesson 18 Implementing AAA Using IOS and ISE

- Lesson 18.1 Compare ACS and ISE
- Lesson 18.2 Configuring IOS for Device Admin with ACS
- Lesson 18.3 Verifying AAA with IOS and ACS
- Lesson 18.4 Network Access Control with ISE
- Lesson 18.5 Configuring IOS for Network Access with ISE
- Lesson 18.6 Verifying AAA with IOS and ISE

Lesson 19 Bring Your Own Device (BYOD)

- Lesson 19.1 What is BYOD
- Lesson 19.2 BYOD Architecture and Components
- Lesson 19.3 Mobile Device Management