

COURSE OVERVIEW:

Implementing Cisco Wireless Network Fundamentals (WIFUND) v1.0 is a 5-day training program that helps prepare you for the associate-level CCNA Wireless certification, a prerequisite to CCNP Wireless certification.

You will learn how to design, install, configure, monitor, and conduct basic troubleshooting tasks of a Cisco Wireless LAN (WLAN) in SMB and enterprise installations.

Note: Please bring a laptop computer with an Ethernet port as well as an internal wireless NIC, 802.11a/b/g/n. Access to the remote labs requires a browser that supports Java and permissions to open RDP or encrypted RDP (RDP443) sessions. If your browser does not support Java, you will need administrator rights to the laptop to install software.

WHO SHOULD ATTEND

- Network engineers, network administrators, network managers, and system engineers
- WLAN designers, planners, implementers, and optimizers
- Anyone wishing to attain CCNA Wireless or CCNP Wireless certification

PREREQUISITES

- ICND1 or CCENT certification, plus ICND2
- Foundational knowledge of 802.11 wireless network technologies
- ICND1 v2.0 - Interconnecting Cisco Networking Devices, Part 1
- ICND2 v2.0 - Interconnecting Cisco Networking Devices, Part 2

COURSE OBJECTIVES

Upon completing this course, you will be able to meet the following objectives:

- Basic RF principles and characteristics
- WLAN security methods and access with differing client devices
- Cisco WLAN architecture and the underlying infrastructure used to support it



- Implement centralized wireless access networks using AireOS or IOS XE WLAN controllers
- Implement converged access wireless access network using IOS XE converged access switches and WLAN controllers
- Implement small and remote wireless networks using FlexConnect, autonomous, and cloud architectures
- Perform basic WLAN maintenance and troubleshooting
- Requirements of a WLAN design

COURSE OUTLINE:

Module 1: Wireless Fundamentals

- RF Principles
- RF Mathematics
- Antenna Characteristics
- Basics of Spread Spectrum
- Wireless Media Access
- Wireless Governance

Module 2: Security and Client Access

- Wireless Security Components
- 802.11 Security
- 802.1X/EAP Framework
- EAP Authentication
- WPA and WPA2 Security
- Provide Guest Access
- Native Operating Systems for WLAN Connectivity
- Configure Smart Handheld Clients

Module 3: Define the Cisco Wireless Network Architecture

- Cisco Wireless Network Deployment Options
- One Management
- Cisco One Network
- Mobility Architecture Concepts
- Optimize RF Conditions and Performance for Clients

- Layer 2 Infrastructure Support
- Protocols Used in Wired Infrastructure to Support Wireless

Module 4: Implement Centralized Wireless Access

- Initialize a Centralized WLC
- AP Initialization
- Explore Additional WLC Features
- Implement IPv6 in a Cisco Wireless Environment
- Configure Client Access
- Implement Roaming in the Centralized Architecture

Module 5: Implement Converged Wireless Access

- Initialize a Converged WCM
- AP Connectivity
- Explore Additional Wireless Features
- Configure Client Access
- Implement Roaming in the Converged Architecture

Module 6: Implement Small and Remote Wireless Access

- FlexConnect Architecture
- Autonomous Architecture
- Cloud Architecture

Module 7: WLAN Maintenance and Troubleshooting

- Wireless Maintenance
- Troubleshooting Tools
- Troubleshooting Methodology

Module 8: WLAN Design

- Predictive WLAN Design Process
- WLAN Site Survey Process

LAB OUTLINE

- Lab 1: Configure Windows 7 Client Access
- Lab 2: Configure the Wired Infrastructure
- Lab 3: Configure the Centralized WLN Deployment
- Lab 4: Configure IPv6 Operation in a Centralized WLAN Deployment
- Lab 5: Configure Security in a Centralized WLAN Deployment
- Lab 6: Configure Guest Access Using the Anchor WLC
- Lab 7: Deploy a Converged Access WLAN
- Lab 8: Configure Security on a Converged WLAN Deployment
- Lab 9: Implement a FlexConnect WLAN Deployment
- Lab 10: Initialize an Autonomous WLAN Deployment
- Lab 11: Configure Security on an Autonomous AP WLAN Deployment
- Lab 12: Configure Security on a Cloud WLAN Deployment
- Lab 13: Perform Centralized Controller Maintenance
- Lab 14: Perform Wi-Fi Scanning
- Lab 15: Challenge: Various Trouble Tickets
- Lab 16: Perform a Predictive WLAN Design
- Lab 17: Perform Passive Site Survey Analysis