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## Aironet Wireless LAN Fundamentals and Site Survey v6.0

Keyword: AWFSS

4 Days – List Price \$2,795

### Course Description

This course is instructor-led training and includes instructor assisted, hands-on labs. Learn to design, install, and support wireless networks and perform site surveys. In this four-day course, you will examine the fundamentals of WLAN technology, and providing the foundation for designing and installing a Cisco Wireless Network. Through detailed lecture and hands-on labs, you will receive an introduction to WLAN applications in specific markets and topologies while considering design concerns, essential equipment, configuration, network management, security and site survey techniques. While you will be introduced to the lightweight access points, controllers and the advanced feature of the Cisco Unified Wireless Network, the labs focus on the Cisco standalone architecture and core feature set.

Laptops are provided to participate in the hands-on labs. If you desire to use your own laptop, please bring a laptop computer with an available 32-bit CardBus slot and an Ethernet port as well as an internal wireless NIC, 802.11a/b/g. The laptop's operating systems must be either MS Windows 2000 (SP4) or XP. The laptop should also have a 9-pin serial port or USB to serial adapter. IN ADDITION, you will need administrator rights to the laptop to install drivers for the wireless client used in class.

### You Learn...

After completing this course, the student should be able to:

- Describe radio frequencies used in WLAN applications
- Explain how antennas work and what antennas Cisco offers
- Identify components, topologies, and the use of channels for WLANs
- Describe detailed technical features, functions, and benefits of the WLAN product offerings available
- Select the appropriate wireless bridge model and describe how it offers a better solution than the other alternatives
- Configure a Cisco client card with Cisco utilities
- Describe basic configuration processes for bridges and access points
- Secure a WLAN using security methods and products available from Cisco
- Implement a WLAN management solution available from Cisco
- Describe the requirement necessary for deployment and performing a site survey
- Describe the steps, concepts, and tools available while performing a site survey

### Who Would Benefit

The Aironet Wireless LAN Fundamentals and Site Survey course is targeted to technical engineers, network integrators and technical sales personnel, who need to know how to sell, design, install, support wireless networks or who are tasked with performing or overseeing site surveys for wireless LAN solution implementations.

Prerequisite

*There are no recommended prerequisites for this course*

### Follow-On Courses

- Cisco Unified Wireless Networking (CUWN)
- Cisco Wireless Mesh Networking (CWMN)
- Cisco Wireless LAN Advanced Topics (CWLAT)
- Cisco Wireless LAN Security (CWLS)
- Cisco Advanced Wireless Bridging Lab (CAWBL)
- Cisco Wireless Networking Site Survey (CWNSS)

- Cisco Voice over Wireless LAN (VoWLAN)

## Aironet Wireless LAN Fundamentals and Site Survey v 6 – continued p.2

### Course Content

#### Module 0 -- Course Introduction

#### Module 1 -- Wireless LAN Radio Technologies

- Unlicensed Radio Frequency Bands and Standards
- Spread Spectrum RF Technology and Modulation Techniques for 802.11
- Multipath Distortion and Diversity

#### Module 2 -- Antenna Concepts

- Antenna Theory
- Antenna Regulation Compliance
- Common Antenna Deployment Questions

#### Module 3 -- Wireless LAN Topologies

- Wireless LAN Technology Features
- Channels and Multi-rate Shifting
- Wireless Mesh Networking

#### Module 4 -- Cisco Aironet WLAN Products

- Wireless LAN Access Points, Bridges, Antennas and Accessories
- WLAN Clients
- WLAN Network Management, Control, and Services
- Access Point Enterprise-Class Features

#### Module 5 -- Wireless Bridges

- Wireless Bridges and Alternatives
- Roles in Radio Network
- Bridge Path Information
- Outdoor Bridge Range Calculation Utility (Lab 5-1)

#### Module 6 -- Aironet Desktop Utility

- Configuration Utilities
- Installing and Configuring Aironet Desktop Utility
- Client Configuration (Lab 6-1)

#### Module 7 -- Core Access Point and Bridge Basic Configuration

- Setting up Autonomous Access Point Hardware
- Configuring the Access Point
- Managing the Access Point
- Setting up and Configuring the Bridge
- Channel, and Data Rates for an Access Point (Lab 7-1)

- Restore the Access Point to Default Data Rates (Lab 7-2)
- Test Throughput to a Lab Server using FTP (Lab 7-3)

#### Module 8 -- Security

- Introducing 802.11 Security
- Defining Vulnerabilities of WLAN Security
- Introducing the Cisco Wireless Security Suite
- Configuring Cisco Secure ACS
- Configuring Encryption and Authentication on Autonomous Access Points
- Configuring Encryption and Authentication on Lightweight Access Points
- Configure the Wireless Client Card and Access Point for WEP (Lab 8-1)
- Configure the Access Point and Cisco Secure for LEAP (Lab 8-2)
- Configure the Access Point for LEAP with WPA Encryption (Lab 8-3)
- Configure the Access Point and Cisco Secure ACS to add MAC Address Authentication to LEAP Authentication (Lab 8-4)

#### Module 9 -- Site Survey Preparation and Techniques

- Determining the Deployment Requirements for a Site Survey
- Performing a Site Survey

#### Module 10 -- Manual Site Survey Tools and Utilities

- Identifying Site Survey Tools
- Using Site Survey Utilities
- Using AirMagnet Site Survey Tool for a Manual Survey