

Certified Wireless Specialist (CWS) Training

Course Contents

Understanding Radio Frequency (RF)

- Understanding the essential characteristics of Radio Frequency transmissions
- How do RF signals move through an environment?
- Understanding the RF bands used for Wi-Fi
- RF channels and Channel Plans

IEEE 802.11 Standards and Amendments

- From 802.11 to 802.11ax and beyond
- What are DSSS, OFDM, ERP, HT, VHT and HE?
- What are the capabilities of each standard
- Understanding the basic Physical layer (PHY) characteristics

Wi-Fi Equipment

- The role and functions of Wireless Access Points (APs)
- AP features and capabilities
- Standalone, controller-based, branch and controller-less APs
- Understanding AP management
- Understanding Wi-Fi antennas
- Choosing between WLAN antenna types

Wireless Clients

- Understanding the capabilities of Wi-Fi client devices
- Discovering client devices and the applications in use
- Understanding the loads that Wi-Fi clients place on networks

Outdoor Wireless Bridge Links

- PTP versus PtMP
- How fast and far can we go with wireless links?
- Wireless link reliability

- Overview of Mesh networks

Wi-Fi Network Performance

- Factors that affect Wi-Fi network performance
- The Wi-Fi client perspective
- What affects Wi-Fi network capacity?
- The requirements for VoWLAN (Voice over Wi-Fi)

WLAN Security, BYOD and Guest Access

- Understanding WPA, WPA2 and WPA3 security
- Understanding Captive Portals (and splash pages)
- What are BYOD and MDM?
- Determining the best solution for BYOD and Guest Access

Enhanced 802.11 Functions

- Understanding the more advanced features of 802.11n, 802.11ac and 802.11ax
- What are the requirements for fast and secure roaming?

Understanding Wi-Fi Site Survey

- What's wrong with most Wi-Fi site surveys today?
- Why too many Wi-Fi networks fail to deliver
- The 7 types of Wi-Fi site survey
- What should a real Wi-Fi site survey involve?