



Training: CWNP  
CWS Certified Wireless Specialist



## TRAINING GOALS:

The Certified Wireless Specialist (CWS) is a certification that validates the knowledge of wireless sales, marketing, entry-level support, and decision-making professionals related to 802.11 wireless networks.

The learning materials explain the language of Wi-Fi as well as the typical hardware and software used in wireless local area networks (WLANs). From radio frequency (RF) to Wi-Fi client devices, the CWS learns the terminology and processes of Wi-Fi.

Who should attend?

The Certified Wireless Specialist (CWS) is a certification that validates the knowledge of wireless sales, marketing, entry-level support, and decision-making professionals related to 802.11 wireless networks.

***Each participant in an authorized CWNP CWS training held in Compendium CE will receive a free CWS-102 Certified Wireless Specialist Exam voucher.***

## CONSPECT:

- Understand Basic RF Characteristics
  - Identify RF characteristics
    - RF waves
    - Amplitude
    - Frequency
    - Wavelength
  - Explain basic RF behaviors
    - Reflection
    - Absorption
    - Signal strength
  - Understand antenna types
    - Omnidirectional
    - Semi-directional
    - Highly directional
    - Internal vs. external





- Identify Wireless Networking Features and Functions
  - Know the frequency bands used by common wireless protocols
    - Sub-1 GHz
    - 4 GHz
    - 5 GHz
    - 6 GHz
    - Above 7 GHz
  - Identify Physical Layer (PHY) characteristics
    - Data rates
    - Channel widths and center frequencies
  - Select appropriate channels
    - Channel selection best practices
    - Common channel selection mistakes
  - Identify factors impacting wireless network performance
    - Coverage or link requirements
    - Capacity requirements
    - Required features
    - Poor configuration and implementation
  - Explain the basic security solutions used
    - Authentication and key management
    - Encryption
- Identify Wireless Hardware and Software
  - Identify APs, coordinators, gateways, and controller features and capabilities
    - Routing
    - Security
    - Network management
    - Connection interfaces
    - Device management solutions
    - Internal and external antennas
    - PoE support
  - Describe wireless network management systems
    - Autonomous
    - Controller
    - Cloud
    - Custom or third-party management systems
  - Determine capabilities of network client or IoT devices





- Protocol support
- Power provisioning
- Sensor support
- Security options
- Mobile vs. stationary
- Identify when Power over Ethernet (PoE) should be used
- Understand the basic requirements for voice over wireless networks
  - Latency
  - Jitter
  - Signal strength
  - Determine the best solution for BYOD and guest access in wireless LANs
  - User provisioning
  - Captive portals
  - Device and software control solutions
- Understand Organizational Goals
  - Understand issues in common vertical markets
    - Standard Enterprise Offices
    - Healthcare
    - Hospitality
    - Conference Centers
    - Education
    - Government
    - Retail
    - Industrial
    - Emergency Response
    - Temporary Deployments
    - Small Office/Home Office (SOHO)
    - Public Wi-Fi
  - Identify information sources related to existing networks
    - Network diagrams
    - Wi-Fi implementations
    - IoT network implementations
    - Neighbor networks
    - Available network services
    - PoE availability
  - Discover coverage/link and capacity needs from a functional perspective





- Define coverage areas
- Define capacity zones
- Define link requirements
- Discover client devices, IoT devices, and applications in use
  - Laptops, tablets, mobile phones, desktops, and specialty devices
  - Real-time applications
  - Standard applications (e-mail, web browsing, database access, etc.)
  - Data-intensive applications (file downloads/uploads, cloud storage, cloud backup, etc.)
  - IoT sensors
  - IoT actuators
- Determine the need for outdoor coverage networks, outdoor IoT connections, and bridge links
  - Bridge link distance and required throughput
  - Outdoor areas requiring coverage
  - Use cases for outdoor access
  - Outdoor IoT connectivity options
- Define security constraints
  - Regulatory
  - Industry standards and guidelines
  - Organizational policies
- Discover use cases and access types
  - Authorized users
  - Onboarded guest access
  - Public Wi-Fi
  - Monitoring and control (IoT devices)
- Match organizational goals to wireless network features and functions

## REQUIREMENTS:

Students should have basic networking knowledge, including understanding of the OSI Reference model.

## Difficulty level





## CERTIFICATE:

The participants will obtain certificates signed by Compendium CE (course completion).

The CWS certification is an entry-level WLAN certification from the vendor-neutral CWNP organization that brought you CWNA and other advanced certifications. To earn the CWS certification, you must pass an online exam with a score of 70% or higher. Those desiring to work as instructors teaching CWS classes must pass with a score of 80% or higher. Regardless of the way you choose to prepare for the CWS exam, you should start with the exam objectives, which cover the full list of knowledge tested on the exam. The CWS is a three-year certification, and it is renewed by passing the most recent version of the CWS exam again.

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## TRAINER:

Authorized CWNP Trainer.

