Enterprise Wi-Fi Fundamentals, CWTS Certification

Category: Infrastructure & IT Operations | **Vendor:** CWNP

Duration: 16.00 hours (2 days) **13.0 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format:	Instructor Led - Online
Certification:	Certified Wireless Technology Spectialist (CWTS)

Course Overview

The \tEnterprise Wi-Fi Fundamentals, CWTS Certification v1.0 course provides the networking professional a foundation of knowledge for entering into or advancing within the wireless networking industry. From basic RF theory and regulatory requirements to implementation of WLAN devices, this course focuses on bringing Wi-Fi sales and support professionals up-to-speed on the latest in 802.11 technologies in a practical way.

This comprehensive look at the essentials of Wireless Networking comes with all you need to take and pass the Certified Wireless Technology Spectialist (CWTS) Certification:

- 2 days of training from a certified expert
- comprehensive Practice Exams
- Mentor support by a certified expert
- "Exam Cram" Session
- 1 Exam voucher, to be taken at a VUE test center near you

About This Course

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Who Should Attend

This fundamental course on Wireless LAN technology is intended for Wi-Fi sales professionals, project managers and network professionals new to Wi-Fi.

Prerequisites & Entry Requirements

General Prerequisites:

There are no formal prerequisites for attending this class

Learning Outcomes

Upon successful completion of this course, participants will be able to:

Upon completing of this course, you will develop skills and knowledge to meet the following objectives:

- Network Fundamentals
- Wi-Fi Organizations and Standards
- Wi-Fi Hardware & Software
- Wi-Fi Security & Compliance
- Wi-Fi Site Surveying
- Wi-Fi Operational Concepts
- Applications over wirless, Support, and Troubleshooting
- Radio Frequency (RF) Fundamentals
- Spread Spectrum Concepts
- RF Antenna Concepts
- WLAN Accessories

Detailed Course Outline

Introduction to Networking

- Understanding Network Models
- Understanding Protocols
- SDU
- PDU
- OSI – The de facto reference model
- The seven layer model
- Equipment per layer
- Mapping other protocols into the OSI model

- TCP/IP – four layer model

Wi-Fi Organizations and Standards

- Regulatory Bodies
- IEEE
- Wi-Fi Alliance
- WLAN Connectivity
- WLAN Security
- WLAN QoS & Power-Save
- IEEE 802.11 Standards,
- Amendments, and Drafts
- 802.11-2007
- 802.11a/b/g
- 802.11e/h/i
- 802.11n Draft

Wi-Fi Hardware & Software

- Access Points
- Lightweight
- Autonomous
- WLAN Routers
- WLAN Bridges
- WLAN Repeaters
- WLAN Controllers/Switches
- Direct-connect APs
- Distributed-connect APs
- PoE Infrastructure
- Midspan

- Endpoint
- Client hardware and software
- Antenna types and uses

Wi-Fi Security & Compliance

- 802.11 Legacy Security Methods
- Encryption – TKIP/CCMP
- Authentication Passphrases & 802.1X/EAP
- WPA/WPA2-Personal
- WPA/WPA2-Enterprise
- WPS Pushbutton/ PIN
- Role-Based Access Control (RBAC)
- VPN Security
- Wireless Intrusion
- Protection Systems (WIPS)
- PCI Compliance
- HIPAA Compliance
- Enforcing Compliance

Wi-Fi Site Surveying

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- Information gathering and reporting
- Multiple Channel Architecture (MCA) cell planning basics
- Single Channel Architecture (SCA) cell planning basics
- Predictive Site Survey
- Manual Site Survey
- Passive Survey

- Active Survey
- Mesh Access Layers
- Use of Analyzers
- Protocol
- Survey
- Spectrum
- Identifying and locating RF interference sources
- Wi-Fi vs. Non-Wi-Fi
- Hardware placement limitations
- Best practices for antenna use

Wi-Fi Operational Concepts

- Range, coverage, and capacity
- Frequencies/channels used
- Channel reuse and co-location
- Active and passive scanning
- Power saving operation
- Data rates and throughput
- Dynamic rate selection
- Authentication and association
- The distribution system and roaming
- Infrastructure and ad hoc modes
- BSSID and ESSID
- Protection mechanisms

Applications, Support, and Troubleshooting

- Installation/configuration of common network types
- Small Office / Home Office (SOHO)

- Extension of existing networks into remote locations
- Building-to-building connectivity
- Public wireless hotspots
- Mobile office, classroom, industrial, and healthcare
- Municipal and law-enforcement connectivity
- Corporate data access and end-user mobility
- Last-mile data delivery (WISP)
- Transportation networks
- Recognize and troubleshoot wireless network problems
- Decreased throughput
- Intermittent or no connectivity
- Weak signal strength
- Device upgrades
- Wi-Fi Network Optimization Procedures
- Infrastructure hardware selection and placement
- Identifying, locating, and removing sources of interference
- Client load-balancing
- Analyzing infrastructure capacity and utilization
- Multipath and hidden nodes

Radio Frequency (RF) Fundamentals

- Units of RF measurements
- Factors affecting network range and speed
- Environment
- Line-of-sight
- Interference
- Defining differences between physical layers
- OFDM
- HR/DSSS
- MIMO

Spread Spectrum Concepts

- OFDM & HR/DSSS channels
- Co-location of HR/DSSS and OFDM systems
- Adjacent-channel and co-channel interference
- WLAN / WPAN co-existence
- CSMA/CA operation half duplex

RF Antenna Concepts

- Passive gain
- Beam widths
- Simple diversity
- Polarization
- Antenna Mounting
- Pole/mast mount
- Ceiling mount
- Wall mount

WLAN Accessories

- RF cables
- RF connectors
- Lightning arrestors and grounding rods

Classroom Demonstrations

- AP/Client Connectivity with WPA2-Personal Security and PoE Power

- Spectrum Analysis of RF Environment

- Protocol Analysis of RF Environment

- Configuration Parameter Modification in an Enterprise-Class Autonomous AP

Skills You Will Learn:

Upon completing of this course, you will develop skills and knowledge to meet the following objectives:

- Network Fundamentals
- Wi-Fi Organizations and Standards
- Wi-Fi Hardware & Software
- Wi-Fi Security & Compliance
- Wi-Fi Site Surveying
- Wi-Fi Operational Concepts
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Frequently Asked Questions

Q: What delivery options are available for Enterprise Wi-Fi Fundamentals, CWTS Certification?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: What certification does this course prepare me for?

The Enterprise Wi-Fi Fundamentals, CWTS Certification course helps prepare you for the Certified Wireless Technology Spectialist (CWTS) certification path.

Q: How many CPD hours does this course provide?

The 2-day Enterprise Wi-Fi Fundamentals, CWTS Certification course provides up to 13.0 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Enterprise Wi-Fi Fundamentals, CWTS Certification training?

The training takes place over 2 day(s), with each day lasting approximately 16.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Enterprise Wi-Fi Fundamentals, CWTS Certification?

Yes, we provide corporate training, dedicated training, and closed classes for Enterprise Wi-Fi Fundamentals, CWTS Certification. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Enterprise Wi-Fi Fundamentals, CWTS Certification, Administrator Level, CWTS

Q: Why choose Nexus Human for Enterprise Wi-Fi Fundamentals, CWTS Certification?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Enterprise Wi-Fi Fundamentals, CWTS Certification training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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