

Certified Wireless Network Administrator

A 5 day **Hands on** training course



Description

A hands-on course focusing on the technical support of WiFi. Wireless LANs are often seen as simple communications that are simply installed and then left alone to work. This course ensures that delegates will be able to install WiFi networks which work but also enable the delegates to troubleshoot WiFi when it does go wrong.



Key outcomes

By the end of the course delegates will be able to:

- ✓ Compare 802.11 standards.
- ✓ Configure WiFi networks.
- ✓ Troubleshoot WiFi networks using spectrum analysers, Wireshark and other tools.
- ✓ Implement 802.11 security.
- ✓ Perform RF surveys.



Training approach

This structured course uses Instructor Led Training to provide the best possible learning experience. Small class sizes ensure students benefit from our engaging and interactive style of teaching with delegates encouraged to ask questions throughout the course. Quizzes follow each major section allowing checking of learning. Hands on sessions are used throughout to allow delegates to consolidate their new skills.



Details

Who will benefit?

Technical staff working with WiFi networks.
Anyone wishing to pass the CWNA exam.

Prerequisites

Introduction to data communications & networking.

Duration: 5 days

Customer rating: ★★★★★

Generic training



Generic training compliments product specific courses covering the complete picture of all relevant devices including the protocols "on the wire".

"Friendly environment with expert teaching that teaches the why before the how."
G.C. Fasthosts

Small class sizes



We limit our maximum class size to 8 delegates; often we have less than this. This ensures optimal interactivity between delegates and instructor.

"Excellent course. The small class size was a great benefit..."
M.B. IBM

Hands On training



The majority of our courses use hands on sessions to reinforce the theory.

"Not many courses have practice added to it. Normally just the theoretical stuff is covered."
J.W. Vodafone

Our courseware



We write our own courses; courseware does not just consist of slides and our slides are diagrams not bullet point text.

"Comprehensive materials that made the course easy to follow and will be used as a reference point."
V.B. Rockwell Collins

Customise your course



Please contact us if you would like a course to be customised to meet your specific requirements. Have the course your way.

"I was very impressed by the combination of practical and theory. Very informative. Friendly approachable environment, lots of hands on."
S.R. Qinetiq

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Course content

Introduction

History, standards.

RF fundamentals

What is RF? Wavelength, Frequency, Amplitude, Phase. Wave behaviour. RF components. Watts, mW, dB, SNR, Link budgets. Hands on: Spectrum analysis. Listing WiFi networks. WiFi connection. inSSIDer.

Antennas

Radiation envelopes, polar charts, gain, Antenna types. Line of Sight, MIMO. Hands on: Connecting, installing, changing antennae. RSSI values.

802.11

802.11-2007, 802.11 post 2007, 802.11 drafts. 802.11 b/g/n. Hands on: WiFi performance measurement.

Spread Spectrum

RF frequency bands, FHSS, DSSS, OFDM. Channels. Hands on: Configuring channels.

Topologies

Mesh, Access points, distribution systems, SSID. Hands on: AP configuration. Client connection profiles.

802.11 MAC

CSMA/CA, Management frames, control frames, data frames. Passive scanning, active scanning. Open system authentication. Shared Key authentication. Association. RTS/CTS. Power management. Hands on: Capturing frames, analysing frames.

WiFi architecture

WiFi client, WLAN architecture: Autonomous, Centralised, distributed. WiFi bridges. WiFi routers. PoE. Hands on: WLAN controllers.

Troubleshooting

RF interference, multipath, adjacent channels, low SNR, mismatched power. Coverage, capacity.

802.11 Security

Basics, Legacy security: WEP, MAC filters, SSID cloaking. PSK, 802.1X/EAP, WPA/WPA2. TKIP/CCMP encryption. Guest WLANs. Wireless attacks, intrusion monitoring. Hands on: WEP cracking, WPA2 configuration. RADIUS.

RF Site surveys

Protocol and spectrum analysis, coverage analysis. Site survey tools. Hands on: Performing a site survey.

