

CWNA COURSE



The **CWNA (Certified Wireless Network Administrator) Course** prepares students for a career in wireless technologies by preparing students for the CWNP PW0-104 Certified Wireless Network Administrator (CWNA) Examination.

The CWNA is an entry-level qualification for IT professionals who are new to wireless networking. It is designed for beginners who want to learn about Wireless Networking as well as for those already working in the industry, who wants to brush up on their knowledge.

The CWNA is part of the CWNP (Certified Wireless Network Administrator) Program. The CWNP Program is the industry standard for vendor-neutral wireless LAN training and certification.

The CWNP Program is an international IT industry credential that provides a standard by which customers and managers can objectively measure the wireless expertise and knowledge of IT professionals. To date, there are CWNP certified individuals in over 75 countries.

Course Objectives:

After completing this course student's will know how to:

- Explain how wireless technology is used every day in education, business, travel, and a variety of industries, and identify the advantages and disadvantages of wireless networks.
- List and explain the types of devices that are used in a wireless network, and describe wireless standards organizations and regulatory agencies.
- Describe the principles of radio wave transmission, describe how radio frequency works and can be measured, and identify antennas and the role they play in wireless transmissions.
- Identify wireless modulation schemes, and identify the Physical layer standards of the IEEE 802.11b/a/g/pre-N networks.
- Identify the different types of WLAN configurations, and explain how IEEE 802.11 MAC and Network layers are implemented.
- Plan for a WLAN, design and deploy the network, and provide user support.
- Explain the process of surveying a site for a WLAN, and identify the tools and procedures used to gather data and perform the survey.
- Define wireless security and basic security protections of the IEEE 802.11 standard, identify the vulnerabilities of the IEEE 802.11 standard, and identify types of attacks that are launched against wireless networks.
- Identify the three models that should be used for securing a WLAN.
- Monitor and maintain a WLAN, and explain the importance of a wireless security policy.
- Identify the wired network connection between a wireless network and a wired network, and troubleshoot and solve problems with WLANs.
- Identify types of wireless networks besides LANs, and identify trends in the future of wireless networks.

Price:
£200.00

Instalment Options:
You can spread the payments for this course over 4 monthly payments. 1 initial payment of £80.00, followed by 3 monthly payments of £40.00.

Course Format:
Course Book & Online Practice Exams

Assessment:
CWNA PW0-104 Examination

Approximate Study Time:
80 Hours of Self Study

The CWNA course consists of the following items:

➤ **CWNA Course Book**

This book is intended to meet the needs of students and professionals who want to master wireless local area networks. It is also designed to prepare you for the Certified Wireless Network Administrator (CWNA) exam.

The course book covers the following Units:

- **Unit One – The Wireless World**

The following topics are covered: Wireless users; Viewing a WAP emulator; Wireless technologies; Identifying wireless technologies; Wireless LAN applications; Wireless technology uses; Wireless advantages and disadvantages; and Advantages and disadvantages of wireless.

- **Unit Two – Wireless LAN Devices and Standards**

The following topics are covered: WLAN devices; Installing a wireless NIC; Connecting to a Cisco Aironet 1200 that receives an IP address from a DHCP server; Connecting to a Cisco Aironet AP using IPSU; Connecting to a Cisco AP using telnet; Setting up a Linksys AP; Standards; Standards and IT; Wireless standards organisations and regulatory agencies; Identifying wireless standards organizations; Identifying wireless regulatory agencies; Types of wireless LANs; and Comparing access points.

- **Unit Three – How Wireless Works**

The following topics are covered: Radio wave transmission principles; Exploring radio wave transmission principles; Discussing wireless pioneers; CWNA: Wireless LAN Administration Activity-Level Outline; Radio frequency behavior and measurement; Evaluating radio frequency loss with Cisco wireless utilities; RF math and measurements; Computing RF behavior; Antennas; Modifying AP transmit power and antenna diversity; and Using Windows wireless zero configuration.

- **Unit Four - IEEE 802.11 Physical Layer Standards**

The following topics are covered: Wireless modulation schemes; Comparing DSSS and FHSS; Adjusting Cisco data rates; Detecting wireless networks with NetStumbler; Changing Linksys IEEE settings; IEEE 802.11 physical layer standards; Exploring IEEE 802.11g compromises; Researching ways to reduce interference; and Examining conflicts over frequency usage.

- **Unit Five - IEEE 802.11 MAC & Network Layer Standards**

The following topics are covered: IEEE Wireless LAN configurations; Comparison of WLAN configurations; IEEE 802.11 Media Access Control layer standards; Adjusting Cisco MAC layer settings; Viewing SSID and authentication settings; Setting QoS in Cisco WLAN; Viewing Linksys MAC layer settings; WLAN Network layer standards; and Discussing the current state of mobile IP.

- **Unit Six – Planning & Deploying a Wireless Network**

The following topics are covered: Planning for a wireless network; Calculating WLAN benefits; Designing the wireless LAN; Troubleshooting wireless roaming; Viewing channel numbers on a Cisco access point; Viewing channel numbers on a Linksys access point; Deploying a wireless network; Determining costs of deploying a wireless network; Providing user support; and Designing a training plan for wireless users.

- **Unit Seven – Conducting a Site Survey**

The following topics are covered: Site survey tools; Identifying what a site survey is; Identifying site survey tools; Performing a site survey; Using a basic site survey tool; Performing a site survey using NetStumbler; Using Windows as a site survey tool for Linksys wireless networks; and Creating a site survey form.

- **Unit Eight – Wireless LAN Security & Vulnerabilities**

The following topics are covered: Security principles; Identifying security concepts; Basic IEEE 802.11 security protections; Setting a MAC address filter on Cisco AP; Setting a MAC address filter on a Linksys AP; Vulnerabilities of IEEE 802.11 security; Spoofing a MAC address using SMAC; Setting WEP on a Linksys AP; Other wireless attacks; and Discussing the latest wired and wireless attacks.

- **Unit Nine – Implementing Wireless LAN Security**

The following topics are covered: Wireless security solutions; Setting Dynamic WEP keys on Cisco access point; Investigating IEEE security vulnerabilities; Transitional security model; Setting Cisco migration mode; Personal security model; Setting a pre-shared key on Linksys AP; Discussing how AES works; Enterprise security model; and Setting up a Windows VPN client.

- **Unit Ten – Managing a Wireless LAN**

The following topics are covered: Monitoring the wireless network; Viewing Cisco access point information; Setting Cisco SNMP options; Maintaining the wireless network; Updating Linksys firmware; Boosting the access point signal; Establishing a wireless security policy; Enabling Linksys logging; and Discussing wireless security policies.

- **Unit Eleven – Network Settings and Wireless LAN Troubleshooting**

The following topics are covered: Wired network settings for wireless connections; Viewing Ethernet settings; Exploring the Mobile IP process; Viewing Mobile IP settings; Troubleshooting wireless networks; Using the Windows Connect Now tool; Viewing 802.1 authentication options; and Troubleshooting wireless connections.

- **Unit Twelve – Personal, Metropolitan, & Wide Area Wireless Networks**

The following topics are covered: Wireless personal area networks; Discussing personal area networks; Enabling IrDA transmissions on notebook computers; Transferring a file using IrDA; Setting access restrictions on a Linksys access point; Wireless metropolitan area networks; Exploring wireless MAN technologies; Wireless wide area networks; Identifying wireless WAN technologies; The future of wireless networks; and Discussing the future of wireless networks.

- **Appendix**

The following Appendix are covered: CWNA exam objectives; Setup options for Cisco Aironet access points; Cisco access point configuration settings; Linksys access point configuration settings; Wireless Web sites; and IEEE Committees.

➤ **CertBlaster Online Exam Preparation Software**

The course comes with DTI Publishing's Online CertBlaster exam preparation software absolutely free.

CertBlaster® is a powerful certification preparation tool that simulates the conditions of the exams students prepare for. **CertBlaster®** offers four practice modes and all the different question types required to simulate all the exams.

CertBlaster covers mock examination questions in multiple choice or multiple answer formats. This software is the perfect addition to help prepare for your exam.

Pre-Requirements:

Before taking this course, you should be familiar with personal computers and the use of a keyboard and a mouse. Furthermore, this course assumes that you have basic knowledge of computers networks.

The CWNA syllabus is based around the Windows XP Professional Operating System and to complete the practical elements of this course, students would require access to multiple PC's as well as the following networking equipment:

- Cisco Aironet 1100 or 1200 series access point with an 802.11b, a, or g radio installed
- Linksys G Wireless-G router
- Wi-Fi certified IEEE 802.11b, a, or g wireless network adapter (the adapter standard must match that of the access point)
- Cisco Aironet IEEE 802.11b, a, or g Wireless CardBus Adapter
- USB flash drive
- Network computers with IrDA ports

Free downloadable software is also required throughout the course. Instructions for downloading the software are given in each unit.

Course Duration & Support:

Students may register at any time. The courses are designed as self-study courses but if you have any problems you can email our email support. As the course is self study you can complete in as little or as long a time as you prefer, and we do not impose a cut-off date for study.

Assessment:

Assessment is from the CWNA PW0-104 Examination. The Examination has 60 questions in a multiple choice/multiple answer format and lasts for 90 minutes. The passing score for students is 70%.

The following provides the breakdown of the exam as to the weight of each section of the exam.

Subject Area	% of Exam
Radio Frequency (RF) Technologies	21%
IEEE 802.11 Regulations and Standards	12%
IEEE 802.11 Protocols and Devices	14%
IEEE 802.11 Network Implementation	21%
IEEE 802.11 Network Security	16%
IEEE 802.11 RF Site Surveying	16%

Qualification:

On completion of a Curriculum, you can apply for the Internationally Recognised **CWNA PW0-104** examination at any Authorised Pearson Vue Testing Centre. The examination fee is £105.00 +VAT.

You can locate testing centres and schedule appointments on their Website:

Pearson VUE - <http://pearsonvue.com/>

