

Technician



Certified Wireless Infrastructure Technician

BTEC Level 4 Award

The **Global Leader** in **Technical Education**
for the **Digital Infrastructure Industry**

Certified Wireless Infrastructure Technician (CWIT®)

5 DAY PROGRAM

Combined

50% Theory 50% Practical

Learner Profile

This program is designed for individuals experienced within the network infrastructure installation environment wishing to extend their hands-on practical skills, knowledge, qualifications and certifications in relation to generic wireless installation within diverse environments.

Pre-requisites

A minimum of two years installation experience within the network infrastructure sector is required. Successful completion of the Certified Network Cable Installer (CNCI®) program would be advantageous. If you would like to discuss your experience or suitability for this program please contact us.

Program Objectives

Successful learners will have the knowledge and practical skills to confidently install, test and certify installations in support of Wireless Ethernet and Small Cell applications in the WAN environment and other emerging networking technologies.

The CWIT® forms part of the Global Digital Infrastructure Education Framework which allows delegates to progress their knowledge, education and skills in line with their career within these fast moving industries. See cnet-training.com for details of the Global Digital Infrastructure Education Framework.

Program Requirements

Learners are required to bring a webcam enabled laptop or suitable device with unrestricted wireless internet connectivity, the latest internet browser and suitable applications for reading/annotating PDFs and editing standard office documents.

Qualification

- ▶ Internationally and industry recognised BTEC Level 4 Award Certified Wireless Infrastructure Technician

Certification

- ▶ Official Certified Wireless Infrastructure Technician (CWIT®) certification
- ▶ Use of CWIT post nominal title
- ▶ Use of the CWIT® logo
- ▶ Use of the official Certified Wireless Infrastructure Technician (CWIT®) Digital Badge

Certifications are a commitment to life-long learning and offer the perfect portal to ensure knowledge, skills and certification remain current and up-to-date. Each certification gained requires re-certifying every three years via an online learning management system.

Additional Awards

- ▶ Continual Professional Development (CPDs)
- ▶ 5 IEEE Continual Education Units (CEUs)

Certified Wireless Infrastructure Technician (CWIT®)

Program Overview

Plan and install a 100% wireless network coverage to facilitate high speed access for smart mobile devices. Using the latest wireless technologies ensure all users have comprehensive access at all times to benefit from a seamless roaming experience.

The five-day Certified Wireless Infrastructure Technician (CWIT®) is a comprehensive program perfect for those with 2-3 years' experience within network infrastructure who wish to extend their knowledge, practical hands-on skills, qualifications and certifications into the wireless infrastructure environment.

Learners will expand their knowledge and skills to gain a thorough understanding of current and emerging wireless networking technologies used for in-building wireless coverage. Methods used for connection to backbone networks also feature with explorations into the principles of microwave access radio, fibre systems and cable technologies such as DSL. The organisation and management of site records and wireless system test results through OEM software is also included.

Practical hands-on sessions are incorporated throughout this program, including a focus on advanced wireless infrastructure troubleshooting, wireless coverage surveys and network testing tools. The organisation and management of site records and wireless system test results through OEM software is also included. A certified CWIT® will be undaunted when dealing with escalations and problem resolution within a strategic wireless network project.

A certified CWIT® also considers the requirements for compliance, having a full understanding of national and international regulations, codes and standards. During the program learners will be provided a valuable opportunity to access the latest industry standards.

Following this program, you are encouraged to continue your professional development by advancing your knowledge and skills to gain further official certifications and qualifications by progressing through The Global Digital Infrastructure Education Framework which maps education programs to career advancement throughout the network infrastructure and data centre sectors.

The CWIT® program is classroom-based and led by one of CNet's expert Instructors.

CWIT® Benefits for Individuals

- ▶ New and improved technical skills, widening your scope of ability with up-to-date wireless technology
- ▶ Enhanced knowledge and skills to enable wireless network infrastructure to be planned with accuracy and confidence
- ▶ Knowledge of industry standards and best practice instils a right first-time approach increases quality, reduces time on task and improves customer satisfaction
- ▶ Greater job role flexibility to further enhance career opportunities

CWIT® Benefits for Businesses

- ▶ Ability to broaden product portfolio into wireless technology delivery
- ▶ Improve accuracy and planning reduces errors, risk and potential costs associated with re-work
- ▶ Ensure works are completed to the highest quality standards, reducing snagging and the time and cost of site re-visits
- ▶ Investment in the team, leads to greater loyalty, reducing potential recruitment time and cost to replace dissatisfied leavers

Certified Wireless Infrastructure Technician (CWIT®) Topics

CWIT®

Role of the CWIT® in:

- ▶ The core layer
- ▶ The distribution layer
- ▶ The access layer

Regulations, Standards, Codes, Organisations and Forums

- ▶ Wireless regulations, standards, codes and organisations
- ▶ Wireless trade organisations and forums
- ▶ Emerging wireless technologies and related standards

Fundamentals of Wireless Communications

- ▶ Wireless medium/ spectrum
- ▶ Advantages of the wireless solutions
- ▶ RF propagation
- ▶ Modulation schemes

Wireless Networking Principles

- ▶ Cellular, WLAN, PAN and Microwave technologies
- ▶ Femto/Pico/Micro and Macrocells
- ▶ WLAN types
- ▶ Frequency Bands and Channel Numbers
- ▶ Core Networks
- ▶ NMS vs. EMS
- ▶ CLI vs. GUI
- ▶ TX/RX Diversity, MIMO antenna schemes
- ▶ Remote Radio Head (RRH)
- ▶ PoE Switches
- ▶ Self-Organising Networks (SON)
- ▶ Network and Security Gateways
- ▶ Coverage and Capacity planning – overview
- ▶ Optimal positioning of RF units
- ▶ Standards

Planning for In-Building Installations

- ▶ On-site health & safety assessment
- ▶ Wireless infrastructure administration & floor plans
- ▶ Capacity & Coverage plans arising from use of planning tools
- ▶ Ethernet and fibre cable route planning
- ▶ Equipment mounting choices and types
- ▶ Iteration process – ideal vs. practical choices
- ▶ Rack space and equipment connection planning
- ▶ AC/DC planning
- ▶ Ventilation planning

In-Building Installations

- ▶ Structural support for wall and ceiling RF unit fixings
- ▶ Tools used for wall and ceiling fixings
- ▶ PPE, steps, ladders, towers used during mounting of RF units
- ▶ Installation of PoE switches and servers
- ▶ Connection and earth and AC/DC power
- ▶ Testing and connection of Ethernet and optical fibre cables
- ▶ Capturing MAC addresses & updating as-built documentation

In-Building Commissioning

- ▶ Powering up switches and servers
- ▶ Use of CLI and GUI
- ▶ Entry of initial parameters to enable SON
- ▶ Checks: RF coverage, handover, provision of service
- ▶ Optimisation of RF coverage through physical adjustments
- ▶ Use of test phone
- ▶ Documenting test results
- ▶ Typical troubleshooting: Ethernet/ fibre cable tests, pings.

Wireless Infrastructure Troubleshooting

- ▶ Identification of faulty RF units or PoE devices
- ▶ PoE testing
- ▶ Coverage testing using test phone
- ▶ Typical replacement procedures: RF units, switches, servers

There are case studies to be completed within the program time frame, one each in support of WLAN and Cellular wireless infrastructure planning and installation. There is an exam at the end of the program.

CWIT® Program Breakdown

