Install & Test Certification

Certified Network Cable Installer

2 x BTEC Level 3 Awards (Copper & Fibre)

Blended Learning through Remote Attendance and Practical Sessions

Customer Focused
Quality Driven

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

Shaping the future of the Network Infrastructure Sector

Certified Network Cable Installer (CNCI®)

Program Overview

Demonstrate the highest levels of knowledge, skills and competency in network cable infrastructure. Undertake copper and fibre cabling installation, termination and testing to the highest quality whilst complying to industry best practice and standards to ensure a right first-time approach.

The Certified Network Cable Installer (CNCI®) has become the industry preferred certification for network cable installation and is specified as a requirement on many job profiles and installation project contracts. In addition, manufacturers, major installation companies, associations and consultants endorse the certification knowing that it provides the right level of technical knowledge, competence and confidence to the industry. In recognition of the CNCI® certification many manufacturers also award accreditations towards their product warranties.

It's a comprehensive twelve-day program that blends a perfect mix of technical knowledge and practical activities for both copper and fibre component installation. Official CNCI® certification proves that an individual is certified to undertake network cable infrastructure projects to the highest calibre whilst working to the current national and international industry standards and industry best practice. During the program learners will be provided a valuable opportunity to access the latest industry standards.

Having successfully completed this program, and with the appropriate level of experience, it is highly recommended that you 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.

CNCI® Benefits for Individuals

- Become one of the elite certified network cable installers in the country
- Demonstrate the highest levels of knowledge, skills and expertise in network infrastructure installation
- Plan individual tasks and materials required accurately and with confidence
- Install copper and fibre network cable infrastructure projects on time and within budget, maximising profit potential

CNCI® Benefits for Business

- Confidence that employees have a full and rounded knowledge in network infrastructure installation, improving competency and productivity
- Reduced time and material wastage - employees can carry out tasks in an accurate and timely manner
- Delivering infrastructure installation projects to the highest quality standards resulting in increased client satisfaction and potential repeat business
- Meet contractual requirements reducing sign off and project hand over times

Certified Network Cable Installer (CNCI®)

12 DAY PROGRAM

Split into:

- **4 Day Copper Cabling Theory (via Remote Attendance)**
- **4 Day Optical Fibre Theory (via Remote Attendance)**
- **4 Day Practical Session**

Learner Profile

The CNCI® program is perfect for individuals wishing to acquire the very latest skills and knowledge to enable them to complete both copper and fibre cable installation projects to the highest standards. It is relevant to new entrants to the network cable infrastructure sector in addition to those already working within the cable installation environment wishing to formalise their knowledge and skills.

Pre-Requisites

No previous experience is required to attend this program.

Program Requirements

Learners are required to have 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.

Program Objectives

Successful learners will have the knowledge and skills to confidently install, test and certify a complete copper and fibre cable installation.

Qualification

On successful completion of both the theory and practical elements:

- Internationally and industry recognised BTEC Level 3 Award Certified Network Cable Installer (Copper)
- Internationally and industry recognised BTEC Level 3 Award Certified Network Cable Installer (Optical Fibre)

Certification

On successful completion of both the theory and practical elements:

- Official Certified Network Cable Installer (CNCI®) certification
- Use of CNCI post nominal title
- Use of the CNCI® logo
- Fluke CCTT® certification

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

On successful completion of both the theory and practical elements:

- Eligibility for an ECS (Electrotechnical Certification Scheme) Datacomms Specialist card
- Continual Professional Development (CPDs)
- 10 IEEE Continual Education Units (CEUs)

Certified Network Cable Installer (CNCI®) Topics

CNCI® Copper Cabling

Introduction to Structured Cabling
- Cable media types
- Network topologies
- Categories

LAN Hardware
- PC's, switches, routers

Installing Structured Cabling
- National and International standards
- Interpreting drawings
- Risk evaluation
- Working in containment routes
- Cable installation, cable termination
- Tool and equipment selection

Network Overview
- What is a network?
- Characteristics of a network
- Resource sharing

Signal Theory
- Electrical principals
- DC current principals
- Analogue v. digital

Health & Safety
- Legislation
- Workplace risk
- Electrical safety
- Working at heights
- Working in confined spaces

Standards
- Why standards?
- Standards bodies BSI, ISO, CENELEC, TIA/EIA
- Categories and classes

Fire Safety
- Why fire stop?
- Types of fire stopping
- Three pillars of fire stopping
- Construction Product Regulation (CPR)

Documentation & Labelling
- Floor plans
- Naming conventions
- Symbols
- Records

Testing & Commissioning
- Continuity testing
- Certification/acceptance testing
- Level IV testing
- Saving of results to database
- O&M manuals

Practical
- Patch cord manufacture
- Cable installation
- Termination techniques UTP/STP
- Patch panel/outlet termination, Cat 5e/Cat6

Fluke CCTT (Copper)
- Copper certification (DSX)
- Set up DSX
- Test using DSX
- Troubleshoot
- Test standards/limits
- DSX Diagnostics
- HDTDX and HDTDR

CNCI® Optical Fibre Cabling

Safely Working with Fibre/General Safety
- LED, VCSEL, laser safety
- Fibre preparation hazards, disposal of sharps
- Hazardous substances
- OSP safety, pits, gas detection
- General safety

Network Overview
- History of fibre
- Advantages
- What is a network?
- Benefits of a network
- Topologies
- Why a network?

Hardware
- Cable construction
- LED, VCSEL, laser sources
- Switches, routers, media converters

Theory of Light Transmission
- Optical windows
- Electromagnetic spectrum
- Transmission
- Media choice

Cable
- Construction
- Choice of cable
- Installation practices
- Patchcords

Enclosures
- ODF
- 19" Splice tray
- Slack fibre management, protection, patch field

Standards
- Standards bodies BSI, ISO, CENELEC, TIA/EIA
- Classifications
- Application distances

Connectors
- Connector types
- Functionality
- Density (SFF)

Outside Plant (OSP)
- Fibre backbone in the LAN
- Hardware
- Media choice

Fibre Splicing
- Safety
- Fusion splicer set up and operation
- Singlemode programs
- Multimode programs
- Splicing in patch panels

Fibre Termination
- Safety
- Pigtail manufacture
- Techniques, cold cure, mechanical splice, fusion splice
- End-face inspection techniques

Fluke CCTT (Fibre)
- Tier 1 fibre certification (CertiFibre® Pro)
- Tier 2 fibre certification (OptiFibre® Pro)
- Encircled Flux (EF)
- End face inspection
- Set a reference
- OTDR event types
- OptiFibre® Pro link testing

There are a number of individual practical activities and assignments leading to a group installation project.

> "The CNCI® program provides the perfect opportunity for us to get behind a recognised certification that provides the right level of technical knowledge and gives reassurance to customers. The feedback we have had from our staff that have attended the program has been excellent, even those with lots of experience have found the program challenging and rewarding."
>
> **OPERATIONS DIRECTOR**

> "This is a really good program. The content is comprehensive and relevant. The tutor is capable and knowledgeable with ample onsite experience to offer useful analogies and understands the issues faced by installers in the field."
>
> **PROJECT MANAGER**

> "The CNCI® program is comprehensive and at the depth that we were looking for, it also provides official certification and two level 3 qualifications as evidence of learning."
>
> **COURSE CO-ORDINATOR**
> **THE ROYAL CORPS OF SIGNALS**

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