

Design



Certified Network
Infrastructure
Design Professional

BTEC Level 5
Professional Award

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

8 DAY PROGRAM

Split into:

- ▶ 5 Day Core Unit (CNID®)
- ▶ 3 Day Professional Unit (CNIDP®)

Combined: 40% Theory 60% Practical

The CNIDP® Program consists of 172 pages of rich technical content.

Learner Profile

This program is designed for telecommunications and data communications engineers within the network cabling design and installation environment, and those wishing to extend their skills, knowledge, qualifications and certifications in relation to the planning and design of cable systems within different environments. Learners will have sound knowledge of copper and fibre optic cabling infrastructure and awareness of networks, inside plant and outside plant. They will also have an understanding of how relevant standards are applied to design.

Pre-Requisites

To attend this program, it is highly recommended that individuals have 5 years experience of working in the digital infrastructure sector, working in an installation or surveyor role. In addition, knowledge of current cabling and network standards will be required; research prior to attending the program will be of benefit. Relevant professional qualification(s) would also be advantageous.

Program Objectives

Successful learners will gain in depth knowledge and supporting skills to confidently deliver detailed design documentation and the process of evolving a customer Statement of Requirement (SOR) into an accurate and successful tender response document. Learners gain an understanding of the importance of national and international standards and can confidently apply them to design projects. Learners will also know how the tender document is processed and the assessment criteria involved.

Program Requirements

Learners are required to bring a laptop with internet connectivity.

Program Structure

The CNIDP® program is a classroom led program incorporating design exercises, led by one of CNet's expert Instructors.

Qualification

- ▶ Internationally and industry recognised BTEC Level 5 Professional Award Certified Network Infrastructure Design Professional

Certification

- ▶ Official Certified Network Infrastructure Design Professional (CNIDP®) certification
- ▶ Use of CNIDP post nominal title
- ▶ Use of the CNIDP® logo

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

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

Certified Network Infrastructure Design Professional (CNIDP®)

Program Overview

Learn how to complete a detailed campus network design project and deliver this to the market via an effective tender response.

The Certified Network Infrastructure Design Professional (CNIDP®) is a full and comprehensive program that equips network infrastructure professionals with the knowledge, skills and confidence to deliver complex infrastructure design projects from inception through to customer hand-over.

The importance of collaborative working with key stakeholders is also emphasised to ensure that the optimal internal and external network infrastructure solutions are delivered, offering flexibility and resilience across a wide range of services, ensuring that network performance is maximised to meet the customer's specified Key Performance Indicators (KPIs).

The core part of this program, the Certified Network Infrastructure Design (CNID®), explores the complex issues involved when designing whilst planning for both Inside Plant (ISP) and Outside Plant (OSP) network infrastructures examining the role of the designer and the multitude of disciplines required to deliver a multifaceted design to meet the customer requirements.

Learners will benefit from understanding the design life cycle (from concept to design completion), including the analysis of the customer needs, the site survey process and detailed structure of a final design document.

The professional part of this program, the Certified Network Infrastructure Design Professional (CNIDP®), is designed to significantly elevate the knowledge and skills of the learner within the project delivery life cycle. The program explores the complex issues involved in completing a response to a Request for Quotation (RFQ) or Invitation to Tender (ITT).

Learners will benefit from gaining an understanding of all aspects of the tendering process from RFQ/ITT through to Tender award, and will understand the importance of the bid evaluation process and appreciate the need for thorough, detailed and accurate submittals to the client's project team.

Elements such as calculating accurate project delivery costs, creating comprehensive implementation plan and handover criteria will be examined in detail and provide a thorough overview of all elements involved in producing a successful tender response document.

The CNIDP® also takes into account the requirements of the current BS EN, TIA and ISO standards.

During the program learners will also have access to current standards for reference purposes.

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

CNIDP® Benefits for Individuals

- ▶ Make effective design decisions based on detailed client requirements that demonstrates compliance with national and international standards
- ▶ Deliver detailed drawings that accurately depict network infrastructure components
- ▶ Generate a precise bill of materials detailing all infrastructure material requirements by type and quantity, including complex cost calculations
- ▶ Specify the requirements for project documentation in support of progression and closure

CNIDP® Benefits for Business

- ▶ A right-first-time approach that is technically accurate in all aspects
- ▶ Confidence that design decisions are clearly represented enabling the prospective client to assess technical compliance with the statement of requirements
- ▶ Costs are clearly and accurately communicated to the prospective client mitigating the risk of variations and change requests during implementation

Certified Network Infrastructure Design Professional (CNIDP®) Topics

Core Unit

Design Principles

- ▶ Assess requirements
- ▶ Information gathering
- ▶ CDMQ
- ▶ Constraints
- ▶ Capacity planning

Standards

- ▶ Standards organisations
- ▶ Cabling standards
- ▶ Installation standards
- ▶ Electrical standards
- ▶ Network and application standards
- ▶ Building Information Modelling (BIM)

Spaces & Working Areas

- ▶ Building Entrance Facility (BEF)
- ▶ Main Equipment Room (MER)
- ▶ Building Distributor (BD)
- ▶ Floor Distributor (FD)
- ▶ Horizontal/work area distribution

Site Survey

- ▶ Site survey process
- ▶ Greenfield and brownfield impacts
- ▶ Formulation of site survey report

Cabling Sub-systems (ISP & OSP)

- ▶ OSP cabling
- ▶ Backbone cabling
- ▶ Horizontal cabling
- ▶ Network cabling

Network Architecture

- ▶ Ethernet
- ▶ VoIP
- ▶ CCTV
- ▶ Wireless
- ▶ Access control
- ▶ Environmental management
- ▶ Fire alarms

Pathways & Containment

- ▶ Cable distribution systems
- ▶ Raised access floor
- ▶ Confined spaces
- ▶ OSP cable duct systems

Fire Stopping

- ▶ Types & specifications
- ▶ Mechanical and non-mechanical
- ▶ Regulations and testing

Bonding & Earthing

- ▶ Regulations
- ▶ Protective Earth (PE)
- ▶ Equipotential bonding
- ▶ Electrical and UPS

Test & Commission Specification

- ▶ Commissioning process
- ▶ Certification test methods
- ▶ Testing standards

Professional Unit

Understand the Design Process

- ▶ Roles of the design team
- ▶ Design stages
- ▶ Contracts
- ▶ Tools and traits for success

Customer Requirements Assessment

- ▶ Conducting customer interviews
- ▶ Identifying key stakeholders
- ▶ Needs analysis
- ▶ Scope, plan and schedule

ITT/RFQ Development

- ▶ RFP/RFQ objectives and structure
- ▶ Formulation of RFP/RFQ
- ▶ Scope review
- ▶ Bid submission
- ▶ Change management

Bid Evaluations & Contract Negotiations

- ▶ Bid evaluation techniques
- ▶ Shortlist interviews
- ▶ Contract negotiations
- ▶ Contract award

Project Execution

- ▶ Project delivery cycle
- ▶ Contractual and professional obligations
- ▶ Project scope and schedule
- ▶ Quality assurance/change management
- ▶ Installation and test sequences
- ▶ Communication plan
- ▶ Manage stakeholder expectations

Administration, Documentation & Plans

- ▶ Identification systems
- ▶ Test results and reports
- ▶ As-built documentation
- ▶ Hand-over process
- ▶ Warranty compliance

Commissioning & Closure

- ▶ Commission and test sequence
- ▶ Test results and documentation
- ▶ Snag/punch list process
- ▶ Customer handover
- ▶ Customer training
- ▶ Project closure process

Throughout this program learners will work on an individual campus based case study.