Certified Network Infrastructure Design Professional (CNIDP®) - 8 Day Program

Program Overview

The Certified Network Infrastructure Design Professional (CNIDP®) program is designed to arm telecommunications and data communications engineers with the full skill-sets, knowledge and industry recognised certification to complete detailed design and well planned telecommunications and data communications design projects.

The program explores the complex issues involved when designing whilst planning for both internal (ISP) and external (OSP) cabling infrastructures examining the role of the designer and the multitude of disciplines required for a multifaceted design tool meet the respective customer requirements.

Students benefit from a clear and detailed understanding of the design principles (from inception to commissioning and customer hand-over), including the analysis of the customer needs assessment and understanding the site survey process, thereby allowing them to comprehend and implement the design scope in addition to understanding the RFP/RFQ process for successful vendor selection.

The importance of working hand-in-hand with the architect and customer is also emphasised in relation to planning the optimal internal and external cabling infrastructure solutions to deliver flexibility and resilience across a wide range of services. This includes understanding the roles of the Design Team personnel, Architect, Mechanical & Electrical (M&E) Engineers, Consultants and Key Stakeholders. Whilst appreciating Building Automation Systems (BAS), Building Information Modelling (BIM), Building Automation Systems (BAS) plus considerations of Fire and Security Systems.

The program also introduces the complexity of conducting client interviews with all relevant Key Stakeholders to obtain the vital information regarding the project requirements allowing the formulation of the appropriate design solution. It also incorporates areas of inspection during the site surveys, in-depth examining of the physical limitations or constraints of the building, documentation and design process considerations.

The student will also gain the ability to analyse key issues surrounding the expected performance criteria for the immediate and future requirements whilst considering and evaluating the structured cabling and component performance capabilities.

Throughout the program students will also learn and appreciate the perspective of being both on a design team, working on behalf of the customer, and being an installation design professional who provides design/build services to a wide range of customers across numerous industry platforms. They will also examine the benefits of various design solutions, types of ‘Request for Tender’ methodologies, such as ‘Request for Proposal’ (RFP) and ‘Request for Quotation’ (RFQ). In addition, students 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.

The program also emphasises the importance of consistency throughout the project lifecycle of cable installation project, from execution and commissioning through to hand-over and closing and teaches how to manage the design right through to bid evaluation and vendor selection stages.

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

CNIDP® Topics at a Glance

- Design Principles
- Standards
- Spaces & Working Areas
- Cabling Sub-systems (ISP & OSP)
- Distribution Building Systems
- Network Topologies
- Pathways & Containment
- Fire Stopping
- Bonding & Earthing
- Test & Commission Specifications
- Administration, Documentation & Plans
- Understanding the Design Process
- Customer Requirements & Interviews
- Site Survey & Project Management

RFP/RFQ Development

Bid Evaluations & Contract Negotiation

Project Execution

Commissioning & Closure


Delegate Profile

This program is designed for telecommunications and data communications engineers with at least 5 years’ experience 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. Students will have good knowledge of copper and fibre optic cabling infrastructure and awareness of networks, inside plant and outside plant and supporting enterprise networks. They will also have explored design considerations of relevant standards.

Pre-requisites

To attend this program 5 years of verifiable cabling installation and design experience is necessary in addition to knowledge of the current cabling and networking standards. Students are required to bring a laptop with Internet Explorer (v.11) browser.

Program Objectives

Successful students will gain in-depth design knowledge and supporting skills to confidently understand the design delivery process whilst working in a dedicated design team alongside the client, prime contractors and consultants. They will also have an understanding of the common contracts used for professional services and projects and be able to determine space considerations for work areas, equipment room and telecommunications rooms. Gaining a clear understanding of the requirement details necessary to compile a RFQ or RFP for structured cabling. Students will know how to evaluate vendor submittals for awarding contracts and be confident when closing a project using the appropriate commissioning and hand-over techniques to ensure customer satisfaction through a high quality end product.

Program Structure

The CNIDP® program is a classroom led program incorporating design exercises, led by one of CNet Training’s expert instructors.

This program’s duration is 8 consecutive days.

Qualification

Level 5 Professional BTEC Award

Certification

- Certified Network Infrastructure Design Professional (CNIDP®) status
- Use of CNIDP post nominal letters after your name i.e. Martin Smith CNIDP
- Use of the CNIDP® logo
Core Unit

Design Principles
- Twisted pair transmission
- Fibre optic transmission
- Analogue and digital signalling
- ISDN, DSL, SDH and PDH
- Performance specification

Standards
- Standards organisations
- Cabling standards
- Installation standards
- Electrical standards
- Network and application standards

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

Cabling Sub-systems (ISP & OSP)
- OSP cabling
- Backbone cabling
- Horizontal cabling
- Network cabling

Network Topologies
- ISO model
- Network architecture
- Network hardware and applications
- Topologies

Distribution Building System
- Building Information Modelling (BIM)
- Building Automated Systems (BAS)
- CCTV
- Security access control
- Environmental monitoring systems
- Fire alarm and detection systems

Pathways & Containment
- Cable distribution systems
- Raised access floor
- Confirmed spaces
- OSP cable duct systems

Fire Stopping
- Types & specifications
- Mechanical and non-mechanical
- Regulations and testing

Bonding & Earthing
- Regulations
- Protective Earth (PE)
- Equipotential bonding
- Common bonding network

Test & Commission Specification
- Commissioning process
- Certification test methods
- Testing standards

Administration, Documentation & Plans
- Identification systems
- Test results and reports
- AS-built documentation
- Hand-over process
- Warranty compliance

Professional Unit

Understand the Design Process
- Rules of the design team
- Design stages
- Contracts
- Tools and traits for success

Customer Requirements & Interviews
- Conducting customer interviews
- Identifying key stakeholders
- Needs analysis
- Scope, plan and schedule

Site Survey & Project Management
- Site survey process
- Greenfield and brownfield impacts
- Formulation of site survey report
- Project delivery cycle

RFP/RFQ Development
- RFP/RFQ objectives and structure
- Formulation of RFP/RFQ
- Scope review
- Bid submission

Bid Evaluations & Contract Negotiations
- Bid evaluation techniques
- Shortlist interviews
- Contract negotiations
- Contract award

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

Commissioning & Closure
- Commission and test sequence
- Test results and documentation
- Snag/punch list process
- Customer hand-over
- Customer training
- Project closure process