DCT Copper Systems.

Duration: 5 Days

Course Code: DCT - INFR- SC

About this course:

DCT Structured cabling (Copper) is a unique multi-vendor course that introduces Structured Cabling standards for Copper installations. The class-based training offers advanced hands-on experience labs to prepare students for any deployment scenarios for structured cabling

Objectives:

- Delegates are equipped with the knowledge, skills, and expertise to competently undertake the installation of the Structured Cabling Solutions Course

Pre-requisite:

- Those attending this course require basic understanding of network topology.

Certificates

- Giganet Certified Installer
- Siemon RI (Registered Installer)
- DCT Certified Installer

Target Audience:

- Network Engineers

Labs

Terminations, Troubleshooting and testing on:
- Category 6 UTP Cabling system
- Category 6A FTP Cabling system
- Trouble shooting and Testing of both Cat 6 and Cat 6A cabling with LAN tester and basic Fluke performance tester.

Certificate

- Giganet Certified Installer (Copper)
- Siemon Installer (RI)
- DCT Certified Installer (Copper)

Course Content

Copper

Introduction to Balanced Twisted-Pair Cables

Connecting Hardware
- Telecommunications Outlets
- Patchpanels
- Wiring Blocks

Cabling Standards
- Telecommunications cabling standards.
- Advantages of Standards
- Standards bodies
- ANSI/TIA/EIA Standards
- ISO/IEC Standards
- CENELEC Standards
- Cable categories/Classes

Horizontal Cabling
- Horizontal Channels
- Channel Lengths
- Horizontal Pathways
- Maximum Pathway Fill

Backbone Cabling
- Backbone Cabling Systems
- Backbone Cabling Distance Limitations

Work Area Cabling
- Work Area Components
- Telecommunications Outlets
- Work Area Cable Termination

Telecommunications Spaces
- Equipment Rooms
- Telecommunication Rooms
- Entrance Facilities

Electromagnetic Interference (EMI)
- What is EMI
- Power Separations/ Shielding

Installation Practices
- Cable Management
- Bend Radius
- Cable Stacking Height
- Cable Stress
- Cable Support
- Rack Clearance
- Equipment Locations
- Mounting Connecting Hardware
- Earthling And Bonding
- Cable Pulling
- Cable Termination

Testing(Fluke DSX)
- Permanent Link Testing
- Channel Testing
- Test Parameters

Administration
- Labels
- Records
- Administration Classes

Warranties
- What is warranty?
- Test Results
- Warranty Registration form

DCT Fiber Systems.

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Target Audience:

- Network Engineers

Labs

Terminations, splicing of fiber, Troubleshooting, and testing on: Fiber cabling with VFL, Lash light and basic Fluke performance tester.

Certificate

- l Giganet Certified Installer (Fiber)
- l Siemon Certificate (RI)
- l DCT Certified Installer (Fiber)

Course Content

Introduction to Fibre Optics
- What are Optical Fibres?
- Optical Fibre Construction
- Fibre Sizes

Optical Fibre Transmission
- Fibre optic transmission systems and data links
- Transmitting and receiving devices
- Transmission over different types of fibre
- Electromagnetic Spectrum and Wavelengths
- Fibre Optic Transmission Windows

Typical Types of Fiber Optic Cables
- Aerial Fiber Optic Cable
- Underground Fiber Optic Cable
- Undersea Fiber Optic Cable
- Direct Buried Fiber Optic Cable
- Ribbon Fiber Optic Cable
- Loose Tube Fiber Optic Cable
- Armored Fiber Optic Cable
- Newer Fiber Optic Cable Types

Fibre Splicing and Terminating
- What is fibre splicing?
- Fusion Splicing
- Mechanical Splicing

Fiber Optic Connectivity
- Connectors
- Adapters
- patch cords
- patch panels

Fiber Optic Distribution Systems
- Fiber enclosures
- Fiber distribution cabinets
- Fiber distribution frames
- Fiber patch panels
- Splice trays
- Slack spools
- Patch cables

Inspecting and Cleaning Optical Fiber Connectors
- Core alignment.
- Physical contact.
- Pristine connector interface

Signal Degradation
- Attenuation loss
- Absorption
- Scattering
- Bending loss
- Dispersion loss
- Coupling loss

Fiber Optic Distribution Systems
- Fiber enclosures
- Fiber distribution cabinets
- Fiber distribution frames
- Fiber patch panels
- Splice trays
- Slack spools
- Patch cables

Inspecting and Cleaning Optical Fiber Connectors
- Core alignment.
- Physical contact.
- Pristine connector interface

Designing Fibre Optic Network
- Fiber Type
- Network Topology
- Fiber Count
- Scalability
- Redundancy
- Implementation

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Course Content

Fibre Optic Safety
- Know the standards that apply to your work
- Keep it clean
- Understand the chemicals you're handling
- Be aware of your environment
- Use the right tools

Fibre Optic Cable Installation
- Conduct a thorough site survey prior to cable placement
- Develop a cable pulling plan
- Follow proper procedures
- Do not exceed cable minimum bend radius
- Do not exceed cable maximum recommended load
- Document the installation.

Fibre Optics Testing (Fluke DSX)
- Types of test required
- Flashlight and Visual Fault Locator
- Fibre Microscope
- Attenuation testing using Light Source and Power Meter
- Channel Attenuation Calculation
- Optical Time Domain Reflectometer

The Best Practices for Troubleshooting Fiber Optic Testing Issues
- Inaccurate Test Results
- Prevention Strategies (inaccurate results)
- Troubleshooting Techniques (Inaccurate results)
- High Optical Power Loss
- Prevention Strategies (High Optical Power Loss)
- Troubleshooting Techniques (High Optical Power Loss)
- Excessive Return Loss
- Prevention Strategies (Excessive Return Loss)
- Troubleshooting Techniques (Excessive Return Loss)