

DCT Structured Cabling Copper & Fiber.

Duration: 5 Days

Course Code: DCT - INFR- SC

About this course:

DCT Structured cabling is a unique Multi-vendor course that introduces Structured Cabling standards for both Copper & Fibre installations. The class-based training offers advanced hands on experience labs to prepare students for any deployment scenarios for structured cabling. It's a three-day course (Day1- Copper cabling systems, Day2- 4Fibre cabling systems and Day 3-Labs and Exam.)

Objectives:

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

Pre-requisite:

- Those attending this course require basic understanding of network topology

Certificates

- Giganet Certified Installer
- Simon 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
- Fibre Field terminations
- Fibre splicing
- Fibre Trouble shooting and Testing

Course Content

Copper

Introduction to Balanced Twisted-Pair

Cables

Connecting Hardware

- Telecommunications Outlets
- Patchpanels
- Wiring Blocks

Networks

- Local and Wide Area Networks
- Pros and Cons of a Network
- Network Topologies
- Generic (Structured) Cabling

Cabling Standards

- ANSI/TIA/EIA Standards
- ISO/IEC Standards
- CENELEC Standards
- Cable Categories

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)

DCT Unified Communications

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Fiber 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
- Fibre Optic Cable Construction
- Loose-Tube and Tight Buffered
- Simplex and Duplex
- Distribution and Break-out cables
- Indoor/Outdoor
- Self-supporting
- Armoured
- Fibre Splicing and Terminating
- Mechanical and Fusion Splicing
- Types of fibre connector
- Hot and Cold Cure Termination
- Mechanical Termination
- Fiber Connector Types (Styles)
- Flat Fiber Connector
- PC Fiber Connector
- UPC Fiber Connector
- APC Fiber Connector

FIBER OPTICS CONTENT

Inspecting and Cleaning Optical Fiber Connectors

- Core alignment.
- Physical contact.

- **EMI** – Pristine connector interface
- **Power Separations Signal Degradation**
- Installation Practices** – Dispersion
- Cable Management – Attenuation
- Bend Radius – Scattering
- Cable Stacking Height – Absorption
- Cable Stress – Factors Affecting Splice Points
- Cable Support
- Designing Fibre Optic Cabling in the Local Area Network**
- Rack Clearance
- Equipment Locations – Fibre vs Copper
- Mounting Connecting Hardware – Fibre in the LAN
- Earthing And Bonding – Channel Classifications
- Cable Pulling – Channel Attenuation
- Cable Termination – Optical Fibre Categories
- Testing** – Fibre Cable Classifications
- Permanent Link Testing – Fibre Channel Lengths
- Channel Testing – Optical Fibre Applications
- Test Parameters – Fibre Cabling Design
- Administration** – Fibre in the Work Area
- Labels
- Fibre Optic Safety**
- Records – Chemical Hazards
- Administration Classes (1-4) – Optical Hazards

Warrantees:

- Test Results – Environment
- Warranty Registration Form
- Safety for Everyone

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 the cable maximum recommended load.
- Document the installation.

Fibre Optic Testing

- Types of tests required
- Flashlight and Visual Fault Locator
- Fibre Microscope
- Attenuation testing using Light Source and Power Meter
- Channel Attenuation Calculation
- Optical Time Domain Reflectometer

Fiber Troubleshooting

- Verifying the problem.
- Isolating the source of the problem.
- Repairing the problem.
- Testing the repaired system to ensure that it functions correctly.