

Certified Fibre Optic Specialist – Design (CFOS/D)

COURSE DESCRIPTION

The Certified Fibre Optic Specialist – Design (CFOS/D) course provides the knowledge required to design fibre optic networks and implement those designs in real-world telecommunications projects. The course focuses on the planning, design and documentation of fibre optic infrastructure, including component selection, network routing, testing requirements and project implementation.

Participants will gain an understanding of how fibre optic networks are designed to support communication systems, how to calculate optical loss budgets and how to plan installations that meet performance and reliability requirements. The course prepares participants to obtain the FOA CFOS/D Fibre Optic Network Design Specialist certification.

WHO SHOULD ATTEND


Technicians, network designers, installation and maintenance engineers, and professionals involved in fibre optic network design, planning or infrastructure deployment.

PREREQUISITES

Participants should have a basic understanding of fibre optic technology, such as the knowledge gained from the Certified Fibre Optic Technician (CFOT) course or equivalent experience.

SOME COURSE BENEFITS

- Understanding of fibre optic network design principles
- Ability to plan and specify fibre optic infrastructure for communications systems
- Knowledge of component selection and network routing considerations
- Improved ability to calculate optical loss budgets and link performance

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- Skills to plan testing, documentation and project implementation

COURSE OBJECTIVES

Participants will gain the knowledge and skills required to:

- Understand the process involved in designing fibre optic networks
- Select appropriate components for fibre optic communication systems
- Plan cable routes and network architecture for optimal performance
- Calculate optical power and loss budgets for fibre links
- Determine testing requirements and documentation processes
- Develop installation plans for fibre optic projects
- Understand project management considerations during installation

FORMAT

2-day interactive classroom training including theory sessions, quizzes and practical exercises.

Maximum attendees: 10 per course..

CONTENT

Introduction to Fibre Optic Network Design

- What fibre optic network design involves
- Roles involved in fibre optic design projects
- Knowledge required to design fibre optic networks
- Benefits of fibre optic communications

Overview of Fibre Optic Installations

- Outside plant installations (underground, aerial etc.)
- Premises installations
- Cabling standards and codes
- Installation methods including pre-terminated and blown fibre

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Planning a Fibre Optic Network

- Choosing the appropriate network type
- Establishing cable routes and placement
- Determining hardware, splice and termination locations
- Optical link power and loss budget calculations
- Testing requirements
- Project documentation

Selecting Fibre Optic Components

- Fibre types
- Cable selection
- Splicing methods
- Termination options
- Hardware and infrastructure components

Design Review

- Evaluating whether the design supports the planned network
- Verifying compliance with relevant standards
- Checking component compatibility
- Reviewing environmental requirements
- Considering permits, easements and regulatory factors

Testing and Documentation

- Creating a fibre network test plan
- Recording data for future network maintenance and upgrades
- Documentation for troubleshooting and network restoration

Estimating Fibre Optic Projects

Why Estimation is Important

- Establishing project budgets
- Evaluating vendor bids
- Comparing alternative network designs

- Working with vendors to select appropriate components

Estimation Process

- Take-off from design drawings
- Correlating drawings with site inspections
- Estimating the total cost of the project

Writing a Project Specification

- Defining cable routes
- Specifying network equipment and communication signals
- Selecting fibre types and connectors
- Defining connector termination methods
- Specifying cable and hardware requirements
- Testing requirements and maximum loss limits
- Compliance with relevant standards and codes

Assessment

Participants will complete a **1-hour closed book exam** to obtain the Certified Fibre Optic Specialist - Design (CFOS/D) qualification.

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