Certified Fibre Optic Specialist - Design

COURSE DESCRIPTION

This training program is designed to introduce participants to the process of fibre optic network design and the implementation of that design in a real world project. It is intended for those looking to acquire the FOA CFOS/D Fibre Optic Network Design Specialist Certification, either as a contractor, installer or end user.

WHO SHOULD ATTEND?

Technicians, installation and maintenance engineers and anyone operating in a fibre design environment.

PREREQUISITES

It is assumed that participants have a basic knowledge of fibre optics (i.e. CFOT).

COURSE OBJECTIVES

- What is involved in designing a fibre optic network
- How to choose components appropriate for communications systems
- How the proposed routing of the cable plant affects component choice and installation
- Using loss budgets to ensure the communications systems will work over the fibre optic proposed cable plant
- How to determine what should be tested and documented
- What paperwork and documentation will be needed for the project
- How to create a plan to install the project
- How to manage the installation

FORMAT

2 days, interactive classroom based, with quizzes and hands on exercises.

Maximum attendees: 12 per course.

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CONTENT

Introduction

- What is fibre optic design
- Who does fibre optic design
- What knowledge is required to design fibre optic networks
- Why use fibre optics

Overview of Fibre Optic Installations

- Outside plant installations (underground, aerial, etc.)
- Premises installations (standards and codes, pull/terminate, preterminated, blown, etc.)

Planning A Fibre Optic Network

- Choosing the network type
- Establishing the cable route/placement
- Determining hardware, splice and termination points
- Link Power and Loss Budget calculations
- Testing requirements
- Documentation

Choosing components

- Fibre
- Cable
- Splices
- Termination
- Hardware

Design Review

- Whether the design will support the planned networks or meet the relevant standards
- Component compatibilities
- Power and loss budget
- Environmental requirements
- Other requirements (easements, permits, etc.)

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Testing And Documentation

- Creating a test plan
- Recording data for future MACs (moves, adds changes), troubleshooting and restoration

Estimating

Why estimate

- Even end users are advised to do an estimate
- Establishing budgets
- Confirming the reasonableness of bids
- Comparisons of alternative designs
- Work with vendors to get best prices, best choices for components

Estimating process

- Take-off from drawings
- Correlate drawings with actual site visit
- Cost complete project

Writing A Project Specification

- Specify route
- Specify network equipment or communication signals
- Should specify fibre type and connectors
- Specify connector termination type if preferred
- Specify cable and hardware types, but allow for alternate suggestions
- Testing requirements
- User should have specification for max loss based on loss budget calculations
- Relevant codes and standards
- Other standard specs – particular end user requirements

Assessment (Optional for in-house courses)

- Participants will sit a 1 hour closed book exam to gain the CFOS-D qualification

CFOS/D and CFOT are certifications of The Fiber Optic Association (FOA).

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