

Fiber Optics 1-2-3

Design – Installation – Maintenance

Course Description

This four-day class features 16 hours of classroom training and 16 hours of hands-on skills labs that provide the practical understanding and skills required to properly design, install, and maintain fiber optic networks. The content is applicable to fiber optic communications systems in telco, broadband, and premises (LAN) applications. Students will use the latest fiber optic technology and equipment to learn how to splice, connectorize, test, and troubleshoot optical fiber networks in order to increase efficiency, reliability, and on-the-job safety as well as reduce costs and downtime.



Course Level

Introductory to intermediate. Beginners to experienced fiber technicians find the class and extensive hands on skills training beneficial.

Course Options

Four days – Classroom lecture and hands-on exercises.

Two days – Classroom only. Ideal for designers and planners.

COURSE FEES

- Four-day course \$1595
- Two-day course \$800
- Optional ETA Fiber Optic Installer (FOI) Exam \$150

Certification

ETA Fiber Optic Installer



Complete the four-day Fiber Optics 1-2-3 course and pass the ETA Fiber Optic Installer (FOI) certification exam. The FOI is designed for those working with both multimode and single-mode fibers.

Classroom (16 Hours)

PHYSICAL PLANT

Introduction to Fiber Optics

- Standards
- Terminology

Fiber Theory/Optical Fibers

- Single-mode
- Multimode
- New Generation Fibers

Cables

- Indoor/Outdoor
- Special Types

Connectors

- Specifications
- Single-mode Connectors
- Multimode Connectors
- SFF Connector Styles
- Connectorization Techniques
- Connector Polishes and Reflection Issues
- Attenuators and Terminators

Splicing

- Fusion
- Mechanical
- Cleaving Tools

Cable Management

- Patch Panels
- Splice Panels
- Distribution Panels
- LAN Panels
- Splice Closures
- Hubs and Pedestals

DISCIPLINES

Installation

- Outside Plant
- Underground • Aerial
- Premises / LAN

Test Equipment and Testing

- Theory
- Operation and Application
- Documentation

Restoration/Maintenance

- Planning
- Outside Plant
- Premises
- Emergency Restoration

Safety

Design

- Sources • Detectors
- Repeaters & Regenerators
- Optical Amplifiers
- Passive Devices
- WDM / DWDM / CWDM
- System Design
- Loss Budgets
- Integration
- Standards

Systems Overview

- Topologies
- Ethernet
- HDTV • CATV • CCTV
- SONET / ATM
- FTTx / PON

Hands-on (16 Hours)

TRAINING LABS AND CERTIFICATION TESTING

Safety Meeting

Station #1 – Splicing

- Fusion • Mechanical • Pigtail
- Fiber Handling
- Fiber Cleaving

Station #2 – Connectorization

- Multiple Bonding Methods
- Visual Inspection / Cleaning
- Cable Assembly Testing

Station #3 – Cable Preparation

- Loose Tube Cables
- Distribution / Breakout Cable
- Patch Panel Preparation
- Splice Closure Preparation
- Mid-entry Practices

Station #4 – OTDR Operation

- Acceptance Testing
- Span Acceptance • Splice Loss
- Reflection Testing
- Emergency Restoration
- Troubleshooting
- Documentation / Records

Station #5 – Optical Loss Testing

- Link Loss Measurement
- Transmit and Receive Power
- Identifiers and Tracers
- Reflection Testing
- Variable and Fixed Attenuators
- Documentation / Records

“The course was presented in a way that both experienced and new installers/technicians could come away with something gained. It was not below or above anyone.” – Jim Inman, MICHELS COMMUNICATIONS