

Certified Fiber Optic Technician - FOA

4.5 Days, 3.6 CEUs

In this course, students will learn how to understand the limitations of bending, effects of temperature, how to effectively splice and connectorize fiber optics, troubleshoot a system and confirm the quality connections and splices. All these skills are necessary to properly install and repair fiber optics systems.

Participants completing the course exercises and lab requirements will be given the Fiber Optic Association (FOA) exam for Certified Fiber Optic Technicians. This exam is proctored by a certified FOA instructor and participants must score the minimum (70%) to meet the FOA certification requirements.

Pre-Requisites:

This course is intended for electrical contractors, electricians, IT technicians, communications technicians, and any personnel that specifies, installs, and restores fiber optics systems.

PPE Requirements:

AVO is committed to the personal safety of each participant and requires appropriate apparel for lab activities. Long pants and ANSI rated "safety-toe" work shoes are acceptable as meeting this requirement.

Learning Objectives:

Upon completion of this course and lab practice, the participant will demonstrate by attaining a minimum average of 80% (between lab and final exam), that he/she is able to:

- Identify and specify components for a fiber optic system.
- Determine the appropriate fiber for different applications, install fiber optic cable and test for EIA/TIA acceptable losses.
- Utilize fiber optic test equipment, including an optical time domain reflectometer (OTDR), light source and power meter.
- Install and test mechanical and fusion splices to EIA/TIA standards.
- Identify damage to cables and the associated causes, also budget for losses in fiber optic systems.
- Utilize attenuators to adjust power levels (DBM) at the receiver.

SCOPE

Day 1*

- I. **Introduction**
 - A. Schedule
 - B. Course Outline
 - C. FOA
- II. **FIBER BACKGROUND**
 - A. History of Fiber Optics
 - B. Justifying Fiber Installations
- III. **Basics of Fiber Optics**
 - A. Optical Fiber
 - B. Index of Refraction
 - C. Fiber Applications
 - D. Fiber Performance
- IV. **Fiber Optic Applications**
 - A. Economics
 - B. Telephony
 - C. CATV
 - D. Premises Cabling and Local Area Networks
- V. **Fiber Optic Cables**
 - A. Construction of Fiber Optic Cables
 - B. Types of Fiber Optic Cables
 - C. Selection of Fiber Optic Cables

VI. Specifying Fiber Optic Cable

- A. Installation Specifications
- B. Environmental Specifications
- C. Future Proofing

Day 2

VII. Fiber Optic Connectors and Splices, and Tools

- A. Fiber Joints and Connectors
- B. Strip, Clean, and Cleave
- C. Polish Techniques
- D. Lab - Fiber Connectorization (4 Hours)

VIII. Fiber Optic Hardware

- A. Premises Cabling
- B. Outside Plant Hardware
- C. Trenching

IX. Getting Started in Fiber Optics

- A. Cabling
- B. Training
- C. Tools and Test Equipment
- D. Marketing

X. Guidelines for Fiber Optic Design and Installation

- A. General
- B. Cable
- C. Connector

Day 3

XI. Cable Plant Loss Budget Analysis

- A. Calculate Loss Budget
- B. Passive Component Loss
- C. Equipment Link Loss Budget Calculation

XII. Fiber Optic Installation Safety

- A. Safety Procedures
- B. Safe Work Practices
- C. Personal Safety Equipment
- D. Maintaining a Safe Work Area
- E. Basic Safety Rules

XIII. Planning the Installation

- A. Measuring for Conduit Pulls
- B. Splicing
- C. Terminations
- D. Efficient Pulling
- E. Initial Planning Walkout

XIV. Fiber Optic Plant Documentation

- A. Cable Plant Record Keeping
- B. The Documentation Process
- C. Maintaining Documentation

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SCOPE (Cont.)

Day 3 (Cont.)

XV. Estimating and Bidding Fiber Optic Installations

- A. Estimating Skills
- B. Tools
- C. Site Visit
- D. Fiber Optic Installations

XVI. Fiber Optic Cable Pulling

- A. Avoiding Disasters
- B. Despooling Cable
- C. Procedures for Pulling Cables
- D. Proper Stripping Method

Day 4

XVII. Fiber Optic Restoration

- A. Planning for Restoration
- B. Identifying Problems
- C. Restoring Service
- D. Storing Spare Cable

XVIII. Fiber Optic Testing

- A. Overview
- B. Optical Power
- C. Fiber Testing
- D. Connector and Splice Testing
- E. Cable Plant Testing
- F. Peripheral Equipment Testing
- G. Lab - Fiber Optic Splicing and Testing (4 Hours)

Day 5 (Half Day)

XIX. Review, CFOT Exam

*Class scheduling times may vary based on discussions and size of class