FOA Certification Now Available!!!

Course Name: Basic CFOT (Certified Fiber Optic Technician) Certification

Course Overview:
This course includes an overview of the history of fiber optics, fiber optic transmission theory, optical fiber manufacturing, system design parameters, installation guidelines, fiber optic fusion splicing, fiber optic connector termination, testing, and technical standards. Course also includes extensive hands-on exposure to fiber optic termination, system testing, and fusion splicing equipment. At the completion of this course, each student will have the option to take the CFOT exam.

Course Length: 2 Day

Who should attend?
- Field Service Technicians
- Field Engineers
- Managers/ Field Supervisors
- Design Engineers
- Managers or Supervisors

Recommended Prerequisites: None. Entry level.

Customizable Course: Yes

Course Content:

History and Development of Fiber Optics
- Tyndall's guided light experiment
- Bell's photophone
- Fiber innovators
- First US systems
- Development timeline
- Advantages of optical fiber media

Fiber Optic Transmission Theory
- Structure of the optical waveguide
- Total internal reflection
- Fiber types
- Basic fiber parameters

Fiber Manufacturing
- Laydown
- Consolidation

- Draw

Fiber Optic Cable Design
- Terminology review
- Design objectives
- Classes of fiber protection
- Loose tube cable
- Tight-buffered cable
- Specialty Cables

Practical Exercise
- Demonstrate loose tube cable sheath removal and fiber access
- Illustrate fan-out kit installation for direct termination of loose tube cable
- Discuss application for wire mesh pulling grip

Fiber Cable Placement Overview
- Comparison of optical fiber and metallic media installation concerns
- Basic installation parameters
- Key points for “pre-pull”
- Key points for short indoor runs
- Key points for long outdoor runs
- Key points for “post-pull”

Fiber Termination
- Function of fiber connectors
- Fiber connector types
- Field installation advantages and disadvantages
- Factory termination advantages and disadvantages
- Techniques for installing factory terminated solutions
- Techniques for field installation
- Field installation critical steps

Practical Exercise
- Demonstrate installation of anaerobic field installable connectors
- Construct MM, 900 micron jumpers using anaerobic connectors
- Demonstrate installation of FAST connector

Field Testing
- Identify the basic fiber optic field tests
- Basic visual/continuity check
- Applications of the attenuation test set
- Use of the light source and power meter
- Applications of the Optical Time Domain Reflectometer (OTDR)
- Generating an OTDR baseline trace

- OTDR trace interpretation

Fiber Splicing
- Applications for splicing
- Selection of splice hardware
- Selection of splice solution
- Types of fusion splicers

Practical Exercises
- Demonstrate fiber cleaning, preparation and cleaving
- Demonstrate single-mode fusion splicing with both v-groove and core alignment machines
- Complete single-mode fusion splices with both v-groove and core alignment machines

Practical Exercises
- Evaluate connector end-face using a 200x microscope
- Demonstrate jumper attenuation loss measurement using the light source and meter
- Evaluate jumpers constructed in class using the light source and meter
- Demonstrate connector event loss measurement and length measurement using the OTDR
- Measure connector event loss and fiber spool length using the OTDR

Standards and Codes
- Fire code listings on optical fiber cables
- Introduction to standards and codes references
- Material in course book

Attenuation Budgeting
- Standard attenuation metrics
- Class exercise: compute a link loss budget

Wrap up and review