

Hands-On

# Fiber Optic Advanced Testing w/ FO Refresher



## Course Description

This 3-day Hands-On course provides Real-World Experience to testing required for communication fiber optic cabling. This course will also go over a brief Fiber Optic Refresher Module that will cover some Basic Fiber Optics General studies, safety, splicing and more.

The majority of this 3-day course will cover a range of testing requirements set forth by TIA & EIA standards and prepares each student to understand premise (ISP) and outside plant (OSP) fiber optic cable testing. Each student will be actively involved in Hands-On labs to reinforce the course topics.

## Students Will Learn

- **Fiber Optics General Studies**
- **Safety**
- **Basic Splicing Techniques**
- **The Proper Set-up, Use and Interpretation of Results using an OTDR ( Optical-Time Domain-Reflectometer ) on a Fiber Circuit.**
- **Over-all Length of Fiber Circuit Under Test.**
- **Length of Each Segment of Fiber in Circuit.**
- **Acceptable vs. Unacceptable Splice /Connector Loss**
- **dB Loss in Each Segment of Fiber in Circuit.**
- **Effects of Micro Bending on Waveform.**
- **Broken Fiber in Circuit.**
- **Wavelength of Laser Setting.**
- **Pulsewidth of Laser Setting.**
- **Index of Refraction Setting.**
- **Distance Scale Setting.**
- **dB Scale Setting.**
- **And More**

## Target Audience

This training is geared towards Field Supervisors and Technicians who need a solid working knowledge of OTDR and power meter fiber optic cable testing procedures used in Premise (ISP) and OSP environments. After completing this course, you will have the ease of mind that you will be able to perform all the necessary functions required for testing fiber optic

cable and Fiber Optic Cable Systems.

## Prerequisites

A basic to in-depth understanding of Fiber Optic Technologies. This information can be obtained in our Courses

- Understanding Fiber Optics 2 days
- Hands-On Fiber Optic ISP/OSP (Splicing, Terminating & Testing Inside & Outside Plant Cabling)

## Course Outline

Day 1 - Day 2:

- Principle of Communication Fiber Optics
- Safety with Fiber Optics
- Fiber Optic Cable Types
- What are Premise and OSP Testing Standards
- Understanding OTDR Testing
- Understanding Power Meter Testing
- Fiber Optic Cable Loss Factors
- Fiber Optic Connector & Adapter Loss Factors
- Understanding Insertion & Return Loss
- Understanding Communication System Loss Budgets
- Bench Top Versus Portable Test Equipment
- Understanding an Insertion & Return Loss Test Set
- Selecting the Right Test Equipment for your Applications

Day 2 - Day 3:

- Preparing the OTDR for Live Fiber Testing
- How to use a Launch Cable for OTDR Testing
- How to OTDR Test Bare Fiber Cable Before Installation
- Setting up a 2-Point and 4-Point OTDR Test
- Reading Live Fiber OTDR traces
- Identifying OTDR Events
- Storing OTDR Traces
- Preparing the Power Meter for Testing
- Measuring Individual Connector Loss Using the Power Meter
- Measuring Overall Cable Loss Using the Power Meter
- Continuity Testing and Visual Fault Locating
- Testing Documentation and Review

## **Delivery Method**

Instructor led with numerous Hands-On labs and exercises.

## **Equipment Requirements**

**(This apply's to our hands-on courses only)**

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

## **Course Length**

3 Days