

Installation and Maintenance of Fiber and Power to the Antenna

This hands-on day training course gives you a practical understanding of installation and maintenance of tower based fiber optics and DC Power Systems in modern wireless systems.

Course Length: 1 day

Course Level: Introductory

What you will learn:

- Fiber Optics and Power on the Tower
- Fiber and Electrical Safety
- Fiber & Connector Types
- Handling and Cleaning Fiber
- Testing Fiber
- Basic electrical concepts
- DC Power Systems
- Efficiently test and troubleshoot common problems
- Installation Techniques
- Maintaining Existing Systems

Course Content:

- FTTA (Fiber to the Antenna) Fundamentals
 - Why FTTA versus traditional methods?
 - Advantages?
 - Equipment Overview
 - FTTA Alternative Solutions (Home Run, Bundled Fiber/Power Cable, Terminated Trunk)
- Introduction to fiber optics
 - What is singlemode fiber?
 - Terminology
 - Core, cladding, jacket
 - Singlemode Basics
 - Core size
 - Hands-on examination of sm jumpers
- Connectors
 - Common multimode connectors
 - LC
 - SC
 - Hands on examination of connectors
- Fiber Inspection and Cleaning
 - Scope usage
 - How to use a swabs, wipes and Cletop
 - Hands on cleaning exercises



- Test equipment and testing
 - Theory
 - VFL
 - Light Source and Power Meter
 - Loss Testing
 - OTDR
 - Hands on fiber testing exercises
- Safety
 - Light Source
 - Fibers
 - Chemicals
 - Installation
- Electricity Primer
- PTTA (Power to the Antenna) Fundamentals
- DC Power
 - Rules for DC Circuits
 - Open and Short Circuits
 - Power Ratings Lab Exercises
 - Surge Suppression
- Hardware
- Measuring Devices
 - Meter Sensitivity, Accuracy
 - Voltmeter/DVOM
 - Lab Exercises
- Electrical Safety
 - Electrical hazards
 - Equipment Safety
 - Lab Hazards