



# Fiber Optic Communication Installation and Testing Training Course

19 – 23 April 2027  
Barcelona

## Fiber Optic Communication Installation and Testing Training Course

**Ref:** 833\_163071 **Date:** 19 – 23 April 2027 **Location:** Barcelona **Fees:** 5700 Euro

### Overview

Fiber Optic Communication Installation and Testing Training Course is a one-week course for telecommunications, network, infrastructure, field service, installation, and maintenance functions, who leave with a Fiber Optic Link Installation and Test Pack. Participants connect fiber selection, cable handling, splicing, termination, loss budgets, inspection, power-meter tests, OTDR traces, and acceptance records. The course turns separate field tasks into a controlled link lifecycle. Agile Leaders Training Center develops practical fiber optic communication capability.

### Who Should Attend

- Telecommunications functions responsible for optical links and service performance
- Network infrastructure functions responsible for cable routes, equipment, and acceptance
- Installation functions responsible for cable handling, termination, and splicing
- Field service functions responsible for inspection, testing, and fault localization
- Maintenance functions responsible for records, repairs, and restoration planning

The course assumes participants can follow technical diagrams and field procedures, and leaves out certification preparation and advanced photonic device design.

### Departments and Industries

The course supports departments and industries that install, test, operate, and maintain optical communication links.

- Telecommunications, network engineering, IT infrastructure, and technical support
- Installation, commissioning, field service, maintenance, and quality control
- Data centers, technology services, utilities, and transport infrastructure
- Manufacturing, energy, construction, facilities, and industrial operations
- Healthcare, education, financial services, and public-service organizations

### Learning Objectives

By the end of this course, participants will be able to:



- Apply fiber, cable, connector, and link-selection criteria
- Build route, handling, splicing, and termination plans
- Use optical loss budgets and power-meter tests
- Analyze OTDR traces and localize link faults
- Evaluate inspection, cleaning, safety, and acceptance controls
- Build test records and maintenance action plans

## **Course Agenda**

### **Day 1: Define Fiber Optic Links**

- Light Transmission and Link Component Map
- Single-Mode and Multimode Fiber Selection Matrix
- Cable Construction and Environment Checklist
- Connector, Adapter, and Splice Inventory
- Fiber Optic Link Schematic

### **Day 2: Plan Installation and Termination**

- Cable Route and Pulling Plan
- Bend, Tension, and Handling Control Sheet
- Fiber Preparation and Safety Checklist
- Fusion Splicing Procedure Card
- Connector Termination and Closure Record

### **Day 3: Calculate and Measure Link Loss**

- Fiber, Connector, and Splice Loss Budget
- Reference Method and Test-Cord Setup
- Optical Light Source and Power Meter Test
- Insertion-Loss Result Comparison Sheet
- Measurement Uncertainty and Retest Log

### **Day 4: Test and Troubleshoot Installed Links**

- Connector Inspection and Cleaning Sequence
- Visual Fault Locator Continuity Check
- OTDR Range, Pulse, and Index Setup
- OTDR Event and Trace Analysis Map
- Fault Localization and Repair Decision Tree



## **Day 5: Practice Fiber Link Acceptance**

- Exercise: Select Link Components and Installation Controls
- Exercise: Prepare, Splice, and Terminate Fibers
- Exercise: Calculate Loss and Compare Test Results
- Exercise: Analyze OTDR Traces and Locate Faults
- Capstone: Fiber Optic Link Installation and Test Pack

## **Practical Exercises**

The course uses suggested activities based on communication links in data centers, buildings, campuses, utilities, transport, and industrial facilities.

- Suggested activity: select fiber, cable, connectors, closures, and handling controls for an installation route and service need.
- Suggested activity: prepare fibers, record a splice and termination sequence, inspect connector condition, and document safety controls.
- Suggested activity: calculate a loss budget, configure a reference test, compare insertion loss, and record uncertainty and retest decisions.
- Suggested activity: configure an OTDR test, identify trace events, localize a fault, and assemble acceptance and maintenance records.

## **FAQs**

### **Who suits fiber optic installation and testing training, and what does it assume?**

Telecommunications, network, infrastructure, installation, field service, and maintenance functions suit the course; it assumes participants can follow technical diagrams and procedures without requiring advanced photonics experience.

### **How does fiber optic installation and testing differ from fiber optic network design training?**

Fiber optic installation and testing focuses on field handling, splicing, termination, measurement, fault localization, acceptance, and maintenance; network design training focuses more broadly on topology, capacity, architecture, and equipment planning.

### **How is a fiber optic link loss budget used?**

A fiber optic link loss budget estimates fiber, connector, splice, and passive-component losses so measured insertion loss can be compared with an agreed acceptance limit.



## **What does an OTDR show during fiber optic testing?**

An OTDR trace shows distance-related events such as connections, splices, reflective points, loss changes, and link ends, supporting fault location and installation review when its settings and limits are suitable.

## **Why are fiber optic connectors inspected and cleaned before testing?**

Fiber optic connectors are inspected and cleaned because contamination or damage can increase loss, create reflection, distort results, and transfer debris to another mating surface.

## **Conclusion**

Participants take back a Fiber Optic Link Installation and Test Pack containing selection records, route plans, handling controls, splice and termination records, loss budgets, power-meter results, OTDR analyses, acceptance files, and maintenance actions. It changes isolated field activities into a traceable link lifecycle. The pack supports controlled installation, reliable measurement, fault decisions, and retained evidence.