Fiber Optic Technician (CFOT) Training Course



14 - 18 Dec 2026

Cape town

4600 € (Per Person)

Ref: #TEL7068_266664

Course Introduction / Overview:

This training course is designed to equip telecom technicians, network installers, and field engineers with the practical skills needed to install, maintain, and troubleshoot fiber optic networks. As the demand for high-speed, high-bandwidth communication continues to grow, fiber optics has become the backbone of modern telecommunications infrastructure. This program, offered by BIG BEN Training Center, provides a comprehensive framework for understanding the core principles of fiber optic technology, from various cable types and splicing techniques to OTDR testing and loss budgeting. We will explore key concepts such as light propagation, signal integrity, and network design. The curriculum is informed by the academic work of authors like Joseph C. Palais, whose book, Fiber Optic Communications, provides a foundational and detailed understanding of the physics and engineering behind fiber optic systems. This course goes beyond a simple overview of technology to provide a deep understanding of how to implement real-world solutions that ensure network reliability, performance, and efficiency. We prepare participants to be leaders who can build more resilient and high-performing fiber optic networks.

Target Audience / This training course is suitable for:

- Fiber optic technicians.
- Network installers.
- Field engineers.
- IT professionals.
- Cabling specialists.
- Telecom technicians.
- Project managers.
- Government agencies and equivalents.

Target Sectors and Industries:

- Telecommunications.
- Internet Service Providers (ISPs).
- Data Center Operators.
- Utilities and Energy.
- IT and Managed Services.
- Broadcasting.
- Security and Surveillance.
- Government and public administration agencies.

Target Organizations Departments:

- Network Installation.
- Field Operations.
- IT Infrastructure.
- Technical Services.
- Network Engineering.
- Data Center Operations.
- Maintenance.
- Operations.

Course Offerings:

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

- Understand the fundamental principles of fiber optic technology.
- Master various fiber optic cable types and connectors.
- Perform fusion and mechanical splicing.
- Conduct accurate OTDR testing and analysis.
- Perform loss budget calculations.
- Troubleshoot common fiber network issues.
- Ensure proper installation and safety procedures.
- Implement and maintain FTTx networks.

Course Methodology:

This training course uses a highly practical and hands-on methodology. The program is built on real-world examples of fiber optic installations and the challenges they faced. Participants will work in a simulated lab environment to perform splicing, termination, and OTDR testing exercises, where they will learn how to identify and fix issues. We will use interactive workshops to practice skills like cable management and network troubleshooting. The curriculum is designed to be a collaborative experience where participants can share their unique challenges and innovative solutions. Our trainers, with extensive experience in the field, will provide direct feedback and guidance throughout the course. BIG BEN Training Center is committed to providing a dynamic and practical learning environment, ensuring that participants leave with the skills and confidence to effectively install and maintain fiber optic networks.

Course Agenda (Course Units):

Unit One: Foundations of Fiber Optic Technology

- Introduction to fiber optic communications.
- The physics of light propagation.
- Fiber optic cable types (multimode and single mode).
- Connectors and their applications.
- Fiber optic components: transceivers, splitters.
- Safety procedures.
- The role of fiber optics in telecom.

Unit Two: Installation and Splicing Techniques

- Fiber optic cable handling and preparation.
- Fusion splicing techniques.
- Mechanical splicing methods.
- Splice closures and their use.
- Termination and connectorization.
- Best practices for installation.
- Fiber routing and management.

Unit Three: Testing and Troubleshooting

- Introduction to OTDR testing.
- Interpreting OTDR traces.
- Power meter and light source testing.
- Insertion loss and return loss.
- Loss budget calculations.
- Troubleshooting common network faults.
- Cleaning and inspection of connectors.

Unit Four: Network Design and Deployment

- Fiber to the Home (FTTH) concepts.
- Passive Optical Networks (PON).
- Network design principles.
- Aerial and underground installation.
- Inside plant vs. outside plant considerations.
- Documentation and labeling.
- Project management for fiber deployments.

Unit Five: Emerging Trends and Strategic Outlook

- The impact of 5G on fiber networks.
- The role of fiber in data centers.
- Dense Wavelength Division Multiplexing (DWDM).
- Strategic leadership for technical teams.
- Career pathways for fiber optic technicians.
- The future of high-speed networks.
- The importance of reliability and scalability.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can a deeper understanding of fiber optic technology and practical installation skills empower technicians to become strategic assets in building the next generation of high-speed, resilient telecommunications infrastructure?

What unique qualities does this course offer compared to other courses?

This training course is unique because it provides a dedicated, strategic focus on fiber optic installation and maintenance, emphasizing hands-on skills. While other programs may cover general networking concepts, our curriculum is designed to empower professionals with the specific skills needed to address the unique challenges of fiber optic deployments, from splicing to OTDR testing. The program is a hands-on experience, with exercises that directly simulate the challenges and decisions involved in a real-world field installation or troubleshooting scenario. We go beyond theoretical concepts to provide a clear, actionable roadmap for balancing business needs with the imperative of delivering seamless and high-quality user experience. This course is for professionals who want to lead their organizations toward a more efficient, reliable, and future-proof network.