

This course provides the practical knowledge and hands-on skills required to specify products, install, and maintain fiber optic premises and data center networks. Students will use the latest fiber optic technology and equipment to splice, connectorize, test, and troubleshoot fiber networks to increase efficiency and reliability as well as reduce cost and downtime. It is intended for installation contractors, technicians, and end users involved in building and maintaining premises or private networks and data centers per TIA-568, 758, and 942 standards.

**Prerequisites:** Entry level. Basic fiber or copper cabling experience is beneficial.

**Certifications and Credits:** ETA Fiber Optics Technician—Inside Plant (FOT-ISP) Certification  
Light Brigade Digital Credentialing

### Classroom Training (Day 1, Day 2 AM)

- Why fiber optics?
- Applications
- Standards and codes
- Safely working with fiber
- Fiber optic transmission theory
- Fiber and cable types
- Fiber management products
- Connectors – single and multi-fiber
- Fiber splicing
- Installations
- Test equipment and certification testing
- Basics of system design

### Hands-on Skills Learning (Day 2 PM, Day 3)

#### Cable Preparation

- Cable sheath removal and fiber access
- Fan-out kit installation for direct termination of loose tube cable
- Pulling grip basics
- Pre-terminated cable protection

#### Fusion Splicing

- Proper cleaning and fiber cleaving processes
- Attenuation measurement

#### Connectorization

- Field-installable connectors
- Splice-on connectors
- 900-micron multimode jumpers
- Attenuation measurement

#### Field Testing

- Evaluate connector end-face
- MPO test equipment and setup
- MPO to MPO
- MPO to LC or SC
- Tier 1 Testing
- Bidirectional loss measurement
- Link certification testing
- Tier 2 Testing
- OTDR test set-up
- Trace analysis
- Compute a link loss budget

#### Wrap Up and Review

