



# Fiber Foundations

Detailed Course Outline

This e-learning course provides an overview of basic fiber optic theory, terminology, and product characteristics. It was developed to introduce fiber optics to anyone involved in the industry or preparing to take further training. Designed with the novice in mind, Fiber Foundations introduces basic concepts for fiber optic communications, using easy to understand language and examples.

Fiber Foundations is self-paced and will take approximately two hours to complete. The easy to understand descriptions include helpful examples and animations to reinforce the learning. The student will come away with a basic understanding of multimode and single-mode fiber, be familiar with terminology used for describing fiber, loss, bandwidth, wavelengths, connectors, cables and other foundational concepts. The course includes review questions to assure the concepts have been understood.

**Prerequisites:** None. Entry level.

**Certifications and Credits:** BICSI Continuing Education Credits  
Light Brigade Certificate of Completion

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## Introduction

### Fiber Basics

- Digital communication
- What is fiber optics?
- Sizing up fiber
- Fiber characteristics
- Fiber modes
- Fiber basics review

### Fiber Theory

- Refraction
- Attenuation
- Categorizing attenuation
- Wavelength and attenuation
- Bandwidth and dispersion
- Fiber theory review

## Cable Design

- Loose tube
- Tight buffered
- Cable design review

## Fiber Connections

- Connectors
- Splicing
- Connectors review

## Standards Committees

- Standards
- Codes
- Standards committees

## Course Review

- Fiber Foundations quiz