



# Welcome to Fiber

IPC\_125d | On-Demand | Transport | ⚙️

Course Duration: 1 hour

This course covers the basics you need to handle fiber connections properly. The course introduces the basics of light, the anatomy of a fiber-optic cable, and some basic concepts used when transmitting information over fiber, like Wavelength Division Multiplexing (WDM).

## Intended Audience

This course covers the basics of light and fiber optic cables, as well as the operations of a fiber for a broad audience – both technical and non-technical.

## Objectives

After completing this course, the student will be able to:

- Describe basics of light and fiber optic cables
- Describe the operations of a fiber
- Describe the anatomy of optical fiber
- Compare and contrast SMF and MMF
- List factors working with connectors and ferrules
- List best practices working with fiber and SFPs
- Describe key components in WDM systems

## Course Prerequisites

No Prerequisites

## Outline

1. Fiber Basics
    - 1.1 Light Basics
    - 1.2 All About SFPs
    - 1.3 Fiber Anatomy
    - 1.4 SMF vs. MMF
    - 1.5 Connectors and Ferrules
  2. Fiber Operation
    - 2.1 Power Loss, Dispersion and Attenuation
    - 2.2 Physical Impairments in Fiber
    - 2.3 Fiber Cleaning
  3. Fiber Troubleshooting
    - 3.1 What's wrong with this picture?
  4. Wavelength Division Multiplexing
    - 4.1 Wavelength Division Multiplexing
    - 4.2 CWDM vs. DWDM
    - 4.3 WDM Systems
    - 4.4 CWDM Systems
- Final Assessment

