

Aerospace Fiber Optics Course Outline

Session 1: Fiber Optic Familiarization

- Introduction
 - Transmission principles
- Fiber Optic Familiarization
 - Terms & Definitions
 - Authority (Controlling document)
 - What is it?
 - History
 - Material Handling
 - Assembly Identification
 - Do's and Don'ts
 - Personal Safety
 - Fiber Optic Hazards – Safety
- **Q & A Review:** Review what we learned
- Outside Assignment: None

Session 2: Fiber Optic Assembly

- Safety
- Material Handling
- Assembly
 - Installation of Fiber Optic Termini into Connectors
 - Removal of Fiber Optic Termini from Connectors
 - Build up of Connector
- **Exercise 1: Assemble Fiber Optic Cables**
- **Q & A Game:** Review what we learned
- Outside Assignment: None

Session 3: Fiber Optic Routing and Installation

- Safety
- Material Handling
- Bundle Tying
 - Tying
 - Protection
 - Lock Stitch
 - Panduit's
 - Tape Tie
- Support
 - Drip loop
- Mating Connectors
- Practice per Quality Requirements
- **Exercise 2: Route Cables on practice board**
- Routing and Installation
 - Routing Requirements
 - Slack
 - Clamping
 - Protection
 - Installation of Connector Receptacles
 - Mating connectors with Fiber Optics
- Rework
- Inspection of Termini End Faces
 - Accept and Reject criteria
- Tests
 - Written test
 - Continuity test
- **Q & A Game:** Review what we learned, Fiber End Faces
- Outside Assignment: None

Session 4: Fiber Optic Inspection and Evaluation

- Safety
- Material Handling
- Continuity testing
- Inspection and Evaluation
 - Cleanliness
 - Damage
- Inspection review
- **Exercise 3: End Face Examination**
- Outside Assignment: None

Session 5: Fiber Optic Cleaning

- Termini End Face Cleaning, Cleaning Procedures
 - Clean Blast
 - Dry Swab
 - Wet Swab
 - Pen
- Alignment Sleeve
 - Inspection
 - Cleaning
- **Exercise 4: Cleaning Practice, Inspect and Clean**
- Outside Assignment: None

Session 6: Fiber Optic Testing

- Light Loss Testing
 - Budget
 - Set up
 - Process
- **Exercise 5: Test Cables**
- **Q & A Game:** Review what we learned
- Final Review
- **Final Exam**