

**Course Name:** T3/DS3 Testing for Telecom Technicians

**Course Overview:** This class is focused on teaching technicians and engineers with T1/DS1 experience the basics of the T3/DS3 technology as well as ensuring they understand proper installation and maintenance techniques. Partner this one day course with TESSCO's DS1/T1 testing concepts course for a great three day program. This course focuses on proper troubleshooting and installation practices as well as an overview of DS3/T3 fundamentals. Several labs are included to ensure the student can operate T3 test equipment as well as efficiently test and monitor DS3 systems. The course is designed to detect potential problems as well as detailed signal analysis to ensure minimal down time.

**Course Length:** 1 day

**Who should attend:**

- Field Service Technicians
- Switch Technicians
- Design Engineers
- Managers/Field Supervisors
- Field Engineers

**You will learn:**

- DS1/DS3 Industry Overview
- DS1 Technology Review
- DS3 Technology
- DS3 Network Equipment
- DS3 Test Equipment
- T3/DS3 Installation techniques
- T3/DS3 Maintenance and Troubleshooting Techniques
- Overview of Channelized Testing Concepts

**Prerequisites:** None

**Customizable:** Yes



## Course Content:

### DS1/DS3 Overview

- Wireless applications
- Basic speeds/abilities

### DS1 Review

- Formatting the signal
- Equipment
- Basic testing concepts

### DS3 Technology

- Multiplexing the signal
- Framing the signal
- Coding the signal

### DS3 Network Equipment

- Multiplexers, DSX-3, DCS... Connections/Cable
- Provider's equipment
- Demarcation

### DS3 Test Equipment

- Types of test equipment
- Equipment operation/setup
- Connections to a T3/DS3
- Testing techniques
- Test parameters

### Lab1 – Test Equipment

- Product Overview
- Loop Test

### Installing DS3s

- BERT
- Recommended Stress patterns
- Test Access points
- DS3 loop back Testing
- End/End testing
- Verifying service parameters

### Lab2 – Test Equipment

- BERT
- Stress Patterns
- Measurements
- Signal Analysis

### Maintaining DS3s

- Test Access points
- Monitoring DS1s/channels
- Monitoring signal quality
- Monitoring Alarms and Errors

### Lab 3- End/End Testing

- Verify signal/framing
- Analyze problem

### Channelized Testing

- Monitoring DS1s from DS3s
- Monitoring DS0s from DS3s
- Monitoring Fractional T1s (FT1s) from DS3s
- Drop and Insert testing