

Hands-On

Basic Networking for Telecom Technicians



Course Description

This 2-Day Hands-On course is a must for persons entering the field of telephone communications. In the first part of this course, students will learn about basic electricity / electronics as it applies to telecommunications, basic telephony terms and concepts commonly used in the field today. In addition, the student will learn the basic components of the telephone network from the customer equipment to the outside plant, central office and the toll network.

The second portion of this course expands from the basics learned in the first part and covers basic networking as it applies to understanding of hubs, routers, switches, modems, cabling, etc.



Each student will have Hands-On training in basic meter reading, trouble isolation and basic networking terminologies and how they all work together in today's telecom environment.

Students Will Learn

- **AC/DC and Series/Parallel Circuits**
- **Ohms Law**
- **Telephone System Components**
- **Outside Plant**
- **Central Office and Switching**
- **Bonding, Grounding and Protection**
- **Basic Networking**
- **Analysis and Problem Solving**
- **Understand Basic Provisioning, Maintenance and Troubleshooting**
- **And More**

Target Audience

Anyone entering the telephone, communications, electrical and/or similar industry.

Prerequisites

None.

Course Outline

Module I: Basic Electrical Principles

- Basic electrical concepts
- Series and parallel circuits
- AC and DC
- Voltage, Current, and Resistance
- Ohms Law
- Inductance, Capacitance and Impedance

Module II: Basic Telephony (POTS)

- Analog Voice Frequency
- Basic telephone set operation
- Tip and Ring cable pair
- Basic Central Office
- Dial pulses and DTMF
- NID (Network Interface Device)
- Inside wiring and phone jacks
- Cable construction
- Cable pair color code
- Aerial plant, closures and drops
- Buried plant, pedestals and buried drops
- Load Coils
- Remotes, remote terminal pair gain equipment
- Main distributing frame and vault

Module III: Bonding & Grounding and Protection

Basic concepts and code requirements
At the customer premise
In the outside plant
In the central office

Module IV: Fiber Optics

Fiber optic basic principles
Fiber optic cable types
Fiber optic applications
Fiber network technology

Module V: Basic Networking

- Networking terminologies
- Cabling and connections
- Hubs
- Modems
- Routers
- Switches
- Splitters
- Filters
- Basic set up and testing
- And More...

Delivery Method

Instructor led with numerous Hands-On labs and exercises.

Equipment Requirements

(This apply's to our hands-on courses only)

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

Course Length

2 Days