



ET 2.0: Telecommunications Technical Curriculum (TTC) Program 2: General Telecommunications Knowledge Course 2: Transmission Systems

PROGRAM OVERVIEW

The ExperTech 2.0 series is a library of CD-ROM or intranet-based products covering key communications topics. Seminar style presentations provide telecom professionals with easy access to the information they need. Topics are presented by Hill Associates instructors renowned for their technical expertise, industry experience, and outstanding presentation style.

The *Telecommunications Technical Curriculum (TTC)* has a total of five programs, each of which consists of one or more courses. TTC is a modular, yet comprehensive program designed around the needs of those who want the details but cannot attend a more traditional classroom-based, leader-led program.

Program 2: General Telecommunications Knowledge is a three course series that deals with general concepts and terminology related to the information representation and transmission. In this second course, *Transmission Systems*, we explore a range of different transmission systems used to deploy carrier and MSO networks including Microwave systems, the North American digital system hierarchy, the synchronous optical network (SONET) and next generation SONET as well as wave division multiplexing systems, and the hybrid fiber/coax network, including both transport and access components of the various network types.

Program 2, Course 2: Transmission Systems runs 88 minutes, and includes six lessons of audio, interactive elements, review slides, section knowledge checks, and a final exam. The participant can expect to spend about twice this amount of time to complete the course.

This program has three primary objectives:

- Explain transmission systems in carrier and MSO network deployments
- Examine the digital signal hierarchy from DS-0 to SONET, next-generation SONET systems, and wavelength division multiplexing
- Explore the structure of the MSO hybrid fiber/coax infrastructure

Specific topics can be developed, or packaged together to create a unique and customizable curriculum. All of our standard titles are available for preview at our store (www.hill.com/store).

About Hill Associates

At Hill Associates, we excel at creating custom talent development programs. Our experts help identify and assess your needs, and create training and educational programs that exactly meet those needs. Though we specialize in information technology, we've strengthened companies and organizations in a wide range of industries for over 25 years. Let us help you create a world-class talent development program that moves your business forward.

PROGRAM OUTLINE

Lesson 1: Microwave Systems

- Explores the nature of microwaves and how they can be deployed as satellite and terrestrial systems

Lesson 2: Digital Signaling Hierarchy

- Describes the transmission rates, cable plant, and general functions of DS-0, DS-1, and DS-3 transmission environments

Lesson 3: SONET

- Examines the SONET standards and architecture, including sublayers (Path, Line, Section, Photonic) and rings (UPSR, 2F-BLSR, 4F-BLSR)

Lesson 4: Next Generation SONET

- Explores SONET enhancements (VCAT, LCAS and GFP)

Lesson 5: Wavelength Division Multiplexing

- Identifies the need for WDM and differentiates among the types (WWDM, CWDM, DWDM)

Lesson 6: Hybrid Fiber/Coax

- Structure of an HFC network including components (optics, cable, nodes, amplifiers), frequency allocation and end equipment (CMTS, HDT, MTA/eMTA, modem, set-top box)