



Entertainment Networks

PROGRAM OVERVIEW

Content delivery has undergone radical changes over the past several years. We used to receive our video entertainment over the air only; now cable architectures are digital and bidirectional. The traditional telcos are now in the game, and video services are under attack from “over-the-top” Internet delivery services such as Hulu.

This course examines the architecture and technologies in entertainment delivery networks. It opens with a review of common video formats, beginning with analog, moving to MPEG-2, and concluding with MPEG-4. We then look at the video acquisition systems. This is followed by a look at the grooming required to deliver programming to customers, including a discussion of ad insertion. Next, we review approaches to video distribution networks, especially the application of SONET and WDM technology. Approaches to customer access follow, including a review of hybrid fiber/coax, fiber-to-the-node, and fiber-to-the-premises. Finally, we examine the in-home network and the role and function of the set-top box in service delivery.

The program has seven primary objectives.

- Describe analog and digital television formats
- Identify key digital compression standards for video distribution
- Discuss how pay TV providers acquire programming
- Describe the grooming process in cable TV networks
- Describe the distribution system for cable TV providers and telcos
- Identify the characteristics of the video access networks
- Discuss the functions of the set-top box in video delivery

Hill Associates can customize this program to address your specific Sales Engineering talent development program goals. We will work with you to identify the specific technologies and solutions you wish to discuss, to understand your particular competitive market, and develop case studies that focus on unique challenges facing your customers.

About Hill Associates, Inc.

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: Introduction to Television

- Examine the concepts of scanning (interlaced vs. progressive) as they relate to video
- Explore the structure of the analog television signal (blanking interval, fields, frames) and the relationship between frame speed and flicker

Lesson 2: Digital Compression

- Explore concepts related to the compression of digital television including digitization of video, entropy and predictability, spatial and temporal compression, and MPEG standards
- Discuss audio digitization and compression techniques

Lesson 3: Content Distribution

- Present options for the transport of digital audio and video
- Examine the basic features of the MPEG-2 Systems Layer
- Identify sources of digital television standards

Lesson 4: Video Access Networks

- Examine the architectural elements of the hybrid fiber/coax (HFC) cable plant, including elements of both the coaxial distribution network (amplifiers, subscriber tapes, coaxial cable) and the optical distribution network (optical nodes and fiber)
- Discuss signal acquisition, processing, transport, and subscriber terminal equipment