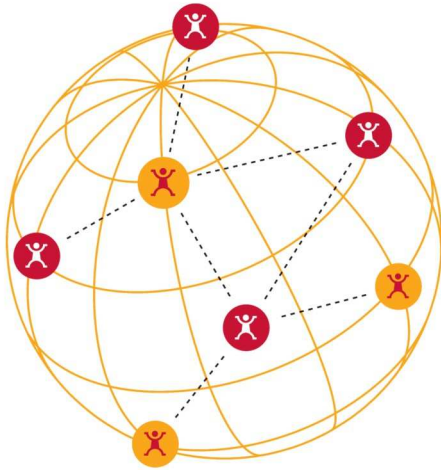


TRAINING PROGRAM OUTLINE



ENG-100E OVERVIEW OF TELECOM TECHNOLOGIES & SERVICES

DESCRIPTION

A 5-day Training Program to provide participants with an overview of telecommunications technologies and services and an understanding of telecommunications networks.

OBJECTIVES

- Describe the fundamentals of the telecommunications network and its evolution
- Define common telecommunications terms and technologies
- Provide an understanding of public and private network technologies and services
- Explain the use of customer premises equipment in various customer specific applications and services
- Provide an overview of various telecommunications technologies including Voice over IP (VoIP), metro Ethernet and Wi-Fi/WiMAX
- Provide an understanding of voice and data convergence in telecommunications networks and Quality of Service (QoS) issues arising from convergence



TOPICS

- Telecommunications fundamentals
 - Evolution of telephone technologies
 - Telephony standards
 - Plain Old Telephone Service (POTS)
 - Public Switched Telephone Network (PSTN)
 - Circuit and packet switching
 - Analog and digital technologies
 - The Internet
 - Central office connections (local loops)
 - Access points
 - Cabling
 - Transport and signaling networks
 - Data over switched telephone networks
 - Access and terminal equipment networks

- Telecommunications terms and technologies
 - Bandwidth and capacity
 - Encoding/decoding
 - Modulation/demodulation
 - Multiplexing/demultiplexing
 - Synchronous and asynchronous transmission
 - Local Area Networks (LANs) and Wide Area Networks (WANs)
 - Network architectures

- Public and private telephone networks
 - Leased lines and trunks
 - Switched networks
 - Switched circuit and packet services
 - Dedicated services
 - Intelligent networks
 - Signaling System 7 (SS7)
 - Transmission media

- Customer premises equipment and services



- Private Branch eXchange (PBX)
 - Key Telephone System (KTS)
 - Centrex: analog and digital
 - Automatic Call Distribution (ACD)
 - Computer Telephony Integration (CTI)
 - Interactive Voice Response (IVR)
 - Voice mail
 - Virtual Private Networks (VPN)
- Emerging technologies and applications
 - Voice and data integration
 - Digital Subscriber Line (DSL)
 - VoIP
 - Cable modems
 - IP Centrex
 - IP VPNs
- Digital access and transport systems
 - Digital hierarchies (T1 /T3, E1 /E3)
 - Integrated Service Digital Network (ISDN)
 - Basic and Primary Rate Interface (BRI/PRI) ISDN
 - Digital Access and Cross-connect System (DACCS)
 - xDSL
 - Synchronous Optical Network (SONET)
 - Synchronous Digital Hierarchy (SDH)
 - Frame relay
 - ATM
 - Metro Ethernet
 - Wireless communications
- Wireless communications
 - Components of wireless networks
 - Fixed broadband access
 - Wireless LANs/WANs
 - Microwave communications
 - Satellite communications
 - Second Generation (2G) mobile technologies (GSM, TDMA, CDMA networks)
 - Third Generation (3G) mobile networks and beyond



- Personal Communications Service (PCS) standards
- Wi-Fi/WiMAX
 - Technology overview
 - Wi-Fi/WiMAX applications
- Convergence
 - Voice and data networks
 - Applications and services (triple and quadruple plays, presence services)
 - Voice over different media
 - QoS

TARGET AUDIENCE

- New telecommunications personnel in engineering or operations interested in a general overview of telecommunications technologies and services
- Telecommunications managers looking to complement their skill-set by gaining a better understanding of telecommunications technologies and services

METHODOLOGY

Our Training Programs combine expert presentations, workshops, case studies and discussions on real-life situations faced by participants. Complete training material is provided to all participants for future reference and follow-up action plans.



LOCATION

Our Training Programs are held at regular intervals in selected cities around the world. Upon request, our expert trainers can lead Training Programs at the location of your choice. If interested, please contact us at training@neotelis.com.

EXPERTISE

Neotelis provides consulting and training services to telecommunications organizations worldwide. Its team of experts has trained thousands of executives and managers working for operators, regulators, policy-makers and governments in over 100 countries around the world.

