



## ENG-413 - IP Network Essentials for Managers

### Description

*\*This course is also available as a live distance learning course\**

A 2-day training course that will introduce participants to data networks and TCP/IP and provide an understanding of the key principles, technologies and protocols that drive the Internet and today's corporate data networks.

### Objectives

- Understand the fundamental principles of data networks and how they apply to a corporate network
- Grasp the key concepts and features of TCP/IP, and their use and importance in a data network
- Understand important services delivered over a data network
- Grasp key security issues associated with data networks
- Obtain a high-level view of the optimization and troubleshooting of a corporate network

### Topics

\*Note: the course structure may be subject to change as trainings are updated on a regular basis.

#### Introduction

- Network fundamentals
- The evolution to data networks
- How the Internet is built
- Main elements and components of a corporate network

#### Demystifying IP terminology What is TCP/IP?

- Overview
- The TCP/IP stack and its layers
- Open Systems Interconnection (OSI) reference model
- Protocols
- What does TCP/IP do?

#### Data link layer of the TCP/IP stack

- Functions and importance
- Network types and topologies
- Ethernet for LANs/WLANs
  - Standard IEEE 802

#### Network layer of the TCP/IP stack

- Functions and importance
- Routing
- Internet Protocol (IP)
- ARP protocol
- ICMP protocol

#### Transport layer of the TCP/IP stack

- Functions and importance
- TCP (Transport Control Protocol)
  - Uses: FTP, HTTP
- UDP (User Datagram Protocol)
  - Uses: DNS, DHCP and real-time traffic transport (ex. voice)
- TCP vs. UDP

#### Security

- Basic principles of network security
- Types of security issues in data networks
- Security mechanisms
- Firewalls and encryption

#### Data network applications and services

- Web browsing, e-mail, IM, VoIP, video and other services

#### Basics of optimizing and troubleshooting LANs/WANs

- Tools and guidelines

#### **Target Audience**

- Telecom managers who need an understanding of data networks and the Internet Protocol (IP) suite in the context of the convergence of voice and data networks and/or a VoIP implementation in their organization

#### **Methodology**

A combination of engaging activities and dynamic presentations to stimulate and maximize participants' learning.

- **Dynamic and interactive presentations**
- Covering **key concepts** in a **concise** manner

Presentations



- **Presentation** of a given situation
- **Analysis**
- **Recommendations & course of action**

Case studies



- **Real-life examples** illustrating **key concepts**
- Focusing on **recent events**

Recent examples



- **Individual and group work** to practice using the tools acquired during the course

Hands-on workshops



- **Discussions** about **on-the-job situations** faced by participants
- **Sharing of experiences**

Group discussions



## Location

A selection of Neotelis' training courses is held in various cities around the world. Please contact us at [training@neotelis.com](mailto:training@neotelis.com) for the complete Yearly Training Calendar.



Neotelis can also deliver in-house sessions of this course specifically for your organization. Please contact us at [training@neotelis.com](mailto:training@neotelis.com) for more information and a Proposal.

## About Neotelis

Neotelis provides training, consulting, conferences and publications to the telecommunications industry worldwide. Its team of senior experts has trained thousands of executives and managers working for operators, regulators, policy-makers and governments in over 120 countries around the world.

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