



Telecommunications (CCNT)

Local Area Networks (LANs) – Student Guide

Local Area Networks (LANs) – Student Guide is an instructor-led course that develops critical understanding of the concepts and technology of LAN topologies, information transfer, transmission techniques, media standards, and network management.

Course Length: 3 days

Version: 6.0

Product Code: PCL03-CNLANS-PR-205

System requirements: Intel486, Windows 95, 98, NT 4.0 & Windows 2000, 32MB RAM, 30MB of free HD space, 2x CD-ROM, IE 5.0 or Netscape 4.06 or later, 28.8kbps modem, video card w/1MB memory, Internet connection and browser for testing.

Related Courseware: Basic Data Communications, Basic Telecommunications, Computer-Telephone Integration (CTI) Essentials, Broadband Technologies, Voice over IP (VoIP) Essentials

What's in Local Area Networks (LANs) – Student Guide?

This 3-day instructor-led, concept-based course presents the concepts and technology of LAN topologies. Students will learn about Bus, Ring, Tree, Star Mesh and Wireless topology and information transfer technologies. Students will also be introduced to transmission techniques, including baseband, broadband, fiber optic and wireless techniques, as well as transmission media. LAN standards, LAN components, and advanced LAN technologies will also be addressed.

The LAN course is one of six courses required to achieve the CCNT certificate. The CCNT certificate program is a powerful tool for gaining entry-level, interdisciplinary criteria for convergence. This program is job-role neutral, and is essential for individuals in a job role who require a baseline knowledge of convergence disciplines.

CCNT certificate testing is administered online at www.TelecomPREP.com. Upon successfully passing the six module tests, the user earns a CCNT Certificate of Completion from the TIA and can then display the CCNT logo on business cards.

Why do I need Local Area Networks (LANs) – Student Guide?

- CCNT certificate satisfies basic industry knowledge and vocabulary requirements. Building block for advanced vendor specific technology.
- When combined with the remaining CCNT courses, it satisfies the CCNT certificate sponsored by the TIA. This program is recognized as one of the industry standards for network telecommunications.
- Enhances on-the-job training. Provides one of the core essentials for network telecommunication. Applied learning may improve employee job understanding and performance.



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Topics

Section I - Overview

- Local Area Networks
- LAN Advantages
- LAN Elements
- LAN Users
- The LAN Market

Section II – Topologies

- Bus Topologies
- Ring Topologies
- Tree Topologies
- Star Topologies
- Mesh Topology
- Wireless (Cell) Topology
- Hybrid Topologies

Section III – Information Transfer

- Data Transport and Protocols
- Access Method Overview
- CSMA/CD (Ethernet)
- Token Ring
- Token Bus
- Summary

Section IV – Transmission Techniques

- Analog and Digital Transmissions
- Baseband Transmission
- Broadband Transmission
- Hybrids
- Fiber Optic Transmission
- Wireless Transmission
- Comparison

Section V – Transmission Media Overview

- Twisted Pair Cable
- Coaxial Cable
- Fiber Optic Cable
- Infrared

Section V – Transmission Media--Continued

- Short-Range Wireless
- Microwave
- Satellite
- Section VI – LAN Standards
- The Elements of a LAN Standard
- OSI Reference Model
- TCP/IP and SNA
- IEEE Committees
- IEEE 802.x Standards

Section VII – LAN Components

- Networking Components
- Servers
- Network Operating Systems (NOSs)
- Local Networking Components
- Internetworking Components

Section VIII – Network Management

- Network Trends
- Network Management
- User Management
- Network Hardware and Software Management
- Functional Areas of Network Management
- Management Protocols
- Planning a Network

Section IX – Advanced LAN Technologies

- From LANs to WAN
- Basic WAN Technologies
- Advanced WAN Technologies
- Frame Relay
- SONET
- Cell Relay: ATM/SMDS/BISDN
- Virtual Private Networks (VPNs)



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