

COURSE OUTLINE

Revision: Jay Abram - Date: January 2009

DEPARTMENT: Technical Education
CURRICULUM: Computing Technology
COURSE TITLE: Local Area Networks I, Network Administration
COURSE NUMBER: CTN 270
TYPE OF COURSE: Vocational Preparatory
COURSE LENGTH: 1 quarter
CREDIT HOURS: 5
LECTURE HOURS: 55
LAB HOURS: 0
CLASS SIZE: 24
PREREQUISITES: CSC100 and CTN 141

COURSE DESCRIPTION:

Introduces the student to networking concepts, terminology and technologies including the history of networks, the OSI reference model, standards, common protocols, data transmission techniques, data transmission processes and network structures. Includes error handling and communication hardware. Explores popular network systems. Prereq: CSC 100 and CTN 141 or equivalent.

STUDENT LEARNING OUTCOMES ADDRESSED:

1. Technology Outcome: Demonstrate problem solving and network design by utilizing critical thinking skills.
2. Personal Responsibility: Demonstrate time management skills and independent work habits.
3. Demonstrate decision-making techniques by gathering and comparing data, selecting an appropriate action, and evaluating the decision made

PROGRAM OUTCOMES ADDRESSED:

- 1b Identify network devices and OSI components and systems.
- 1c Identify network devices and operating systems combinations.
- 2a Install and properly configure network devices and related operating systems.
- 2d Be able to install, configure, and use various Microsoft, Novell, and open source operating systems.
- 4a Use critical thinking for analysis of hardware, OS, or network problems.
- 4b Access information efficiently and accurately to resolve computer problems.
- 4c Work effectively with others to accomplish complex tasks.

GENERAL COURSE OBJECTIVES:

At the end of the course the student will:

- 1. Identify various network technologies.
- 2. Properly use network terminology in describing networks.
- 3. Select proper topology needed for setting up various network designs.
- 4. Identify specifications of various network media.
- 5. Identify and define basic network topologies
- 6. Install and configure a Windows 2000 peer-to-peer network.
- 7. Install network server software for various network servers.
- 8. Build and test Unshielded Twisted Pair (UTP) cables.
- 9. Identify layers of OSI Reference models and list how each refers to networking.
- 10. Identify 3 main protocol types and the layers of the OSI Model that relate to each type.
- 11. Identify major network architectures and the standards that govern each.
- 12. Design a layout showing how modems are used for network communication.
- 13. Visually identify various pieces of network hardware.
- 14. Outline how data packets are created and routed through the network.

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TOPICAL OUTLINE:

APPROX. HOURS

I. Topologies, wiring & connectivity	5.0
II. OSI reference model	5.0
III. Network Operating Systems	5.0
IV. TCP/IP fundamentals	5.0
V. TCP/IP Utilities	5.0
VI. Network installation & Configuration	5.0
VII. Network Remote Access Protocols	10.0
VIII. Network Security	5.0
IX. Fault tolerance & recovery	3.0
X. Troubleshooting network problems	7.0
Total	<hr/> 55.0 Hours

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