

COURSE OUTLINE

Revision: Jay Abram - Date: January, 2009

DEPARTMENT: Technical Education
CURRICULUM: Computing Technology
COURSE TITLE: PC Hardware II, Network Administration
COURSE NUMBER: CTN 171
TYPE OF COURSE: Vocational Preparatory
COURSE LENGTH: 1 Quarter
CREDIT HOURS: 5
LECTURE HOURS: 44
LAB HOURS: 22
CLASS SIZE: 24
PREREQUISITES: CTN 170

COURSE DESCRIPTION:

This course's focus is on A+ hardware certification. Instruction includes the following components video display systems, multimedia devices, SCSI, printers, cable building, preventative maintenance, and beginning technical support for operating systems. Offers further instruction in troubleshooting techniques. More customer interaction techniques, systematic approach to troubleshooting and economic guidelines with regard to "repair or replacement" choices. A+ core hardware examination blueprint is brought into each class session. Hands on experience with a wide variety of computers and situations are provided.

STUDENT LEARNING OUTCOMES ADDRESSED:

1. Technology - Demonstrate problem solving and network design by utilizing critical thinking skills.
2. Human Relations - Use social interactive skills to work in teams effectively

STUDENT LEARNING OUTCOMES ADDRESSED (Con.d):

3. Personal Responsibility - Be able to demonstrate time management skills and independent work habits.
4. Personal Responsibility -: Recognize the need to continue to learn computer hardware and software and adapt to industry changes

PROGRAM OUTCOMES ADDRESSED:

- 1a Identify hardware and operating systems components and proper combinations.
- 1c Identify network devices and operating systems combinations.
- 2a Install and properly configure network devices and related operating systems.
- 2b Install and properly configure PC hardware devices and operating systems.
- 3a Select, implement appropriate troubleshooting tools and methods for problem solving.
- 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. Be confident enough to take the A+ Core Hardware Certification Exam
2. Know the industry standard requirements for a Windows 9x, ME, 2000 and XP computers
3. Know the basic Plug and Play principles
4. Demonstrate the installation of at least one SCSI device
5. Know methods to minimize PC virus attacks; eradicate viruses
6. Know the 'care and feeding' of computers and the cautions to obey
7. Compare and contrast the usage, functionality, and theory of FAT 16 and FAT 32
8. Know at least 2 diagnostic software tools.
9. Be able to manipulate TSR's
10. Know Fdisk
11. Learn the basics of building a PC from scratch installing the OS and drivers.
12. Know how to load all of the OS's and their hardware requirements.
13. Understand basic printing principals
14. Know basic hardware networking techniques

TOPICAL OUTLINE:	APPROX. HOURS
I. Introduction	4.0
a. Review of CTN170 topics as necessary	
b. Industry standard rules of computer ethics	
II. Integration of the A+ Core Hardware Examination Blueprint	2.0
III. Hardware components	20.0
a. CPU's: newest advances	
b. Multiple Hard drive installations – 4 hard drives in 1 system	
i. Review Fdisk	
c. Monitors	
d. SCSI concepts using tape backup units	
i. RAID Units	
ii. Setting up a SCSI Sub-system	
e. Scanners	
IV. Software Installation	10.0
a. TSR's	
V. Software that directly affects hardware	5.0
VI. Installing and upgrading DOS, Win 3.x, Win 95, Win 98, Win 2000, WIN ME, WIN XP	
a. Working with command line	
VII. Computer Building	25.0
a. Concepts	
b. Components	
c. Physical install	
d. What to do after the parts are installed	
i. Driver installs	
e. Utilities	
Total	<hr/> 66.0 Hours

WRITTEN BY: R. Peterson
REVISED BY: Jay Abram
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