



New Horizons Regional Education Center
Computer Network Essentials
Mr. Gregg E. Harris
Syllabus – 2010/2011
gregory.harris@nhrec.org
(757)766-1100, Ext.3332

Class Hours

7:40 a.m. – 10:00 a.m.
12:15 p.m. – 2:35 p.m.

Course Description

The Networking Fundamental textbook prepares anyone wishing to pursue a career in information technology. It provides the skills and basic knowledge required before pursuing studies in specific networking fields, such as network administration, network design, and the support of specific network operation system.

This textbook meets the required knowledge for the National Occupational Competency Testing Institute (NOCTI) and CompTIA Network+ Certification exam, and provide the basic skills and knowledge needed to successfully enter the field of computer networking. Networking Fundamentals textbook contains detailed explanations about concepts, rather than just presentations of key points and specifications. Many concepts may seem confusing or incomplete when first presented. As you progress through the textbook, you will learn other knowledge that will help you grasp previously presented concepts. This is why it is imperative that you constantly review previously learned subjects. Many of the concepts covered in early chapters will not become completely clear until later in the textbook.

Required Textbook

Networking Fundamental &
Laboratory Manual
Author: Richard M. Roberts
Copyright: 2005
Publisher: Goodheart-Wilcox

(ALL-IN-ONE) Network+ Certification
Author: Michael Meyers
Copyright 2002
Publisher: McGraw-Hill/Osborne

Dreamweaver Comprehensive CS4
Author: Shelly Cashman Series
Copyright: 2010
Publisher: Gary B. Shelly & Dolores J. Wells

Course Fees

NOCTI Pre-test	\$11.00
NOCTI Post-test	18.50
VICA	<u>16.00</u>
Total	\$45.50

Evaluation of Student Performance/Grading

Employability Skills – 30%

Related Instructions (Class Assignments, Projects, Quizzes) 35%

Competencies – 35%

First Nine Weeks

I. Course Introduction

Introduction to New Horizons

- A. Staff
- B. Classroom Rules
- C. School regulation and Procedures
- D. Safety

II. Network+ Certification

- A. Introduction to Network+
- B. Building a Network with OSI
- C. Hardware Concepts

III. Basic LAN/WAN

- A. Basic/Modern Ethernet
- B. Understand the OSI Model and the seven layer
- C. Network Interface Card
- D. Describe and demonstrate MAC addressing
- E. Understanding the concept of topology
- F. Structured Cabling
- G. Understanding of electrical concepts to design a safe wiring system
- H. Protocols
- I. TCP/IP
- J. Network Operating System

Second Nine Weeks

IV. Beyond the Basic LAN

- A. Resources
- B. DNS/DHCP/WINS
- C. TCP/IP with the Internet
- D. Understanding IP addressing
- E. Demonstrate an understanding of binary numbering system
- F. Remote connectivity
- G. Protecting your Network
- H. Network Support
- I. Understanding routers, bridges, hubs and functions
- J. Set up and configure routers, bridges, hubs

V. Computer Repair

- A. Using tools for Computer Repair
- B. Demonstrate troubleshooting techniques
- C. Trace boot-up procedure
- D. Install Hardware/Software
- E. Set jumpers and switches found on the motherboard
- F. Install new drivers
- G. Installing and Running Operating System
- H. Disassembling & Reassembling a computer
- I. Setting up a computer
- J. Troubleshoot peripheral components
- K. Examining Lap Top computers
- L. Installing/Removing Batteries, RAM, Screen

Fourth Nine Weeks

IV. Examining Hypertext Markup Language (HTML)

- A. Using tags
- B. Creating files
- C. Viewing source code
- D. Working with Text and Graphics
- E. Aligning text with graphics
- F. Flowing text around graphics
- G. Customizing bullets in lists
- H. Using the ALT attribute
- I. Adding transparent and animated images
- J. Using the <FORM> tag
- K. Adding e-mail links
- L. Adding background and color