



CompTIA A+ Essentials (2009) – Course Outline

Description:

This is the first of two courses in the CompTIA A+ certification program. The course presents concepts and hands-on labs which prepare the student in the fundamentals of computer technology, basic functionality of operating systems, networking, security, basic troubleshooting methodology, safety procedures, and effective interaction with customers and peers.

Performance Objectives:

Upon successful completion of this course, the student will be able to:

1. Distinguish hardware components of personal computers and install field-replaceable components
2. Troubleshoot computer problems, repair field-repairable components, and perform maintenance tasks.
3. Understand operating system concepts, and install and maintain multiple versions of Windows operating systems.
4. Understand networking fundamentals of wired and wireless systems.
5. Understand basic security concepts and technologies.
6. Understand safety and environmental issues when working with computer systems and employ effective communication procedures with customers and peers.

Outline:

I. Hardware

- a. Storage devices and backup media
- b. Motherboard components, types and features
- c. Power supply types and characteristics
- d. Functions and characteristics of CPUs
- e. Cooling methods and devices
- f. Memory types, characteristics and their functions
- g. Display devices and their characteristics
- h. Installing and configuring peripherals and input devices
- i. Functions and types of adapter cards
- j. Installing, configuring, and optimizing laptop components
- k. Installing and configuring printers

II. Troubleshooting, Repair and Maintenance

- a. Troubleshooting procedures for system units and components
- b. Common hardware and operating system symptoms and their causes
- c. Troubleshooting methods and tools for printers
- d. Common laptop issues and appropriate basic troubleshooting method
- e. Common preventative maintenance techniques

III. Windows Operating Systems and Software

- a. Microsoft's family of Windows operating systems and their features
- b. Proper use of user interfaces
- c. Process and steps to install and configure the Windows OS
- d. Basics of boot sequences, boot methods and startup utilities

IV. Networking

- a. Networking fundamentals
- b. Networking technologies
- c. Network hardware devices
- d. Network transmission protocols
- e. Network cables and connectors

V. Security

- a. Basic principles of security concepts and technologies
- b. Wired, wireless, and software security features

VI. Safety, Environmental, and Operational Procedures

- a. Electrical hazards
- b. Size, weight, and emissions hazards
- c. Applying communication skills and professionalism in the workplace