

# **CompTIA® A+® Certification: A Comprehensive Approach for All 2009 Exam Objectives (Windows 7)**

**Course length:** 5.0 day(s)

## **Course Description**

**Course Objective:** You will install, upgrade, repair, configure, optimize, troubleshoot, and perform preventative maintenance on basic personal computer hardware and operating systems.

**Target Student:** The target student is anyone with basic computer user skills who is interested in obtaining a job as an IT professional or PC technician. In addition, this course will help prepare students to achieve a CompTIA A+ Certification.

**Prerequisites:** Students taking this course should have the following skills: end-user skills with Windows®-based personal computers, including the ability to: browse and search for information on the Internet; start up, shut down, and log on to a computer and network; run programs; and move, copy, delete, and rename files in Windows Explorer. Students should also have basic knowledge of computing concepts, including the difference between hardware and software; the functions of software components, such as the operating system, applications, and file systems; and the function of a computer network.

An introductory course in a Windows operating system, or equivalent skills and knowledge, is required. Students can take any one of the following Element K courses: Introduction to Personal Computers: Using Windows XP or Introduction to Personal Computers: Using Windows 7.

The following Element K courses are additionally recommended: Windows XP: Introduction or Microsoft® Windows 7: Level 1.

## **Course Objectives**

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

- identify the components of standard desktop personal computers.
- identify fundamental components and functions of personal computer operating systems.
- identify best practices followed by professional personal computer technicians.
- install and configure computer components.
- install and configure system components.
- maintain and troubleshoot peripheral components.
- troubleshoot system components.
- install and configure operating systems.
- maintain and troubleshoot installations of Microsoft Windows.
- identify network technologies.
- install and manage network connections.
- support laptops and portable computing devices.
- support printers.
- identify personal computer security concepts.
- support personal computer security.

## **Course Content**

### **Lesson 1: Personal Computer Components**

Personal Computer Components

System Unit Components

Storage Devices

Personal Computer Connection Methods

## **Lesson 2: Operating System Fundamentals**

Personal Computer Operating Systems  
Windows User Interface Components  
Windows File System Management  
Windows System Management Tools

## **Lesson 3: PC Technician Professional Best Practices**

Tools of the Trade  
Electrical Safety  
Environmental Safety and Materials Handling  
Perform Preventative Maintenance  
Diagnostics and Troubleshooting  
Professionalism and Communication

## **Lesson 4: Installing and Configuring Peripheral Components**

Install and Configure Display Devices  
Install and Configure Input Devices  
Install and Configure Adapter Cards  
Install and Configure Multimedia Devices

## **Lesson 5: Installing and Configuring System Components**

Install and Configure Storage Devices  
Select and Install Power Supplies  
Select and Install Memory  
Select, Install, and Configure CPUs and Cooling System Units  
Install and Configure System Boards

## **Lesson 6: Maintaining and Troubleshooting Peripheral Components**

Troubleshoot Display Devices  
Maintain and Troubleshoot Input Devices  
Troubleshoot Adapter Cards  
Troubleshoot Multimedia Devices

## **Lesson 7: Troubleshooting System Components**

Troubleshoot Storage Devices  
Troubleshoot Power Supplies  
Troubleshoot Memory  
Troubleshoot CPUs and Cooling Systems  
Troubleshoot System Boards

## **Lesson 8: Installing and Configuring Operating Systems**

Install Microsoft Windows  
Upgrade Windows  
Add Devices to Windows  
Optimize Windows

## **Lesson 9: Maintaining and Troubleshooting Microsoft Windows**

Operating System Utilities  
Back Up Microsoft Windows  
Troubleshoot Microsoft Windows  
Recover Microsoft Windows

**Lesson 10: Network Technologies**

Network Concepts  
Network Communications  
Network Connectivity  
Internet Technologies

**Lesson 11: Installing and Managing Network Connections**

Create Network Connections  
Install and Configure Web Browsers  
Maintain and Troubleshoot Network Connections

**Lesson 12: Supporting Laptops and Portable Computing Devices**

Laptop and Portable Computing Device Components  
Install and Configure Laptops and Portable Computing Devices  
Maintain and Troubleshoot Laptops and Portable Computing Devices

**Lesson 13: Supporting Printers**

Printer Technologies  
Printer Components  
Printer Processes  
Install and Configure Printers  
Maintain and Troubleshoot Printers

**Lesson 14: Personal Computer Security Concepts**

Security Fundamentals  
Security Protection Measures  
Data and Physical Security  
Wireless Security  
Social Engineering

**Lesson 15: Supporting Personal Computer Security**

Install and Configure Security Measures  
Maintain and Troubleshoot Security Measures

**Appendix A: Mapping Course Content to the CompTIA A+ Essentials 220-701 Exam Objectives****Appendix B: Mapping Course Content to the CompTIA A+ Practical Application 220-702 Exam Objectives****Appendix C: CompTIA A+ Acronyms****Appendix D: A Brief History of Personal Computers**