

**Soft-Train**



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# CompTIA A+ Essentials and Practical Application Certification (10 Days) ST32001

**COURSE GOAL:** To prepare the student for the CompTIA A+ Certification Exams 220-701/220-702.

**PREREQUISITES:** Basic use and understanding of personal computers and their related functions

**LEARNING OBJECTIVES:**

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

- Understand the various parts and functions of a computer
- Service and maintain a PC
- Remove and replace floppy drives, hard drives and memory cards
- Configure an operating system
- Troubleshoot operating systems problems
- Install a printer
- Troubleshooting printer problems

**KEY TOPICS:**

**I. Personal Computer System Components**

- A. Identifying Components of Motherboards
- B. Identifying Purposes and Characteristics of Processors
- C. Identifying Purposes and Characteristics of Memory
- D. Identifying Characteristics of Ports and Cables Types
- E. Fans
- F. Memory Cooling

**II. Storage Devices, Power Supplies, and Adapters**

- A. Identifying Purposes and Characteristics of Storage Devices
- B. Identifying Purposes and Characteristics of Power Supplies
- C. Identifying Input Devices
- D. Identifying Purposes and Characteristics of Adapter Cards

**III. Understanding Display Devices**

- A. Understanding Display Types and Settings
- B. Understanding Video Standards and Technologies
- C. Video Standards
- D. Advanced Video Resolutions

**IV. Understanding Laptops and Portable Devices**

- A. Understanding Laptop Architecture
- B. Laptop vs. Desktop
- C. Laptop Case
- D. Motherboards and Processors
- E. Laptop Management

**V. Installing and Configuring Printers**

- A. Understanding Printer Types and Processes
- B. Impact Printers
- C. Bubble-Jet Printers
- D. Laser Printers
- E. Installing and Configuring Printers
- F. Printer Installation Procedures

**VI. Operating System Features and Interfaces**

- A. Understanding Operating Systems
- B. Operating System Terms and Concepts
- C. Using Operating System
- D. Disk Management
- E. File Management

**VII. Installing and Configuring Operating Systems**

- A. File Systems and Directories
- B. Installing Operating Systems
- C. Upgrading Operating Systems
- D. Performing a Repair Install
- E. Common Installation
- F. Installing Device Drivers
- G. Optimizing Windows
- Identifying Boot Sequences

**VIII. Troubleshooting Theory and Preventive Maintenance**

- A. Understanding Troubleshooting Theory
- B. Testing Solutions
- C. Establishing a Plan of Action
- D. Understanding Preventive Maintenance

**IX. Troubleshooting Operating Systems, Hardware, Printers, and Laptops**

- A. Identifying Troubleshooting Resources
- B. Internet/Web Resources

- C. Understanding Operating System and Hardware Symptoms
- D. Troubleshooting Common Laptops Issues

**X. Understanding Networking**

- A. Understanding Networking Principles
- B. Identifying Common Network Hardware
- C. Comparing Network Types
- D. Wired Network

**XI. Understanding Network Security Fundamentals**

- A. Understanding Security
- B. Security Solutions
- C. Locking Workstations
- D. Identifying Security Problem Areas

**XII. Understanding Operational Procedures**

- A. Understanding Safety and Environmental Issues
- B. Using Appropriate Repair Tools
- C. Handling Accidents
- D. Applying Proper Safety and Disposal Procedures
- E. Preventing Electrostatic Discharge
- F. Preventing Electromagnetic Interference
- G. Demonstrating Communication Skills and Professionalism
- H. Communicating with Customers

**XIII. Installing, Maintaining, and Troubleshooting Hardware**

- A. Installing, Configuring, and Maintaining PC Components
- B. Identifying Tools and Diagnostics for PC Components
- C. Applying Basic Troubleshooting Techniques

- D. Removing, Installing, and Configuring Components
- E. Using, Installing, and Configuring Components

#### **XIV. Installing, Configuring, and Troubleshooting Laptops**

- A. Disassembling and Reassembling Laptops
- B. Organizing and Documentation
- C. Replacing Laptop Components
- D. Replacing Hard Drives and Memory
- E. Recognizing Internal Laptop Expansion Slots
- F. Upgrading Wireless and Video Cards
- G. Replacing Other Internal Components

#### **XV. Resolving Printer Problems**

- A. Troubleshooting Printer Problems
- B. DOT-Matrix Printer Problems
- C. Bubble-Jet Problems
- D. Laser Printer Problems
- E. Performing Preventive Maintenance
- F. Performing Scheduled Maintenance

#### **XVI. Operating System Structures and Commands**

- A. Using Operating Systems
- B. Understanding and Navigating Directory Structures
- C. User File Locations
- D. System File Locations

#### **XVII. Operating System Utilities and Troubleshooting Issues**

- A. Performing Preventive Maintenance on Operating Systems
- B. Dealing with Boots Issues

- C. Solving Windows File-Related Problems
- D. Using Windows-Based Troubleshooting Utilities
- E. System Performance and Optimization

#### **XVIII. Installing and Troubleshooting Networks**

- A. Installing and Configuring SOHO Networks
- B. Choosing Connection Types
- C. Troubleshooting Client-Side Connectivity Issues
- D. Using Client-Side Tools

#### **XIX. System Security**

- A. Security Basics
- B. Viruses and Malware
- C. Recognizing Common Attacks
- D. Recovering Operating Systems
- E. Security and Troubleshooting
- F. Access Control