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Computer Technician Professional with CompTIA A+

Format: Self-Pace Online / eLearning
 Program Duration: 6 Months
 Course Contact Hours: 375

The Computer Technician Professional

Computer Technology Industry Association (CompTIA) A+ training offers a standard competency for entry-level service technicians in the computer industry. Earning CompTIA A+ Certification means that an individual possesses the knowledge, skills and customer service skills necessary to be a successful computer service technician offering a nationally-recognized and industry-recognized credential for new entrants into the field. Indeed, CompTIA A+ certification is the most widely-recognized certifications available across the IT industry.

The Computer Technician Professional CompTIA A+ Program

The CompTIA A+ course will build upon students' existing user-level knowledge and experience with personal computer software and hardware in order to present fundamental concepts and techniques that technicians will use every day on the job. Upon completing this course, students will gain the essential skills and technical expertise necessary to install, upgrade, configure, troubleshoot, optimize, repair and perform preventative maintenance on basic personal computer hardware and operating systems. The CompTIA A+ course provides students with the basic knowledge and skills necessary for a career in PC support. The course is designed to fully prepare students to sit for and pass the CompTIA A+ 220-901 and 220-902 certification exams. Course topics include installation, configuration, preventative maintenance of PC hardware components, and the basics of networking, security, virtualization, desktop imaging, and deployment. Students will also gain knowledge of diagnostic and troubleshooting processes for various types of technical issues.

Education and National Certifications

- Students should have or be pursuing a high school diploma or GED.
- There are no state approval and/or state requirements associated with this program.
- National Certification:
 - **CompTIA A+ Certification Exams (220-901 and 220-902)**
 - **Microsoft Office Specialist (MOS) Certification Exam.**

Program Objectives

At the conclusion of this program, students will be able to:

- Describe the common features of PC hardware found on desktop and laptop computers
- Explain network hardware, protocols, and how to build a network
- Identify unique features and concerns specific to laptop computers
- Describe the printing process, installation, and maintenance common printer types
- Describe IT support operational procedures in a workplace
- Explain the features, tools, and installation options of Windows Operating Systems
- Identify the components of Windows Operating Systems networking, preventative maintenance, security settings, and virtualization
- Describe common security threats and security-breach prevention methods
- Explain the network setup, security, and synchronization of mobile devices
- Describe the diagnostic and troubleshooting processes for hardware, software, networking, and security issues
- Use Microsoft Office

Computer Technician Professional w CompTIA A+ Detailed Student Objectives

HARDWARE: PART 1

- Explain how to access, configure, and apply BIOS settings
- Explain motherboard components, their purposes, and properties
- Describe various CPU types and features
- Describe appropriate cooling methods
- Compare RAM types and features
- Describe the function of RAM
- Explain how to install and configure expansion cards
- Explain how to install and configure storage devices and use appropriate media

HARDWARE PART 2

- Describe various connection interfaces and their purposes
- Identify connector types and associated cables
- Describe various power supply types
- Describe the components needed for a custom configuration to meet customer specifications or needs
- Describe various display devices and their features
- Describe how to install and configure various peripheral devices

NETWORKING

- Identify types of network cables and connectors
- Categorize characteristics of connectors and cabling
- Explain properties and characteristics of TCP/IP
- Explain common TCP and UDP ports, protocols, and their purpose
- Compare wireless networking standards and encryption types
- Explain how to install, configure, and deploy a SOHO wireless/wired router using appropriate settings
- Compare Internet connection types and features
- Identify various types of networks
- Compare network devices, their functions, and features
- Describe various networking tools

LAPTOPS

- Describe laptop expansion options

- Explain how to remove and replace laptop hardware and components
- Describe components within the display of a laptop
- Explain features specific to laptops

PRINTERS AND OPERATIONAL PROCEDURES

- Explain the differences between the various printer types
- Summarize the imaging process for printers
- Explain how to install and configure printers
- Explain how to perform printer maintenance
- Identify appropriate safety procedures when repairing a system
- Explain environmental impacts and the purpose of environmental controls
- Describe proper communication and professionalism given a scenario
- Explain the fundamentals of dealing with prohibited content/activity

OPERATING SYSTEMS

- Compare the features and requirements of various Microsoft Operating Systems
- Explain how to install and configure the operating system using the most appropriate method given a scenario
- Use appropriate command-line tools given a scenario
- Use appropriate operating system features and tools given a scenario
- Identify Control Panel utilities to use given a scenario
- Explain how to setup and configure Windows networking on a client/desktop
- Describe how to perform preventive maintenance procedures using appropriate tools
- Explain the differences among basic OS security settings
- Explain the basics of client-side virtualization

SECURITY

- Describe how to apply and use common prevention methods
- Describe common security threats
- Explain how to implement security best practices to secure a workstation
- Explain how to use the appropriate data destruction/disposal method given a scenario
- Explain how to secure a SOHO wireless network given a scenario
- Explain how to secure a SOHO wired network given a scenario

MOBILE APPLICATIONS

- Explain the basic features of mobile operating systems
- Describe how to establish basic network connectivity and configure email
- Compare and contrast methods for securing mobile devices
- Compare and contrast hardware differences in regards to tablets and laptops
- Explain how to execute and configure mobile device synchronization

TROUBLESHOOTING – PART 1

- Explain the troubleshooting theory given a scenario
- Explain how to troubleshoot common problems related to motherboards, RAM, CPU, and power with appropriate tools given a scenario
- Explain how to troubleshoot hard drives and RAID arrays with appropriate tools given a scenario
- Describe how to troubleshoot common video and display issues given a scenario
- Explain how to troubleshoot wired and wireless networks with appropriate tools given a scenario

TROUBLESHOOTING - PART 2

- Explain how to troubleshoot operating system problems with appropriate tools
- Explain how to troubleshoot common security issues with appropriate tools and best practices given a scenario
- Explain how to troubleshoot and repair common laptop issues while adhering to the appropriate procedures
- Explain how to troubleshoot printers with appropriate tools given a scenario

MICROSOFT OFFICE

- Use an integrated software package, specifically the applications included in the Microsoft Office suite
- Demonstrate marketable skills for enhanced employment opportunities
- Describe proper computer techniques for designing and producing various types of documents
- Demonstrate the common commands & techniques used in Windows desktop
- List the meaning of basic PC acronyms like MHz, MB, KB, HD and RAM
- Use WordPad and MSWord to create various types of documents
- Create headings and titles with Word Art
- Create and format spreadsheets, including the use of mathematical formulas
- Demonstrate a working knowledge of computer database functions, including putting, processing, querying and outputting data
- Define computer terminology in definition matching quizzes
- Use the Windows Paint program to alter graphics
- Use a presentation application to create a presentation with both text and graphics
- Copy data from one MS Office application to another application in the suite
- Use e-mail and the Internet to send Word and Excel file attachments
- Demonstrate how to use the Windows Taskbar and Windows Tooltips
- Explain how copyright laws pertain to data and graphics posted on the Internet
- Take the college computer competency test after course completion
- Follow oral and written directions and complete assignments when working under time limitations

Note: Although the Microsoft Office Module is not required to successfully complete this program, students interested in pursuing free Microsoft MOS certification may want to consider completing this Microsoft Office Module at no additional cost.