



COMPUTER TECHNICIAN

Program Learning Objectives

Developed by industry experts, the Career Step Computer Technician program includes training on everything you'll need to earn your A+ certification through the Computer Technology Industry Association (CompTIA). With Career Step's affordable pricing, you get a quality online training with one-on-one support from dedicated trainers and career support advisors—available by phone, email, and chat every step of the way. The learning objectives outlined below provide a map of the knowledge and skills you'll gain as you complete each module.

Program Orientation (1 hour)

- Identify the elements, expectations, and requirements of the program
- Navigate the program using the pages, menus, and buttons provided
- Use the program tools, including the study planner, gradebook, and completion report as well as be able to contact Career Step using various communication tools, including phone, email, forums, chat rooms, and social media
- Identify and use program-specific resources

Computing Overview (5 hours)

- Identify common I/O ports by sight
- Connect common peripherals to standard ports
- Navigate the Windows 10 interface
- Use shell commands
- Shut down a Linux system
- Navigate the Mac OS interface

PC Technician Responsibilities (4 hours)

- Use an anti-static mat and strap to protect yourself from ESD
- Implement appropriate grounding procedures
- Use proper communication techniques and exhibit professionalism while interacting with clients
- Go through the change management process to request changes to a project

- Use a PC toolkit
- Install a UPS
- Configure UPS settings
- Use a troubleshooting process

System Components (13 hours)

- Install a power supply
- Select an appropriate motherboard and install it in a desktop computer
- Troubleshoot system power issues
- Select and install a processor
- Troubleshoot processor installation
- Classify and distinguish different types of RAM
- Distinguish between different standards of DRAM
- Select and install the correct memory module
- Install triple channel memory
- Troubleshoot memory
- Find and edit BIOS settings
- Clear CMOS settings
- Install an expansion card
- Select the appropriate video card for a computer system
- Upgrade a video card
- Select and install a sound card
- Understand cooling methods

Peripheral Devices (5 hours)

- Understand the various functions of different peripheral devices
- Connect a KVM to multiple computers
- Connect peripheral devices using the

appropriate cables and connectors

- Identify typical USB connectors and ports
- Connect USB peripheral devices (including storage devices, printers, smartphones)
- Select and install USB devices based on customer requirements
- Identify digital and analog connectors by sight
- Select the appropriate display device based on customer requirements and system support
- Configure display properties (including dual monitor support) in Windows, macOS, and Linux
- Troubleshoot monitors with no display, monitors displaying in VGA mode, and monitors with thermal shutdown

Storage (9 hours)

- Select the appropriate storage solution
- Install SATA devices
- Understand and differentiate optical media types
- Create RAID arrays
- Implement a RAID solution
- Understand file systems
- Create volumes
- Format and convert drives
- Mount a partition to a folder
- Extend existing volumes
- Implement storage spaces
- Perform disk cleanup and disk defragmentation

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- Check a hard disk for E24 errors
- Troubleshoot boot failures
- Troubleshoot problems with storage device boot priority in the BIOS/UEFI firmware
- Troubleshoot SATA drive issues
- Optimize SSD storage devices

Networking (10 hours)

- Understand networking on a high level
- Select and install a network adapter
- Understand ethernet connection, IP Networking
- Configure TCP/IP settings
- Configure alternate TCP/IP settings
- Understand IP Version 6
- Configure cable, DSL, and dial up internet connections
- Explore configuration information
- Use ifconfig
- Fix a network connection

Wireless Networking (5 hours)

- Connect to a wireless network
- Create a home wireless network
- Secure a home wireless network
- Configure a wireless profile
- Understand the basics of infrared, bluetooth, and NFC
- Configure a wireless infrastructure
- Configure smart devices
- Troubleshoot wireless networks

Printing (5 hours)

- Choose a printer to fulfill the requirements for a given situation
- Select and install a printer
- Configure network printing
- Add a printer
- Manage printing
- Maintain a laser printer
- Troubleshoot and resolve common printing problems

Mobile Devices (6 hours)

- Identify notebook external ports and functions

- Replace a hard disk in a notebook computer
- Add memory to a notebook
- Change notebook components such as the keyboard, video card, and other internal components
- Edit power options and create a power plan for laptops and mobile devices
- Locate service manuals for notebook systems
- Perform preventative maintenance on notebook systems

System Implementation (5 hours)

- Analyze users' needs prior to purchasing or building a new computer system
- Customize a computer's hardware to match end user requirements
- Select the correct version and edition of Windows for a given implementation
- Verify system compatibility before upgrading to a newer version of Windows
- Prepare disks for installation
- Install an workstation image using PXE
- Understand post installation procedures
- Enable VT in the BIOS
- Create virtual machines and hard disks

File Management (6 hours)

- Find system file locations
- Use libraries
- Manage files and folders
- Configure NTFS permissions
- Share and secure folders
- Manage the Linux file system
- Manage Linux file ownership

System Management (17 hours)

- Use Task Manager to view current performance statistics
- Use Control Panel to configure your system
- Use system tools to view configuration information for your computer
- Use prebuilt and custom management consoles to manage your computer
- View and edit registry settings

- Manage files, processes, and system settings from the command prompt

Security (11 hours)

- Understand security best practices
- Understand appropriate incident response
- Configure remote wipe
- Require a screen saver password
- Understand how to protect against social engineering
- Configure BIOS/UEFI security
- Configure Windows Defender
- Enforce password setting

Capstone Exercises (4 hours)

- Build a computer from scratch
- Troubleshoot a malfunctioning computer
- Troubleshoot system startup
- Create a home office network
- Configure the windows operating system
- Troubleshoot a mobile device
- Configure Linux

PC Pro Certification Practice (51 hours)

PC Pro Certification Practice (Single Attempt Only) (2 hours)

CompTIA A+ 220-1001 Core 1 Certification Practice Exam (12 hours)

CompTIA A+ 220-1002 Core 2 Certification Practice Exam (11 hours)

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1-800-411-7073

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