

# COMPUTER TECHNICIAN LEARNING OBJECTIVES



**CareerStep**<sup>™</sup>

ONLINE EDUCATION & TRAINING SOLUTIONS



## CURRICULUM 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 tuition, you get a quality online education with one-on-one support from dedicated instructors and graduate 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.

### COMPUTER FUNDAMENTALS (7 hours)

- Identify basic computer hardware and interpret system requirements.
- Navigate a Windows operating system environment as well as install and operate basic software utilities.
- Use a web browser to navigate between websites in multiple tabs or windows, send and receive email, and access search engines to find information and troubleshoot basic computer problems.
- Recognize basic technologies related to an office environment.

### HARDWARE (80 hours)

- Identify the different components, slots, sockets, and connectors of motherboards.
- Distinguish each type of RAM and explain the implications of the differences in RAM type.
- Identify different CPU types and will be able to implement the correct cooling methods for each CPU type.
- Identify BIOS components and configurations and will be able to explain how to implement appropriate monitoring mechanisms.
- Identify storage devices and related media, and install, configure, and maintain storage.
- Identify multiple different expansion cards and will be able to install and configure them.
- Identify connector types and specifications and will also be able to install and configure them.

- Identify multiple different display devices and the features specific to each type.
- Install and configure multiple peripheral devices, including input, output, and multimedia devices.
- Identify a wide variety of connector types and the cables associated with each one.
- Select appropriate components and features based on the end-user's needs.

### NETWORKING (40 hours)

- Identify the cables and connectors involved in computer networking.
- Identify and explain internet protocols.
- Name and describe TCP protocols as well as commonly used ports.
- Compare and contrast networking topologies and classifications.
- Identify and describe multiple networking devices.
- Define wireless standards and will be able to describe the appropriate arrangement of wireless routers.
- Identify and describe various approaches to connecting to the internet.
- Identify the components of a SOHO network and will be able to describe how to set up and configure a SOHO network.
- Identify and describe the appropriate use of multiple networking tools.

### LAPTOPS (5 hours)

- Identify and describe the features of laptops, particularly in contrast to the features of desktop PCs.
- Name laptop hardware and components and will be able to explain the basics of laptop component replacement.

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## MOBILE DEVICES (7 hours)

- Identify and explain the characteristics of the mobile devices discussed in this unit.
- Identify and describe operating systems of mobile devices, including their features.
- Explain how mobile networks function and how to synchronize mobile devices and computers.
- Identify potential hazards to mobile devices and will also be able to mitigate those dangers, both physical and software-based.

## PRINTERS (5 hours)

- Identify and describe types of printers, in addition to being able to perform basic maintenance on most printers.
- Install most printer types and configure them for multiple purposes.

## TROUBLESHOOTING - BLOCK 1 (30 hours)

- Explain the troubleshooting theory.
- Explain proper troubleshooting principles for motherboards, RAM, CPUs, and power, and will be able to use appropriate tools in troubleshooting practice.
- Identify symptoms of problems with hard drives, RAID arrays, and other storage devices and will be able to use appropriate tools in troubleshooting them.
- Identify common problems with laptops and other mobile devices and will be able to use appropriate tools and techniques to fix them.
- Explain and troubleshoot common printer issues.

## MIDTERM (4 hours)

- Be aware of what to expect from the CompTIA A+ certification exams.
- Be able to pass the midterm exam with a minimum score of 75%.

## OPERATIONAL PROCEDURES (5 hours)

- Identify and practice appropriate safety procedures related to working with computer systems and components.
- Identify and explain environmental issues related to computer system power and a system's cleanliness.
- Identify and explain professional workplace behaviors and practices.

## OPERATING SYSTEMS (80 hours)

- Explain and configure Windows file systems.
- Explain the features of multiple versions of Windows operating systems.
- Install and configure Windows operating systems.
- Utilize operating system features and tools.
- Identify and utilize control panel utilities.
- Set up and configure Windows networking on a desktop system.
- Identify and utilize command line utilities.
- Implement appropriate preventative maintenance measures.
- Explain and utilize multiple Windows security techniques and applications.
- Describe the basics of client-side virtualization.
- Use and understand the features of Apple and Linux operating systems.

## SECURITY (10 hours)

- Explain and apply common prevention methods.
- Identify and explain common security threats and be able to appropriately dispose of data.
- Install and configure Windows operating systems.

## TROUBLESHOOTING - BLOCK 2 (15 hours)

- Identify symptoms and diagnose problems with operating systems and use appropriate principles and tools to troubleshoot them.
- Identify problems with security and apply appropriate principles in troubleshooting them.

## PRACTICAL SKILLS LAB (15 hours)

- Correctly apply their knowledge and skills to a variety of practical scenarios.

## FINAL EXAM PREPARATION (1 hour)

- Identify the steps they need to take to be eligible for and effectively prepare for and access their final exam.
- Identify the format, restrictions, and policies of final exams, including scoring, retakes, allowed resources, and time limits.