

CURRICULUM OVERVIEW

Fundamentals of Computer Systems

Career and Technical Education Series



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Fundamentals of Computer Systems Course Overview

The Computer Fundamentals course will provide students with an understanding of computers and how they operate as well as a basic understanding of how to manage and maintain computers and computer systems. These skills will provide students with the ability to configure computers and solve computer problems.

Students will learn details about the different elements of computers and computer systems. They will learn to identify hardware devices and their functions. They will be instructed on the role of operating systems as well as how to install and customize the Windows operating system. Students will learn about networking and the Internet. They will also be introduced to security issues in order to protect themselves and their computers and data.

Students will also learn about some of the software applications typically used on computers today, such as Microsoft Office. In addition, students will learn specifics about maintaining and troubleshooting computers, including managing files, backing up systems, and using the administrative tools in the Windows operating system. Lastly, the students will learn the basics of customer service and working as a help desk support technician.

Objectives

- After completing this course, the student will understand computers and their functions, as well as develop basic customer service skills, and be able to effectively meet customer needs.
- Students will be able to implement problem-solving techniques to understand the nature of computer problems. They will also understand hardware components, software, and the Internet, so they are able to develop, maintain, and update computer systems.
- After this course, students also will be able to use the Internet to update computer systems and complete other IT service-related tasks. They will be able to install, configure, or modify software and operating systems to ensure optimal system function.
- Students will be able to perform computer backup procedures to protect information. They also will be able to recognize potential security threats and understand the procedures for maintaining security.
- After this course students will be able to provide IT support and training for computers and networks.

For topics in this course, it is helpful for students to be familiar with the basics of using desktop or laptop computers as well as accessing Web sites over the Internet.

If students are not familiar with these topics, it is recommended, though not required, that they familiarize themselves with the operating system and Web browser they will be using for this course. This includes turning on a computer and logging into an account, if necessary, exploring the different types of software available, navigating through some of the operating system menus to understand the available tools, and doing a basic search on the Internet.

Unit 1: Computer Hardware and Operating Systems	
Fundamentals of Computer Systems	Assignments
	1. Course Overview
	2. The Motherboard and the CPU
	3. Storage Systems and Memory
	4. Project: Semiconductor Chips
	5. Graphic Devices and Peripherals
	6. Project: Building a Computer
	7. Quiz 1: Computer Hardware
	8. Operating Systems Basics
	9. Project: Testing Operating Systems
	10. The Boot Sequence—Command Prompt and BIOS
	11. Installation, Upgrades, and Maintenance of Operating Systems
	12. Project: Installing an Operating System
	13. Quiz 2: The Operating System
	14. Special Project*
	15. Unit 1 Test
	16. Course Project Part 1: Operating System*
	17. Glossary and Credits

FCS	Unit 6: Course Review and Exam	
	Assignments	
	1. Course Project Part 6: Help Desk Policies and Procedures*	2. Review 3. Exam

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