

Course Information Form (CIF)

Course Code: CSC 133

Course Title: PC Hardware and OS Maintenance

Department: Business/Computer Science and Technologies

Effective Date: Summer 2026

PCS Code: 1.2 - Occupational/Technical Instruction

CIP Code: 11.0201

Repeatability: 0

Credit Hours

Catalog Notation: 3-2-4

Credit Hour Distribution:

Lecture: 3

Lab: 2

Clinical: 0

Total: 4

General Course Information

Catalog Description

Students will gain a complete, step-by-step approach for learning the fundamentals of supporting and troubleshooting computer hardware and software. This course maps fully to CompTIA's latest A+ 220-1001 (Core 1) and 220-1002 (Core 2) Exam objectives.

General Course Objectives

- Use computers with the operating systems that are commonly used in networked environments on IBM-PC compatible computers.
- Demonstrate an understanding of the basic setup of the operating systems and how to set up or change initial configurations in a networked environment.

Minimum Placement Levels

English

None

Reading

None

Math

None

Prerequisites

None

Methods of Evaluation

48 lab simulations, 26 virtual machine labs, 48 quizzes, 4 exams, and a final assessment exam.

Instructional Materials and Additional Supplies

CompTIA A+ Guide To IT Technical Support, 9780357108321

Course Content

General Learning Outcomes (GLOs)

- Critical Thinking and Information Literacy: Students will demonstrate the ability to evaluate perspectives, evidence, and implications, and to locate, assess, and use information effectively.
- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Taking a Computer Apart and Putting It Back Together	<ol style="list-style-type: none"> 1. Describe the components inside a desktop and laptop computer. 2. Show the components inside a desktop and laptop computer. 	2.5	1.75	0
All About Motherboards	<ol style="list-style-type: none"> 1. Describe motherboard types and features, BIOS setup and configuration, and installing or replacing motherboards. 2. Apply BIOS setup and configurations as related to installing or replacing motherboards. 	2.5	1.75	0
Supporting Processors and Upgrading Memory	<ol style="list-style-type: none"> 1. Describe different types of processors, how to select and install a processor, memory technologies, and how to upgrade memory. 2. Demonstrate how to select and install a computer processor, as it relates to memory technologies and upgrading memory. 	2.5	1.75	0
Supporting the Power System and Troubleshooting Computers	<ol style="list-style-type: none"> 1. Describe cooling methods, power supplies, and troubleshooting hardware. 2. Apply the proper cooling methods, prepare proper power supplies, and use troubleshooting hardware. 	2.5	1.75	0
Supporting Hard Drives and Other Storage Devices	<ol style="list-style-type: none"> 1. Describe hard drive technologies, how to select a hard drive, how to support other types of storage devices, and troubleshooting. 2. Demonstrate the ability to analyze hard drive technologies to select a hard drive, support other types of storage devices, and troubleshoot. 	2.5	1.75	0
Supporting I/O Devices	<ol style="list-style-type: none"> 1. Describe the basic principles for supporting devices such as I/O peripherals, adapter cards, video subsystems, and troubleshooting. 2. Apply the basic principles for supporting devices such as I/O peripherals, adapter cards, video subsystems, and troubleshooting. 	2.5	1.75	0
Setting Up a Local Network	<ol style="list-style-type: none"> 1. Distinguish various types of network connections, IP addresses, multi-function routing, and troubleshooting. 2. Manipulate and modify various types of network connections, IP addresses, multi-function routing, and various troubleshooting methods. 	2.5	1.75	0
Network Infrastructure and Troubleshooting	<ol style="list-style-type: none"> 1. Explain network models, local network infrastructure, structured cabling, and troubleshooting network connections. 2. Modify network models, local network infrastructure, structured cabling, and demonstrate troubleshooting network connections. 	2.5	1.75	0
Supporting Mobile Devices	<ol style="list-style-type: none"> 1. Distinguish various types of mobile devices, configuration and syncing, securing mobile devices, and the Internet of Things. 2. Manipulate the various types of mobile devices. 3. Demonstrate configuration and syncing, securing mobile devices, and the Internet of Things. 	2.5	1.75	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Virtualization, Cloud Computing, and Printers	<ol style="list-style-type: none"> 1. Describe client-side virtualization, Cloud Computing, printer types, print management, printer sharing, and troubleshooting. 2. Apply client-side virtualization, Cloud Computing, printer types, print management, printer sharing, and troubleshooting. 	2.5	1.75	0
Windows Versions and Customer Service	<ol style="list-style-type: none"> 1. Describe Windows interfaces, tools for users and technicians, controlling access to resources, and end user support. 2. Apply Windows interfaces, tools for users and technicians, controlling access to resources, and end user support. 	2.5	1.75	0
Installing Windows	<ol style="list-style-type: none"> 1. Describe planning a Windows installation, post installation tasks, and considerations in an enterprise environment. 2. Apply the planned Windows installation. 3. Demonstrate post installation tasks, and considerations in an enterprise environment. 	2.5	1.75	0
Maintaining Windows	<ol style="list-style-type: none"> 1. Describe preventive maintenance, backup procedures, managing files and folders, using the command line interface, and remote assistance. 2. Apply preventive maintenance, backup procedures, managing files and folders, using the command line interface, and remote assistance. 	2.5	1.5	0
Troubleshooting Windows After Startup	<ol style="list-style-type: none"> 1. Describe tools for solving problems with applications and hardware, best practices, slow startup and performance, and troubleshooting applications. 2. Apply tools for solving problems with applications and hardware, best practices, slow startup and performance, and troubleshooting applications. 	2.5	1.5	0
Troubleshooting Windows Startup	<ol style="list-style-type: none"> 1. Describe the Boot process, how to prevent startup issues, tools for troubleshooting, and options to reinstall Windows. 2. Apply the Boot process, how to prevent startup issues, tools for troubleshooting, and options to reinstall Windows. 	2.5	1.5	0
Securing and Sharing Windows Resources	<ol style="list-style-type: none"> 1. Describe securing a personal computer, controlling access for folders and files, and using Active Directory Domain Services. 2. Demonstrate securing a personal computer, controlling access for folders and files, and using Active Directory Domain Services. 	2.5	1.5	0
Security Strategies and Documentation	<ol style="list-style-type: none"> 1. Describe protecting network resources, dealing with malicious software, best practices, and security policies. 2. Demonstrate protecting network resources, dealing with malicious software, best practices, and security policies. 	2.5	1.5	0
MacOS, Linux, and Scripting	<ol style="list-style-type: none"> 1. Describe macOS for Macintosh, Linux Operating System, and scripting techniques used by these operating systems. 2. Apply macOS for Macintosh, Linux Operating System, and scripting techniques used by these operating systems. 	2.5	1.5	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
45	30	0