



Articulation Agreement Course Competencies and Provisions

CSC 145	A+ Technician Certification Prep Level 1	2.5 Credits
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This course will develop the technical skills necessary to become an entry-level computer technician.

CSC 245	A+ Technician Certification Prep Level II	2.5 Credits
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This course will build on the technical and help desk skills learned in CSC 145. These skills are needed to become an entry-level computer technician. This course provides instructional material and practice tests to prepare a student to take the A+ certification exams.

PROVISIONS

1. Student must be enrolled in the required high school class.
2. Student must receive an A or B grade (minimum 2.9 or better) and complete all competencies.
3. Students must complete all competencies to earn credit for both CSC145 & CSC 245 courses.
4. High school will incorporate a “hands on” application as part of the final assessment. (See course competencies, Part 3)
5. All required Tech Prep forms must be sent to BBCC **within 30 days** of course completion.
6. Teachers must assign student grades and credits **within 30 days** of course completion.

COMPETENCIES

PART 1 - A+ Core Hardware Service Technician

MODULE 1: Installation, Configuration & Upgrading

- 1.1 Identify basic terms, concepts, and functions of system modules, including how each module should work during normal operation and during the boot process.
- 1.2 Identify basic procedures for adding and removing field replaceable modules for both desktop and portable systems.
- 1.3 Identify available IRQ's and I/O addresses and procedures for device installation and configuration.
- 1.4 Identify common peripheral ports, associated cabling, and their connectors.
- 1.5 Identify proper procedures for installing and configuring SCSI devices
- 1.6 Identify proper procedures for installing and configuring IDE/EIDE devices.
- 1.7 Identify proper procedures for installing and configuring peripheral devices.
- 1.8 Identify hardware methods of upgrading system performance, procedures for replacing basic subsystem components, unique components and when to use them.
- 1.9 Identify proper procedures for basic installation of LINUX

MODULE 2: Diagnosing & Troubleshooting

- 2.1 Identify common symptoms and problems associated with each module and how to troubleshoot and isolate the problems.
- 2.2 Identify basic troubleshooting procedures and how to elicit problem symptoms from customers

MODULE 3: Preventive Maintenance

- 3.1 Identify the purpose of various types of preventive maintenance products and procedures and when to use them.
- 3.2 Identify issues, procedures and devices for protection within the computing environment, including people, hardware and the surrounding workspace.

MODULE 4: Motherboard/Processors/Memory

- 4.1 Distinguish between the popular CPU chips in terms of their basic characteristics.
- 4.2 Identify the categories of RAM (Random Access Memory) terminology, their locations, and physical characteristics.
- 4.3 Identify the most popular type of motherboards, their components, and their architecture (bus structures and power supplies).
- 4.4 Identify the purpose of CMOS (Complementary Metal-Oxide Semiconductor), what it contains, and how to change its basic parameters.

MODULE 5: Printers

- 5.1 Identify basic concepts, printer operations, and printer components.
- 5.2 Identify care and service techniques and common problems with primary printer types.

MODULE 6: Basic Networking

- 6.1 Identify basic networking concepts, including how a network works and the ramifications of repairs on the network.

MODULE 7: Customer Service

- 7.1 Identify the components of customer service, and be able to utilize these skills when interacting with customers.

Part 2 - Operating System Technologies

MODULE 1: Operating System Fundamentals

- 1.1 Identify the operating system's functions, structure, and major system files to navigate the operating system and how to get to needed technical information.
- 1.2 Identify basic concepts and procedures for creating, viewing and managing files, directories and disks. This includes procedures for changing file attributes and the ramifications of those changes (for example, security issues).

MODULE 2: Installation, Configuration & Upgrading

- 2.1 Identify the procedures for installing Windows and for bringing the software to a basic operational level.
- 2.2 Identify steps to perform an operating system upgrade.
- 2.3 Identify the basic system boot sequences and boot methods, including the steps to create an emergency boot disk with utilities installed for Windows.
- 2.4 Identify procedures for loading/adding and configuring application device drivers, and the necessary software for certain devices.

MODULE 3: Diagnosing and Troubleshooting

- 3.1 Recognize and interpret the meaning of common error codes and startup messages from the boot sequence, and identify steps to correct the problems.
- 3.2 Recognize common problems and determine how to resolve them.

MODULE 4: Networks

- 4.1 Identify the networking capabilities of Windows including procedures for connecting to the network.
- 4.2 Identify concepts and capabilities relating to the Internet and basic procedures for setting up a system for Internet access.

Part 3: Final Assessment

Disassemble and reassemble a personal computer system.