Arkansas CTE

Computer Engineering: Grades 9, 10, 11, 12

Adopted 2004

Ensuring Safety	A001.	Identify various preventive maintenance products and procedures used with computers A001
	A002.	Identify issues, procedures, and products designed to protect people, hardware, and the surrounding workspace within the computer environment A002
Investigating Careers	B001.	Describe primary responsibilities of a computer systems technician B001
	B002.	Research career opportunities in computer systems technology B002
Using Diagnostic and Troubleshooting Techniques	C001.	Identify common symptoms and problems associated with various computer components C001
	C002.	Demonstrate basic troubleshooting procedures C002
	C003.	Recognize common PC hardware problems and determine how to resolve them C003
	C004.	Preventing power system failure C004
Configuring a Computer System	D001.	Identify basic terms, concepts, and functions of computer system components D001
	D002.	Describe the way each computer system component works during normal operation and during the boot process D002
	D003.	Demonstrate basic procedures for adding and removing field-replaceable units for both desktop and portable computer systems D003
	D004.	Identify available IRQs, DMAs, and I/O addresses and procedures for device installation and configuration D004
	D005.	Identify common computer peripheral ports, associated cabling, and their connectors D005

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	D006. Demonstrate procedures for installing and configuring computer IDE/EIDE devices D006
	D007. Demonstrate procedures for installing and configuring computer SCSI devices D007
	D008. Demonstrate procedures for installing and configuring computer peripheral devices D008
	D009. Identify methods of upgrading computer system hardware performance, including procedures for replacing basic subsystem components D009
	D010. Identify unique computer components and determine criteria for their use D010
Identifying Motherboards, Processors, and Memory	**E001.** Compare popular computer CPU chips in terms of basic characteristics E001
	E002. Identify the categories of computer RAM by terminology, locations, and physical characteristics E002
	E003. Identify popular types of computer motherboards, their components, and their architecture E003
	E004. Identify the purpose of computer CMOS, its settings, and the procedures for changing its basic parameters E004
Demonstrating Knowledge of Operating System Functions	**F001.** Compare computer operating systems in current use in terms of functions, features, and benefits F001
	F002. Identify the functions, structure, and major system files used to navigate the Windows operating system F002
	F003. Describe various means of obtaining technical information F003
	F004. Identify the basic concepts and procedures for creating, viewing, and managing files, directories, and disks F004
Installing and Configuring an Operating System	**G001.** Identify the procedures for installing the operating system and bringing the software to a basic operational level G001
	G002. Identify the steps to perform an operating system upgrade G002
	G003. Identify the basic system boot sequences and boot methods, including the steps to create an emergency boot disk with utilities installed G003
	G004. Identify procedures for loading or adding and configuring application and hardware device drivers G004

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	G005. Identify where to obtain software and resources related to the operating system G005
	G006. Identify the procedures for installing the network operating system and bringing the network software to a basic operational level G006
Diagnosing and Troubleshooting a PC Operating System	**H001.** Recognize and interpret the meaning of common error codes and startup messages created during the boot sequence H001
	H002. Demonstrate steps to correct the problems identified by PC error codes and startup messages H002
	H003. Recognize common PC operating system problems and determine how to resolve them H003
Understanding Basic Network Concepts	**I001.** Identify basic networking concepts, including its operation and the ramifications of repairs on a network I001
	I002. Identify the functions of a network administrator I002
	I003. Identify concepts and capabilities related to the Internet and the basic procedures for setting up a system for Internet access I003
	I004. Identify the functions, features, and benefits of different web browsers I004
Diagnosing and Troubleshooting a Network Operating System	**J001.** Recognize and interpret the meaning of common network error codes and startup messages created during the boot sequence J001
	J002. Demonstrate steps to correct problems identified by network error codes and startup messages J002
	J003. Recognize common network problems and determine how to resolve them J003
Installing and Configuring Printers	**K001.** Identify basic concepts related to primary printer types, including operation and components (laser, inkjet, dye sublimation, and dot matrix) K001
	K002. Demonstrate care and service techniques for common problems with primary printer types K002
Examining Computer-Related Security, Privacy, and Ethical Issues	**L001.** Identify and remove viruses, worms, bombs, and Trojan horses L001
	L002. Examine issues of computer-related business ethics L002
	L003. Examine issues of copyright ownership and infringement L003
	4. Examine issues of computer-related privacy L004

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	L005. Identify functions of a network firewall L005
	L006. Identify computer security issues L006
	L007. Identify harassment issues involving computer use L007
	L008. Identify employer-employee issues of electronic documentation ownership L008
General Safety Practices	**GS001.** Follow personal safety guidelines GS001
	GS002. Utilize tools and equipment safely GS002
	GS003. Comply with fire and hazardous material guidelines GS003
	GS004. Report injuries GS004
	GS005. Inspect work place for safe working environment GS005
	GS006. Report unsafe personal, environmental, and equipment safety hazards GS006
	GS007. Participate in safety training programs GS007
	GS008. Practice safe lifting and carrying procedures GS008