North Carolina CTE

Computer Engineering Technology I (2016): Grades 9, 10, 11, 12

Adopted 2016

Understand PC Hardware used in computer industry 1.00

01. **Configure settings and use BIOS/UEFI tools on a PC.** 1.01
02. **Explain the importance of motherboard components, their purpose, and properties.** 1.02
03. **Compare and contrast various RAM types and their features.** 1.03
04. **Install and configure PC expansion cards.** 1.04
05. **Install and configure storage devices and use appropriate media.** 1.05
06. **Install various types of CPUs and apply the appropriate cooling methods.** 1.06
07. **Compare and contrast various PC connection interfaces, their characteristics and purpose.** 1.07
08. **Install a power supply based on given specifications.** 1.08
09. **Select the appropriate components for a custom PC configuration, to meet customer specifications or needs.** 1.09
10. **Compare and contrast types of display devices and their features.** 1.10
11. **Identify common PC connector types and associated cables.** 1.11
12. **Install and configure common peripheral devices.** 1.12
13. **Install SOHO multifunction device/printers and configure appropriate settings.** 1.13
14. **Compare and contrast differences between the various print technologies and the associated imaging process.** 1.14

Perform appropriate printer maintenance. 1.15

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Understand Networks used in the computer industry 2.00	**01.** Identify the various types of network cables and connectors. 2.01
	02. Compare and contrast the characteristics of connectors and cabling. 2.02
	03. Explain the properties and characteristics of TCP/IP. 2.03
	04. Explain common TCP and UDP ports, protocols, and their purpose. 2.04
	05. Compare and contrast various WiFi networking standards and encryption types. 2.05
	06. Install and configure SOHO wireless/wired router and apply appropriate settings. 2.06
	07. Compare and contrast Internet connection types, network types, and their features. 2.07
	08. Compare and contrast network architecture devices, their functions, and features. 2.08
	09. Use appropriate networking tools. 2.09
Understand Mobile Devices used in the computer industry 3.00	**01.** Install and configure laptop hardware and components. 3.01
	02. Explain the function of components within the display of a laptop. 3.02
	03. Use appropriate laptop features. 3.03
	04. Explain the characteristics of various types of other mobile devices. 3.04
	05. Compare and contrast accessories & ports of other mobile devices. 3.05
Apply Procedures use to troubleshoot computer hardware and networks 4.00	**01.** Troubleshoot common problems related to motherboards, RAM, CPU and power with appropriate tools. 4.01
	02. Troubleshoot hard drives and RAID arrays with appropriate tools. 4.02
	03. Troubleshoot common video, projector and display issues. 4.03
	04. Troubleshoot wired and wireless networks with appropriate tools. 4.04
	05. Troubleshoot and repair common mobile device issues while adhering to the appropriate procedures. 4.05