Virginia CTE

Computer Systems Technology 1 (8622)

Computer Systems Technology 1 (8622) CST1

A Demonstrating Personal Qualities and Abilities CST1.1

1 Demonstrate creativity and innovation. CST1.1.1

2 Demonstrate critical thinking and problem solving. CST1.1.2

3 Demonstrate initiative and self-direction. CST1.1.3

4 Demonstrate integrity. CST1.1.4

5 Demonstrate work ethic. CST1.1.5

B Demonstrating Interpersonal Skills CST1.2

6 Demonstrate conflict-resolution skills. CST1.2.6

7 Demonstrate listening and speaking skills. CST1.2.7

8 Demonstrate respect for diversity. CST1.2.8

9 Demonstrate customer service skills. CST1.2.9

10 Collaborate with team members. CST1.2.10

C Demonstrating Professional Competencies CST1.3

11 Demonstrate big-picture thinking. CST1.3.11

12 Demonstrate career- and life-management skills. CST1.3.12

13 Demonstrate continuous learning and adaptability. CST1.3.13

14 Manage time and resources. CST1.3.14

15 Demonstrate information-literacy skills. CST1.3.15

16 Demonstrate an understanding of information security. CST1.3.16

17 Maintain working knowledge of current information-technology (IT) systems. CST1.3.17

18 Demonstrate proficiency with technologies, tools, and machines common to a specific occupation. CST1.3.18

19 Apply mathematical skills to job-specific tasks. CST1.3.19

20 Demonstrate professionalism. CST1.3.20

.1 Demonstrate reading and writing skills. CST1.3.21

.2 Demonstrate workplace safety. CST1.3.22

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D Examining All Aspects of an Industry CST1.4

23 Examine aspects of planning within an industry/organization. CST1.4.23

24 Examine aspects of management within an industry/organization. CST1.4.24

25 Examine aspects of financial responsibility within an industry/organization. CST1.4.25

26 Examine technical and production skills required of workers within an industry/organization. CST1.4.26

27 Examine principles of technology that underlie an industry/organization. CST1.4.27

28 Examine labor issues related to an industry/organization. CST1.4.28

29 Examine community issues related to an industry/organization. CST1.4.29

30 Examine health, safety, and environmental issues related to an industry/organization. CST1.4.30

E Addressing Elements of Student Life CST1.5

31 Identify the purposes and goals of the student organization. CST1.5.31

32 Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult. CST1.5.32

33 Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects. CST1.5.33

34 Identify Internet safety issues and procedures for complying with acceptable use standards. CST1.5.34

F Exploring Work-Based Learning CST1.6

35 Identify the types of work-bABF1ed learning (WBL) opportunities. CST1.6.35

36 Reflect on lessons learned during the WBL experience. CST1.6.36

37 Explore career opportunities related to the WBL experience. CST1.6.37

38 Participate in a WBL experience, when appropriate. CST1.6.38

G Investigating Careers CST1.7

39 Describe the primary responsibilities of a computer systems technician. CST1.7.39

40 Research career opportunities in computer systems technology. CST1.7.40

41 Explain IT industry certifications. CST1.7.41

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H Developing Communication Skills and Ethics CST1.8

42 Explain the ethical and legal aspects of working with computer technology. CST1.8.42

43 Describe the customer-support environment and technician responsibilities. CST1.8.43

44 Demonstrate communication skills used in customer service. CST1.8.44

I Demonstrating Safe Lab Procedures and Tool Use CST1.9

45 Explain the purpose of safe working conditions and procedures. CST1.9.45

46 Demonstrate safe tool and material use in the lab. CST1.9.46

J Examining Personal Computer Hardware CST1.10

47 Describe a computer system. CST1.10.47

48 Describe computer components. CST1.10.48

49 Describe external ports and cables. CST1.10.49

50 Describe input devices. CST1.10.50

51 Describe output devices. CST1.10.51

52 Explain system resources and their purposes. CST1.10.52

K Assembling a Personal Computer CST1.11

53 Install the power supply. CST1.11.53

54 Demonstrate how to attach components to the motherboard and install the motherboard. CST1.11.54

55 Install internal drives. CST1.11.55

56 Install adapter cards. CST1.11.56

57 Connect internal cables. CST1.11.57

58 Assemble the computer case. CST1.11.58

59 Boot the computer. CST1.11.59

60 Replace computer components. CST1.11.60

L Exploring the Fundamentals of Operating Systems CST1.12

61 Explain the purpose of an operating system. CST1.12.61

62 Compare purpose, limitations, and compatibilities of operating systems. CST1.12.62

63 Determine operating system based on customer needs. CST1.12.63

64 Prepare for operating system installation. CST1.12.64

5 Install an operating system. CST1.12.65

6 Navigate a graphical user interface (GUI). CST1.12.66

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M Examining Preventive Maintenance and Troubleshooting CST1.13

67 Explain the purpose of preventive maintenance and system security management. CST1.13.67

68 Apply common preventive-maintenance techniques for operating systems. CST1.13.68

69 Identify basic procedures for troubleshooting operating systems. CST1.13.69

70 Identify tools and software to perform preventive maintenance. CST1.13.70

N Examining Laptops CST1.14

71 Compare desktop and laptop characteristics. CST1.14.71

72 Describe the components of a laptop. CST1.14.72

73 Compare desktop and laptop components. CST1.14.73

74 Describe how to configure laptops. CST1.14.74

75 Explain common preventive-maintenance techniques for laptops and portable devices. CST1.14.75

76 Explain troubleshooting and repair procedures for laptops. CST1.14.76

O Examining Printers CST1.15

77 Describe the types of printers currently available. CST1.15.77

78 Describe potential safety hazards and safety procedures associated with printers. CST1.15.78

79 Describe the installation and configuration process for printers. CST1.15.79

80 Configure a local printer. CST1.15.80

81 Configure a network printer. CST1.15.81

82 Explain procedures for upgrading printers. CST1.15.82

83 Demonstrate common preventive-maintenance techniques for printers. CST1.15.83

84 Troubleshoot local and network printers. CST1.15.84

P Exploring Networks CST1.16

85 Explain the principles of networking. CST1.16.85

86 Describe types of networks. CST1.16.86

87 Describe networking concepts and technologies. CST1.16.87

88 Describe the physical components of a network. CST1.16.88

89 Describe LAN topologies and architectures. CST1.16.89

90 Identify standards organizations. CST1.16.90

91 Identify IEEE standards. CST1.16.91

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92 Compare Open System Interconnection (OSI) and Transmission Control Protocol/Internet Protocol (TCP/IP) data models. CST1.16.92

93 Configure a network interface controller (NIC). CST1.16.93

94 Identify technologies used to establish connectivity. CST1.16.94

95 Construct an Ethernet cable. CST1.16.95

96 Identify common network problems and solutions. CST1.16.96

Q Exploring Cloud Computing and Virtualization CST1.17

97 Compare cloud computing concepts. CST1.17.97

98 Examine the types of virtualization. CST1.17.98

99 Determine the benefits and drawbacks of cloud computing and virtualization. CST1.17.99

100 Examine the use cases for cloud computing and virtualization. CST1.17.100

101 Differentiate between measured service and metered service. CST1.17.101