South Carolina CTE

Computer Programming I (2017): Course 5050

Safety and Ethics	1	Review school safety policies and procedures. 2. 3. 4. 5. A1
	2	Review classroom safety rules and procedures. A2
	3	Review safety procedures for using equipment in the classroom. A3
	4	Identify major causes of work-related accidents in office environments. A4
	5	Demonstrate safety skills in an office/work environment. A5
Student Organizations	1	Explain how related student organizations are integral parts of career and technology education courses. B1
	2	Explain the goals and objectives of related student organizations. B2
	3	List opportunities available to students through participation in related student organization conferences/competitions, community service, philanthropy, and other activities. B3
	4	Explain how participation in career and technology education student organizations can promote lifelong responsibility for community service and professional development. B4
TECHNOLOGY KNOWLEDGE	1	Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation. 2. 3. 4. 5. 6. 7. C1
	2	Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes. C2
	3	Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks. C3
	4	Explain the consequences of social, illegal, and unethical uses of technology (e.g., piracy; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment). C4

	5 **Discuss legal issues and the terms of use related to copyright laws, fair use laws, and ethics pertaining to downloading of images, photographs, documents, video, sounds, music, trademarks, and other elements for personal use.** C5
	6 **Describe ethical and legal practices of safeguarding the confidentiality of business-related information.** C6
	7 **Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.** C7
PERSONAL QUALITIES AND EMPLOYABILITY SKILLS	1 **Demonstrate punctuality.** D1
	2 **Demonstrate self-representation.** D2
	3 **Demonstrate work ethic.** D3
	4 **Demonstrate respect.** D4
	5 **Demonstrate time management.** D5
	6 **Demonstrate integrity.** D6
	7 **Demonstrate leadership.** D7
	8 **Demonstrate teamwork and collaboration.** D8
	9 **Demonstrate conflict resolution.** D9
	10 **Demonstrate perseverance.** D10
	11 **Demonstrate commitment.** D11
	12 **Demonstrate a healthy view of competition.** D12
	13 **Demonstrate a global perspective.** D13
	14 **Demonstrate health and fitness.** D14
	15 **Demonstrate self-direction.** D15
	16 **Demonstrate lifelong learning.** D16
PROFESSIONAL KNOWLEDGE	1 **Demonstrate effective speaking and listening skills.** E1
	2 **Demonstrate effective reading and writing skills.** E2
	3 **Demonstrate mathematical reasoning.** E3
	4 **Demonstrate job-specific mathematics skills.** E4

	5 Demonstrate critical-thinking and problem-solving skills. E5
	6 Demonstrate creativity and resourcefulness. E6
	7 Demonstrate an understanding of business ethics E7
	8 Demonstrate confidentiality. E8
	9 Demonstrate an understanding of workplace structures, organizations, systems, and climates. E9
	10 Demonstrate diversity awareness. E10
	11 Demonstrate job acquisition and advancement skills. E11
	12 Demonstrate task management skills. E12
	13 Demonstrate customer-service skills. E13
COMPUTER SYSTEMS	1 Define what a computer is and its purpose. F1
	2 Define basic computer terminology. F2
	3 Define basic programming terminology. F3
	4 Identify basic hardware and software components. F4
	5 Explain the flow of data and instructions through the computer system. F5
	6 Identify components of the programming development environment. F6
	7 Describe the concept of OOP (object-oriented programming). F7
Program Documentation	1 Describe the purpose and value of the program. G1
	2 Define the input for the program. G2
	3 Define the output of the program. G3
	4 Define variables and constants associated with the program using descriptive names and appropriate data types associated with the program. G4
	5 Describe the scope of variables. G5
Programming Design	1 List in sequence the steps for developing a program. H1
	2 Develop an algorithm (pseudocode) for a program. H2
	3 Key the program. H3

	4 Save the program. H4
	5 Execute the program. H5
	6 Debug the program for errors (e.g., syntax, run-time, and logic). H6
	7 Run the program to test the logical validity of an application program given appropriate data. H6
Programming	1 Describe the purpose/function of different objects. I1
	2 Describe the purpose/function of an event procedure. I2
	3 Identify correctly written Property assignment statements. I3
	4 Demonstrate proper code commenting/documentation techniques. I4
	5 List and define arithmetic, relational, and logical/boolean operators. I5
	6 Explain operator precedence. I6
	7 Differentiate between commands and statements. I7
	8 Write valid variable and constant declaration statements using appropriate data types. I8
	9 Write valid variable and constant declaration statements using appropriate scope (e.g., local, global, static). I9
	10 Write a program that will perform calculations on given data. I10
	11 Write an interactive program that includes features to get input and provide feedback/information (e.g, alerts, messages, input boxes). I11
	12 Identify different decision structures that control program flow. I12
	13 Use built-in functions to generate random numbers. I13
	14 Write a program using accumulators and counters. I14
	15 Identify different looping/iteration structures that control program flow. I15
	16 Use built-in properties and functions to manipulate classes and structures (e.g., String, Math). I16
	17 Describe the conversion from ASCII/Unicode to Hexadecimal and Binary. I17
	18 Describe the purpose/function of general sub procedures. I18
	19 Describe the purpose/function of arguments and parameters. I19

20 **Describe the purpose/function of function procedures.** I20

21 **Write a program using one or more general sub procedures and/or functions.** I21

22 **Write a program that passes arguments to another general sub procedure and/or function.** I22