

CompuScholar, Inc.**Alignment to South Carolina Computer Programming 1 Standards**

9th - 12th grades

South Carolina Course Details:

Course Title:	5050 - Computer Programming 1
Grade Level:	9th - 12th grades
Standards Link:	CompProg1Standards.pdf

CompuScholar Course Details:

Course Title:	CompuScholar: Windows Programming with C#
Course ISBN:	978-0-9887070-0-9
Course Year:	2018

Note 1: Citation(s) listed may represent a subset of the instances where objectives are met throughout the course.

Note 2: Citation(s) for a "Lesson" refer to the "Lesson Text" elements and associated "Activities" within the course, unless otherwise noted. The "Instructional Video" components are supplements designed to introduce or re-enforce the main lesson concepts, and the Lesson Text contains full details.

Course Description

This course of study is designed to emphasize the fundamentals of computer programming. Topics include computer software, program design and development, and practical experience in programming, using modern, object-oriented languages.

Course Standards

A. SAFETY	CITATION(S)
1. Review school safety policies and procedures.	Suppl. Chapter 3, Lesson 1
2. Review classroom safety rules and procedures.	Suppl. Chapter 3, Lesson 1
3. Review safety procedures for using equipment in the classroom.	Chapter 1, Lesson 6 Suppl. Chapter 3, Lesson 1
4. Identify major causes of work-related accidents in office environments.	N/A
5. Demonstrate safety skills in an office/work environment.	Chapter 1, Lesson 6 Suppl. Chapter 3, Lesson 1

B. STUDENT ORGANIZATIONS	CITATION(S)
1. Identify the purpose and goals of a Career and Technology Student Organization (CTSO).	Suppl. Chapter 2, Lesson 3
2. Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.	Suppl. Chapter 2, Lesson 3
3. Explain the benefits and responsibilities of being a member of a CTSO.	Suppl. Chapter 2, Lesson 3
4. List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.	Suppl. Chapter 2, Lesson 3
5. Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.	Suppl. Chapter 2, Lesson 3

C. TECHNOLOGY KNOWLEDGE	CITATION(S)
1. Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation.	Chapter 2, Lesson 2 Suppl. Chapter 3, Lesson 4
2. Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.	Chapter 1, Lesson 5
3. Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.	Chapter 1, Lesson 5 Chapter 1, Lesson 6
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).	Chapter 1, Lesson 5 Chapter 1, Lesson 6
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.	Chapter 1, Lesson 6
6. Describe ethical and legal practices of safeguarding the confidentiality of business-related information.	Chapter 1, Lesson 5 Chapter 1, Lesson 6
7. Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.	Chapter 1, Lesson 6

D. PERSONAL QUALITIES AND EMPLOYABILITY SKILLS	CITATION(S)
1. Demonstrate punctuality.	Chapter 18 (Team Project)
2. Demonstrate self-representation.	Chapter 18 (Team Project)
3. Demonstrate work ethic.	Chapter 18 (Team Project)
4. Demonstrate respect.	Chapter 18 (Team Project)

5. Demonstrate time management.	Chapter 18 (Team Project) Suppl. Chapter 2, Lesson 1
6. Demonstrate integrity.	Chapter 18 (Team Project)
7. Demonstrate leadership.	Chapter 18 (Team Project)
8. Demonstrate teamwork and collaboration.	Chapter 18 (Team Project)
9. Demonstrate conflict resolution.	Chapter 18 (Team Project)
10. Demonstrate perseverance.	Chapter 18 (Team Project)
11. Demonstrate commitment.	Chapter 18 (Team Project)
12. Demonstrate a healthy view of competition.	Chapter 18 (Team Project)
13. Demonstrate a global perspective.	Chapter 18 (Team Project)
14. Demonstrate health and fitness.	N/A
15. Demonstrate self-direction.	Chapter 18 (Team Project)
16. Demonstrate lifelong learning.	Chapter 18 (Team Project)

E. PROFESSIONAL KNOWLEDGE	CITATION(S)
1. Demonstrate effective speaking and listening skills.	Chapter 1, Lesson 5 Chapter 18 (Team Project)
2. Demonstrate effective reading and writing skills.	Chapter 18 (Team Project) Supplemental Chapter 3
3. Demonstrate mathematical reasoning.	Chapter 4, Lesson 5 Chapter 5, Lessons 1-2 Chapter 7
4. Demonstrate job-specific mathematics skills.	Chapter 4, Lesson 5 Chapter 5, Lessons 1-2 Chapter 7
5. Demonstrate critical-thinking and problem-solving skills.	Chapter 7, Lesson 3 Chapter 10 Chapter 12, Lesson 3 Chapters 14, 17, 18
6. Demonstrate creativity and resourcefulness.	Chapter 18 (Team Project) Suppl. Chapter 1, Lesson 6 Suppl. Chapter 2, Lessons 1-2

7. Demonstrate an understanding of business ethics.	Chapter 1, Lesson 5 Chapter 1, Lesson 6
8. Demonstrate confidentiality.	Chapter 1, Lesson 5 Chapter 1, Lesson 6
9. Demonstrate an understanding of workplace structures, organizations, systems, and climates.	Chapter 18 (Team Project) Suppl. Chapter 2, Lessons 1-3
10. Demonstrate diversity awareness.	Chapter 1, Lesson 5 Chapter 18 (Team Project)
11. Demonstrate job acquisition and advancement skills.	Suppl. Chapter 2, Lesson 2
12. Demonstrate task management skills.	Chapter 18 (Team Project) Suppl. Chapter 2, Lesson 1
13. Demonstrate customer-service skills.	Chapter 18 (Team Project) Suppl. Chapter 2, Lesson 1

F. COMPUTER SYSTEMS	CITATION(S)
1. Define what a computer is and its purpose.	Chapter 1, Lessons 1 - 3
2. Define basic computer terminology.	Chapter 1, Lessons 1 - 3
3. Define basic programming terminology.	Chapters 2 - 4 and throughout the course
4. Identify basic hardware and software components.	Chapter 1, Lessons 1 - 3
5. Explain the flow of data and instructions through the computer system.	Chapter 5
6. Identify components of the programming development environment.	Chapter 2, Lessons 1 - 2
7. Describe the concept of OOP (object-oriented programming).	Chapters 12, 13, 16, 17

G. PROGRAM DOCUMENTATION	CITATION(S)
1. Describe the purpose and value of the program.	Chapter 18 (Team Project) Suppl. Chapter 2, Lesson 1
2. Define the input for the program.	Chapter 18 (Team Project) Suppl. Chapter 2, Lesson 1
3. Define the output of the program.	Chapter 18 (Team Project) Suppl. Chapter 2, Lesson 1
4. Define variables and constants associated with the program using descriptive names and appropriate data types associated with the program.	Chapter 18 (Team Project) Suppl. Chapter 2, Lesson 1
5. Describe the scope of variables.	Chapter 4, Lesson 2 Chapter 13, Lesson 2

H. PROGRAMMING DESIGN	CITATION(S)
1. List in sequence the steps for developing a program.	Suppl. Chapter 2, Lesson 1
2. Develop an algorithm (pseudocode) for a program.	Chapter 7, Lesson 3
3. Key the program.	Every chapter activity within the course
4. Save the program.	Every chapter activity within the course
5. Execute the program.	Every chapter activity within the course
6. Debug the program for errors (e.g., syntax, run-time, and logic).	Chapter 10
7. Run the program to test the logical validity of an application program given appropriate data.	Chapter 10 and throughout the course

I. PROGRAMMING	CITATION(S)
1. Describe the purpose/function of different objects.	Chapter 12
2. Describe the purpose/function of an event procedure.	Chapter 3, Lesson 3
3. Identify correctly written Property assignment statements.	Chapter 4, Lesson 2 Chapter 13, Lesson 2
4. Demonstrate proper code commenting/documentation techniques.	Chapter 2, Lesson 3 and throughout the course
5. List and define arithmetic, relational, and logical/boolean operators.	Chapter 5, Lesson 1 Chapter 7, Lesson 1
6. Explain operator precedence.	Chapter 5, Lesson 1 Chapter 7, Lesson 1
7. Differentiate between commands and statements.	N/A
8. Write valid variable and constant declaration statements using appropriate data types.	Chapter 4, Lessons 1-2
9. Write valid variable and constant declaration statements using appropriate scope (e.g., local, global, static).	Chapter 4, Lesson 2 Chapter 13, Lesson 2
10. Write a program that will perform calculations on given data.	Chapter 7 Suppl. Chapter 1, Lessons 1, 5, 7
11. Write an interactive program that includes features to get input and provide feedback/information (e.g, alerts, messages, input boxes).	Chapter 2, Lesson 4 Chapters 3, 6, etc.
12. Identify different decision structures that control program flow.	Chapter 5, Lessons 2-4
13. Use built-in functions to generate random numbers.	Chapter 7, Lesson 2 Chapter 15, Lesson 1

14. Write a program using accumulators and counters.	Chapter 5, Lesson 3 Chapter 5 Activity Chapter 7, Lesson 3
15. Identify different looping/iteration structures that control program flow.	Chapter 5, Lessons 2-4
16. Use built-in properties and functions to manipulate classes and structures (e.g., String, Math).	Chapter 4, Lesson 4 Chapter 7, Lesson 2
17. Describe the conversion from ASCII/Unicode to Hexadecimal and Binary.	Chapter 4, Lesson 5 Suppl. Chapter 1, Lesson 1
18. Describe the purpose/function of general sub procedures.	Chapter 9, Lesson 1 Chapter 13, Lesson 2
19. Describe the purpose/function of arguments and parameters.	Chapter 9, Lesson 2
20. Describe the purpose/function of function procedures.	Chapter 9, Lesson 1 Chapter 13, Lesson 2
21. Write a program using one or more general sub procedures and/or functions.	Chapter 9 and throughout the course
22. Write a program that passes arguments to another general sub procedure and/or function.	Chapter 9 and throughout the course