

CompuScholar, Inc.

Alignment to South Carolina **Discovering Computer Science (5061)** Standards

South Carolina Course Details:

Course Title:	5061 - Discovering Computer Science
Grade Level:	9
Standards Link:	SCDiscoveringComputerSci.pdf

CompuScholar Course Details:

Course Title:	Computer Science Foundations
Course ISBN:	978-1-946113-02-3
Course Year:	2022

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.

Note 3: While "**Computer Science Foundations**" is compatible with **AP Computer Science Principles**, it also flexibly supports many state-level introductory computer science requirements.

South Carolina Course Description

Discovering Computer Science students will discover introductory computer science topics with an emphasis on computational thinking and problem solving. Students will be empowered to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun. Students will create their own websites, apps, and games.

South Carolina Course Standards

A. SAFETY	CITATION(S)
1. Review school safety policies and procedures.	Chapter 19, Lesson 1 Chapter 20, Lesson 2
2. Review classroom safety rules and procedures.	Chapter 19, Lesson 1 Chapter 20, Lesson 2
3. Review safety procedures for using equipment in the classroom.	Chapter 19, Lesson 1 Chapter 20, Lesson 2
4. Identify major causes of work-related accidents in office environments.	N/A
5. Demonstrate safety skills in an office/work environment.	N/A

B. STUDENT ORGANIZATIONS	CITATION(S)
1. Identify the purpose and goals of a Career and Technology Student Organization (CTSO).	Chapter 29, Lesson 4
2. Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.	Chapter 29, Lesson 4
3. Explain the benefits and responsibilities of being a member of a CTSO.	Chapter 29, Lesson 4
4. List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.	Chapter 29, Lesson 4
5. Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.	Chapter 29, Lesson 4

C. TECHNOLOGY KNOWLEDGE	CITATION(S)
1. Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation.	Chapter 3, Lessons 2, 3 Chapter 7, Lessons 2, 3
2. Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.	Chapter 19, Lesson 1
3. Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.	Chapters 19, 20
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 19
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 19, Lesson 3
6. Describe ethical and legal practices of safeguarding the confidentiality of business-related information.	Chapter 19, Lesson 1 Chapter 20, Lesson 2
7. Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.	Chapter 20
8. Evaluate various solutions to common hardware and software problems.	Chapter 7

D. PERSONAL QUALITIES AND EMPLOYABILITY SKILLS	CITATION(S)
1. Demonstrate punctuality.	Chapter 14 Chapter 29, Lesson 2
2. Demonstrate self-representation.	Chapter 14 Chapter 29, Lesson 2
3. Demonstrate work ethic.	Chapter 14 Chapter 29, Lesson 2

4. Demonstrate respect.	Chapter 14 Chapter 29, Lesson 2
5. Demonstrate time management.	Chapter 14 Chapter 29, Lesson 2
6. Demonstrate integrity.	Chapter 14 Chapter 29, Lesson 2
7. Demonstrate leadership.	Chapter 14 Chapter 29, Lesson 2
8. Demonstrate teamwork and collaboration.	Chapter 14 Chapter 29, Lesson 2
9. Demonstrate conflict resolution.	Chapter 14 Chapter 29, Lesson 2
10. Demonstrate perseverance.	Chapter 14 Chapter 29, Lesson 2
11. Demonstrate commitment.	Chapter 14 Chapter 29, Lesson 2
12. Demonstrate a healthy view of competition.	Chapter 14 Chapter 29, Lesson 2
13. Demonstrate a global perspective.	Chapter 14, Lesson 1 Chapter 18, Lessons 1, 2
14. Demonstrate health and fitness.	Chapter 29, Lessons 2, 3
15. Demonstrate self-direction.	Chapter 14 Chapter 29, Lesson 2
16. Demonstrate lifelong learning.	Chapter 14 Chapter 29, Lesson 2

E. PROFESSIONAL KNOWLEDGE	CITATION(S)
1. Demonstrate effective speaking and listening skills.	Many opportunities throughout the course, e.g.: Chapter 1, Lesson 3 Chapter 4, Lesson 2 Chapter 14
2. Demonstrate effective reading and writing skills.	Many opportunities throughout the course, e.g.: Chapter 1, Lesson 1 Chapter 10, Lesson 1 Chapter 14
3. Demonstrate mathematical reasoning.	Chapter 10, Lessons 2, 3, 4 Chapter 15, Lesson 3
4. Demonstrate job-specific mathematics skills.	Chapter 10, Lessons 2, 3, 4 Chapter 15, Lesson 3
5. Demonstrate critical-thinking and problem-solving skills.	Chapters 7, 14, and most chapter activities

6. Demonstrate creativity and resourcefulness.	Chapter 14 Chapter 18 Activity Chapter 19 Activity
7. Demonstrate an understanding of business ethics.	Chapter 19 Chapter 29, Lesson 2
8. Demonstrate confidentiality.	Chapter 19, Lesson 1 Chapter 29, Lesson 2
9. Demonstrate an understanding of workplace structures, organizations, systems, and climates.	Chapter 14, Lessons 1, 2, 3 Chapter 29
10. Demonstrate diversity awareness.	Chapter 14, Lesson 1 Chapter 29, Lesson 2
11. Demonstrate job acquisition and advancement skills.	Chapters 14, 29
12. Demonstrate task management skills.	Chapter 14
13. Demonstrate customer-service skills.	Chapter 29, Lesson 2

F. COMPUTING SYSTEMS	CITATION(S)
1. Define key computing terms (e.g. hardware, software, data, etc.).	Chapter 1 and throughout the course (see vocab sections)
2. Identify and define the key functional components (input devices, output devices, processor, operating system, software applications, memory, storage, etc.).	Chapter 1, Lessons 2, 3
2. Understand the terms and units that are used to describe major hardware components (RAM, ROM, Peta-, Tera-, Giga-, Mega- Kilo-, Hz, Bit, Byte, Binary, etc.).	Chapter 1, Lesson 2 Chapter 10, Lesson 4
4. Describe how software and hardware interact.	Chapter 1, Lesson 2 Chapter 2, Lesson 1
5. Compare and contrast characteristics of a variety of file formats (e.g., software compatibility, file size, compresses/uncompressed files.)	Chapter 17, Lesson 4

G. PROBLEM SOLVING AND COMPUTATIONAL THINKING	CITATION(S)
1. Describe how computer programs and apps can be used to solve various problems (e.g., desktop, mobile, enterprise).	Chapter 16, Lesson 3 Chapter 17
2. Define algorithm (a set of clearly defined, logical steps to solve a problem).	Chapter 15, Lesson 1
3. Demonstrate an understanding of algorithms and their practical applications.	Chapters 15, 16
4. Create, evaluate, and adjust algorithms to solve a variety of problems.	Chapter 15, Lesson 3 Chapter 15 and 16 Activities

5. Use an iterative problem-solving process to design and refine solutions to a variety of problems. a. Define the problem including a variety of considerations (e.g., users, environment, demographics, societal trends, etc.) b. Design a solution. c. Prepare, test, and refine the solution. d. Reflect on results.	Chapter 14
--	------------

H. FUNDAMENTALS OF PROGRAMMING	CITATION(S)
1. Express the design of a program using representations such as flowcharts and pseudocode.	Chapter 15, Lessons 1, 2
2. Analyze and explain how a particular program functions.	Chapter 15, Lesson 3 and throughout the course
3. Solve problems of increasing complexity using visual block-based programming individually and collaboratively.	Python is used instead of blocky languages
4. Write code that uses variables, events, functions, operators (i.e. arithmetic, relational, logical), conditional control structures (e.g., if, if-else) and repetition/iteration control structures (e.g., while, for).	Chapters 4 through 12
5. Differentiate between text and numerical data.	Chapter 4, Lessons 2, 3, 4
6. Edit, compile/run, test, and debug a program.	Chapter 3, Lessons 2, 3 Chapter 7, Lessons 2, 3

I. FUNDAMENTALS OF WEB DESIGN AND DEVELOPMENT	CITATION(S)
1. Evaluate the results of Internet searches and the reliability of information found on Web sites.	Chapter 28
2. Describe how Web sites are used to communicate and exchange data.	Chapters 23, 24, 25, 28
3. Plan a web page considering subject, devices, audience, layout, color, links and graphics.	Chapters 23, 24, 25
4. Create a web page that contains a variety of HTML elements (e.g., hyperlinks, ordered and unordered lists, images, headings, paragraph) and CSS styles.	Chapters 23, 24, 25

J. ETHICAL, LEGAL & SOCIAL ISSUES OF COMPUTING	CITATION(S)
1. Examine the consequences resulting from issues involving ethics around security, privacy, copyright, fair use, intellectual property, social media and licensing.	Chapters 19, 20
2. Explain the importance of Acceptable Use Policies.	Chapter 19, Lesson 1
3. Explain the importance of data security and physical security.	Chapter 20, Lessons 1, 2

4. Identify computing threats (e.g., spyware, adware, malware, viruses, ransomware, phishing, hacking, software piracy, identity theft, etc.) and their potential impacts on society.	Chapter 20
---	------------

K. COMPUTING CAREERS	CITATION(S)
1. Research careers in computing along with their education, training requirements, industry certifications and salary ranges.	Chapter 29, Lesson 1 & Activity
2. Describe how computing enhances other career fields.	Chapter 18, Lesson 2
3. Describe the importance of access and equity in computing.	Chapter 18, Lesson 1