

CompuScholar, Inc.

Alignment to Alabama Digital Literacy and Computer Science Standards

7th Grade

Alabama Course Details:

Course Title:	Digital Literacy and Computer Science
Grade Level:	7th Grade
Standards Link:	2018 Textbook Draft DL and CS COS.pdf

CompuScholar Course Details:

Course Title:	CompuScholar: Digital Savvy
Course ISBN:	978-0-9887070-8-5
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) refer to the "Lesson Text" elements within the course, unless otherwise noted. The course "Instructional Video" components are supplements designed to introduce or re-enforce the main lesson concepts, and the Lesson Text contains full details.

Course Description

7th grade content for Digital Literacy and Computer Science is organized into five strands of focused study. CompuScholar's "Digital Savvy" course covers these topics as described below.

Course Standards - 7th Grade

Computational Thinker	CITATION(S)
Abstraction	
1. Highlight essential properties of an everyday process by removing background details. Examples: Break down steps of making a sandwich to identify simple details.	Chapter 22, Lesson 3 Chapter 23 Activity Supplemental Chapter 2, Lesson/Activity 2
2. Create a function to simplify a task. Example: The term "spread" as a function would include the steps involved in spreading a condiment on a slice of bread.	Chapter 22, Lesson 3 Chapter 23 Activity Supplemental Chapter 2, Lesson/Activity 2

Algorithms	
3. Create complex pseudocode using conditionals and Boolean statements. Example: if (jar jelly open = false), open jar; else, put knife in jelly jar.	Chapter 22, Lesson 3 Chapter 23, Lesson 3 Chapter 23 Activity Supplemental Chapter 2, Lesson/Activity 2
4. Create algorithms that demonstrate sequencing, selection or iteration. Examples: Debit card transactions are approved until the account balance is insufficient to fund the transaction = iteration, do until.	Chapter 22, Lesson 3 Chapter 23, Lessons 2-3 Chapter 23 Activity Supplemental Chapter 2, Lesson/Activity 2
Programming and Development	
5. Solve a complex problem using computational thinking.	Chapter 22, Lesson 3 Chapter 23, Lessons 2-3 Chapter 23 Activity Supplemental Chapter 2, Lesson/Activity 2
6. Create and organize sets of algorithms in order to automate a process efficiently. Example: Set of recipes (algorithms) for preparing a complete meal.	Chapter 22, Lesson 3 Supplemental Chapter 2 Lesson/Activity 2
7. Create a program that updates the value of a variable in the program and have it re-initialized upon program completion. Examples: Update the value of score when a coin is collected (in a flowchart, pseudocode or	Chapter 23, Lessons 1-3 Chapter 23 Activity
8. Formulate a narrative for each step of a process and its intended result, given an algorithm using either pseudocode or code.	Chapter 22, Lesson 3 Chapter 23 Activity Supplemental Chapter 2, Lesson/Activity 2

Citizen of a Digital Culture	CITATION(S)
Safety, Privacy, and Security	
9. Identify common methods of securing data. Examples: Passwords, permissions, encryption.	Chapter 8, Lessons 2-3 Supplemental Chapter 2, Lesson 3
Legal and Ethical Behavior	
10. Explain social engineering, including countermeasures, and its impact on a digital society. Examples: Phishing, hoaxes, impersonation, baiting, spoofing.	Supplemental Chapter 1, Lesson 2

11. Demonstrate positive, safe, legal, and ethical habits when creating and sharing digital content and identify the consequences of failing to act responsibly.	Chapter 8, Lesson 4 Chapter 8, Lesson 5
Digital Identity	
12. Discuss the impact of data permanence on digital identity including best practices to protect personal digital footprint.	Chapter 8, Lesson 1 Chapter 16, Lesson 1
Impact of Computing	
13. Compare and contrast information available locally and globally.	Supplemental Chapter 1, Lesson/Activity 1
14. Discuss current events related to emerging technologies in computing and the effects such events have on individuals and the global society.	Chapter 2, Lesson 5 Supplemental Chapter 1, Lessons/Activities 1 and 5
15. Discuss unique perspectives and needs of a global culture when developing computational artifacts, including options for accessibility for all users.	Supplemental Chapter 1, Lessons/Activities 1 and 3

Global Collaborator	CITATION(S)
Creative Communications	
16. Construct content designed for specific audiences through an appropriate medium. Examples: Design a multi-media children's e-book with an appropriate readability level.	Chapters 9 - 11, 14, 25 (Multiple opportunities to create digital artifacts and make presentations to specific audiences)
17. Publish content to be available for external feedback. Examples: Post a draft or create a beta.	Chapter 14, Activity 3 Chapter 25, Activity 3
Digital Tools	
18. Type 35 words per minute (wpm) with 95% accuracy using appropriate keyboarding techniques.	Supplemental Chapter 3, Lesson/Activity 1
Social Interactions	
19. Discuss the benefits and limitations of net neutrality.	Supplemental Chapter 1, Lesson/Activity 5
20. Evaluate data and findings for fair and accurate conclusions.	Chapter 7, Lesson 3 Supplemental Chapter 1, Lesson/Activity 1

Computing Analyst	CITATION(S)
Data	
21. Compare common methods of data transfer.	Chapter 6, Lesson 6
22. Compare data storage structures. Examples: Stack, array, queue, table, database.	Supplemental Chapter 2, Lesson 4
23. Evaluate the varying data structures/systems for data conversion and extraction, including hexadecimal. Examples: Using American Standard Code for Information Interchange (ASCII), decrypting or encrypting characters.	Supplemental Chapter 2, Lesson 1 and Lesson/Activity 3
Systems	
24. Demonstrate the use of a variety of digital devices individually and collaboratively to collect, analyze, and present information for content-related problems.	Chapter 14 Chapter 25 (Student collaboration to gather, analyze, and present data with multiple digital artifacts)
25. Diagram a network given a specific setup or need. Examples: Home network, public network, business network.	Chapter 6, Lessons 1, 2, 4
26. List common methods of system cybersecurity. Examples: Various password requirements, two factor authentication, sensory, biometric, geolocation.	Chapter 8, Lessons 1 - 3 Supplemental Chapter 2, Lesson 3
Modeling and Simulation	
27. Categorize models based on the most appropriate representation of various systems.	Supplemental Chapter 2, Lesson/Activity 5
28. Identify simulations that are appropriate for a specific model. Examples: Roll of dice or flipping a quarter for random, fire drill for a fire, lockdown for intruder.	Supplemental Chapter 2, Lesson/Activity 5

Innovative Designer	CITATION(S)
Human/Computer Partnerships	
29. Classify types of assistive technologies. Examples: Hardware, software, implements.	Supplemental Chapter 1, Lesson / Activity 3
30. Compare and contrast human intelligence and artificial intelligence.	Supplemental Chapter 1, Lesson / Activity 4

Design Thinking	
31. Apply the problem-solving process to solve real-world problems.	Chapter 14 Chapter 25 (Research, digital artifact creation and presentation on student-selected issues)

Recurring Standards, All Grades	CITATION(S)
Safety, Privacy, and Security - 1. Identify, demonstrate, and apply personal safe use of digital devices.	Chapter 8, Lessons 1 - 3 Chapter 18, Lesson 4
Legal and Ethical Behavior - 2. Recognize and demonstrate age-appropriate responsible use of digital devices and resources as outlined in school/district rules.	Chapter 8, Lessons 4 - 5
Impact of Computing - 3. Analyze the potential impact of computing.	Chapter 2, Lesson 5 Chapter 24, Lesson 1 Supplemental Chapter 1 (All Lessons)
Systems - 4. Identify and employ appropriate troubleshooting techniques used to solve computing or connectivity issues.	Chapter 5 (All Lessons) Chapter 6, Lesson 4
Collaborative Research - 5. Locate, curate, and evaluate information from digital sources to answer research questions.	Chapter 7 (All Lessons) Chapters 14 and 25 Supplemental Chapter 1, Activities 4, 5
Digital Tools - 6. Produce, review, and revise authentic artifacts using appropriate digital tools.	Chapters 9 - 12, 14, 15, 19 - 23, 25, and more