CompuScholar, Inc.

Alignment to Alabama **Digital Literacy and Computer Science** Standards

6th Grade

Alabama Course Details:

Course Title:	Digital Literacy and Computer Science
Grade Level:	6th 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

6th 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 - 6th Grade

Computational Thinker	**CITATION(S)**
Abstraction	
1. Remove background details from an everyday process to highlight essential properties. Examples: When making a sandwich, the type of bread, condiments, meats, and/or vegetables do not affect the fact that one is making a sandwich.	Chapter 22, Lesson 3 Chapter 23 Activity Supplemental Chapter 2, Lesson/Activity 2
2. Define a process as a function. Example: Functions or sets of steps combined to produce a process: turning off your alarm + getting out of bed + brushing your teeth + getting dressed = morning routine.	Chapter 22, Lesson 3 Chapter 23 Activity Supplemental Chapter 2, Lesson/Activity 2

Algorithms	
3. Create complex pseudocode that uses conditionals. Examples: Using if/then (if it is raining then bring an umbrella).	Chapter 22, Lesson 3 Chapter 23, Lesson 3 Chapter 23 Activity Supplemental Chapter 2, Lesson/Activity 2
4. Differentiate between flowcharts and pseudocode. Example: Flowcharts use shapes to indicate what to do at each step while pseudocode uses key words.	Chapter 22, Lesson 3 Supplemental Chapter 2, Lesson/Activity 2
5. Identify algorithms that make use of sequencing, selection or iteration. Examples: Sequencing is doing steps in order (put on socks, put on shoes, tie laces); selection uses a Boolean condition to determine which of two parts of an algorithm are used (hair is dirty? True, wash hair; false, do not); iteration is the repetition of part of an algorithm until a condition is met (if you're happy and you know it clap your hands, when you're no longer happy you stop clapping).	Chapter 22, Lesson 3 Chapter 23, Lessons 2-3 Chapter 23 Activity Supplemental Chapter 2, Lesson/Activity 2
Programming and Development	
6. Identify steps in developing solutions to complex problems using computational thinking.	Chapter 22, Lesson 3 Chapter 23, Lessons 2-3 Chapter 23 Activity Supplemental Chapter 2, Lesson/Activity 2
7. Describe how automation works to increase efficiency. Example: Compare the amount of time/work to hand wash a car vs. using an automated car wash.	Chapter 22, Lesson 3 Supplemental Chapter 2, Lesson/Activity 2
8. Create a program that re-initializes the variable upon program completion. Example: Create a flowchart in which the variable or object returns to a starting position upon completion of a task.	Chapter 23, Lessons 1-3 Chapter 23 Activity

Citizen of a Digital Culture	**CITATION(S)**
Safety, Privacy, and Security	
9. Differentiate between a secure and a non-secure website including how they affect personal data. Example: HTTP *vs.* HTTPS.	Chapter 8, Lessons 2-3 Supplemental Chapter 2, Lesson 3

Legal and Ethical Behavior	
10. Describe the causes and effects of illegal use of intellectual property as it relates to print and digital media, considering copyright, fair use, licensing, sharing, and attribution.	Chapter 8, Lesson 5
11. Differentiate between appropriate and inappropriate digital content and use.	Chapter 8, Lesson 4 Chapter 8, Lesson 5
Digital Identity	
12. Define digital permanence.	Chapter 8, Lesson 1 Chapter 16, Lesson 1
13. Define personal privacy, digital footprint, and open communication.	Chapter 8, Lesson 1 Chapter 16, Lesson 1
Impact of Computing	
14. Discuss digital globalization and Internet censorship. Examples: Software that scans a website for posts about potential threats; a person's ability to order a product directly from a manufacturer in another part of the world; a student in Africa can take an online math course created in the United States; web-hosting company prevents posting of content.	Supplemental Chapter 1, Lesson/Activity 1
15. Identify emerging technologies in computing.	Chapter 2, Lesson 5
16. Identify differing societal perspectives and needs of a global culture. Examples: Equitable access in various locations.	Supplemental Chapter 1, Lessons/Activities 1 and 5

Global Collaborator	**CITATION(S)**
Creative Communications	
17. Communicate and/or publish collaboratively to inform others from a variety of backgrounds and cultures about issues and problems.	Chapter 14 Chapter 25 (Multiple opportunities to collaborate on creation of digital artifacts and make presentations to specific audiences)
Social Interactions	
18. Define net neutrality.	Supplemental Chapter 1, Lesson/Activity 5

Computing Analyst	CITATION(S)
Data	
19. Track data change from a variety of sources. Example: Use editing or versioning tools to track changes to data.	Chapter 9, Lesson 6
20. Identify data transferring protocols, visualization, and the purpose of data and methods of storage. Examples: Using an online collection tool or form to collect data that is then stored in a spreadsheet or database	Chapter 6, Lesson 6 (protocols) Chapters 10-12 (data visualization and storage) Chapters 14, 25 (Moving research data between digital artifacts, data visualization and storage)
21. Label data storage structures. Examples: Stack, array, queue, table, database.	Supplemental Chapter 2, Lesson 4
22. Identify varying data structures/systems and methods of classification, including decimal and binary. Examples: Difference between a bit and a byte, bit representation, pixels.	Supplemental Chapter 2, Lessons 1, 3, 4
23. Summarize the purpose of the American Standard Code for Information Interchange (ASCII).	Supplemental Chapter 2, Lesson 3
Systems	
24. Discuss how digital devices may be used to collect, analyze, and present information for content-related problems.	Chapter 14 Chapter 25 (Students will collect, analyze and present data on selected issues)
25. Compare and contrast different types of networks. Examples: Wired, wireless (WiFi), local, wide area, mobile, Internet, and intranet.	Chapter 6, Lessons 1, 2, 4
26. Differentiate between secure and non-secure systems.	Chapter 8, Lessons 1 - 3
Modeling and Simulation	
27. Explain what it means to use models as logical representations of physical, mathematical, or logical systems or processes. Example: Students will discuss why an engineer may build a model of a building before actually constructing the building	Supplemental Chapter 2, Lesson/Activity 5
28. Explain how simulations serve to implement models.	Supplemental Chapter 2, Lesson/Activity 5

Innovative Designer	CITATION(S)
Human/Computer Partnerships	
29. Define assistive technologies and state reasons they may be needed.	Supplemental Chapter 1, Lesson / Activity 3
30. Define artificial intelligence and identify examples of artificial intelligence in the community. Examples: Image recognition, voice assistants.	Supplemental Chapter 1, Lesson / Activity 4
Design Thinking	
31. Discuss and apply the components of the problem-solving process. Example: Students will devise a plan to alleviate traffic congestion around the school during drop-off and pick-up.	Chapter 14 Chapter 25 (Students will gather data and create digital artifacts on selected issues) Supplemental Chapter 2, Lesson/Activity 2

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