CompuScholar, Inc.

Alignment to Alabama Standards

Introduction to Programming

Alabama Course Details:

Course Title:	Introduction to Programming
Career Cluster(s):	Business Management and Administration, Marketing, Finance
Course Credit:	6 weeks, 9 weeks, 1 semester, or 1 year
Grade Levels:	7 - 8

CompuScholar Course Details (Primary Resource):

Course Title:	Python Programming
Course ISBN:	978-1-946113-00-9
Course Year:	2021

CompuScholar Course Details (Additional Resources):

Course Title:	Digital Savvy	Web Design
Course ISBN:	978-0-9887070-8-5	978-0-9887070-3-0
Course Year:	2021	2021

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: Citation(s) to "Supplemental" or "Suppl." chapters refer to Supplemental Chapters found at the end of the main sequence of numbered chapters within the course.

Alabama Course Description

Introduction to Programming provides an understanding of basic computer programming concepts and logic. Programming will be introduced through a variety of projects and object-based programming activities and applications.

CompuScholar Course Selection

CompuScholar's **Python Programming** course serves as the primary resource for most coding-centric topics. Depending on the length of the school's implementation (6 weeks up to 1 year), elements from other submitted courses (**Digital Savvy** and **Web Design**) can be used for additional topic coverage. All citations below are for **Python Programming** unless otherwise specified.

Alabama Course Standards

Foundational Standards	CITATION(S)
1. Incorporate safety procedures in handling, operating, and maintaining tools and machinery; handling materials; utilizing personal protective equipment; maintaining a safe work area; and handling hazardous materials and forces.	See **Digital Savvy**, Chapter 24, Lesson 3
2. Demonstrate effective workplace and employability skills, including communication, awareness of diversity, positive work ethic, problem-solving, time management, and teamwork.	Chapter 13, Lesson 1 Chapter 13, Activities 1-4
3. Explore the range of careers available in the field and investigate their educational requirements, and demonstrate job-seeking skills including resume-writing and interviewing.	Suppl. Chapter 3, Lesson 4
4. Advocate and practice safe, legal, responsible, and ethical use of information and technology tools specific to the industry pathway.	Suppl. Chapter 2 Suppl. Chapter 4, Lesson 2
5. Participate in a Career and Technical Student Organization (CTSO) to increase knowledge and skills and to enhance leadership and teamwork.	Suppl. Chapter 3, Lesson 5
6. Discuss and demonstrate ways to value diversity.	Chapter 13, Lesson 1

Programming and Development	CITATION(S)
1. Research differences and similarities among various programming languages.	See **Digital Savvy**, Chapter 22, Lesson 1
2. Construct digital projects using a variety of object-based or language-based programming tools.	Chapter 1, Lesson 2 Suppl. Chapter 1 and projects in every chapter.
3. Gather information about opportunities and roles on software development teams.	Chapter 13, Lesson 1
4. List classifications of computerized entertainment and give examples of each type.	N/A
5. Gather and share information on end user and creative perspective of software development.	See **Web Design**, Chapter 10, Lesson / Activity 1
6. Demonstrate problem-solving and analytical skills while using the design process and correcting programming mistakes.	Chapter 5 Chapter 13

Web Design	CITATION(S)
7. Demonstrate how websites and web browsers interact with one another on the Internet.	See **Digital Savvy**, Chapter 6, Lessons 4, 5, 6 See **Web Design**, Chapter 16, Lessons 2, 5

8. Create a business web page.	See **Digital Savvy**, Chapters 19, 20, 21 See **Web Design**, Chapters 1+ (to depth desired)

Customer Service and Leadership	**CITATION(S)**
9. Demonstrate different ways in which communication can be used within the workplace.	See **Digital Savvy**, Chapter 16
a. Describe the different types of skills employees should use with customers. Examples: verbal communication, body language, conflict resolution, respect	See **Digital Savvy**, Chapter 24, Lesson 2
10. Describe important aspects of large-scale software design processes and implementation.	See **Digital Savvy**, Chapter 13, Lessons 1, 2
11. Describe processes involved in global economy and supply chain implementation of software.	N/A
12. Explain the importance of audience and equity when designing a program.	See **Digital Savvy**, Suppl. Chapter 1, Lessons 1, 3 See **Web Design**, Chapter 13, Lesson 2

Career Opportunities	**CITATION(S)**
13. Gather information on career and entrepreneurial opportunities in the field of computer programming. Examples: responsibilities, education, credentialing requirements	Suppl. Chapter 3, Lesson 4

Computational Thinking	**CITATION(S)**
14. Demonstrate comprehension of programming logic. Examples: conditionals, sequencing, iterations, simple loops	Chapter 4 Chapter 6, Lessons 3, 4
15. Create an algorithm with variables using pseudocode then translate to a programming language. Example: flowchart to block coding	Suppl. Chapter 3, Lesson 3
16. Design a function to simplify a task and explain how abstraction was used in the design process.	Chapter 9, Lesson 1

Digital Culture	**CITATION(S)**
17. Identify methods that businesses and their employees can use to secure data on line.	Suppl. Chapter 2, Lesson 3
18. Evaluate the different modes of social engineering and determine how they affect society. Examples: phishing, hoaxes, spoofing, baiting	Suppl. Chapter 2, Lesson 4
19. Promote positive, safe, legal, and ethical behavior online. Example: Create a brochure to advocate good digital citizenship.	Suppl. Chapter 2, Lessons 1, 2

20. Describe the impact of data permanence on personal and professional digital identity.	Suppl. Chapter 4, Lesson 2
21. Analyze current events, and compare and contrast the scope, emphases, and biases of information available from digital sources across the globe.	Suppl. Chapter 4, Lessons 1, 3
22. Examine the role of censorship and bias in society and global culture.	Suppl. Chapter 4, Lesson 1
23. Explain the importance of using assistive technologies to produce a product.	See **Digital Savvy**, Suppl. Chapter 1, Lesson 3 See **Web Design**, Chapter 13, Lesson 2
24. Contrast the positive and negative impacts of artificial intelligence in industry.	Suppl. Chapter 4, Lesson 4

Systems and Modeling	**CITATION(S)**
25. Explain networks and specific set-ups needed for a business environment.	See **Digital Savvy**, Chapt. 6 and Suppl. Chapt. 3, Lesson 5
26. Determine effective cyber security methods for protecting a company. Examples: password requirements, encryption, building security	Suppl. Chapter 2, Lesson 3
27. Diagram a model that represents a system inside a company. Examples: supply and demand, a new business model, company organizational chart	See **Digital Savvy**, Chapter 11, Lesson 5
28. Create a simulation to test a model.	See **Digital Savvy**, Suppl. Chapter 3, Lesson 5