

CompuScholar, Inc.Alignment to Arkansas **Coding Block for Grades 7 or 8** Standards**Arkansas Course Details:**

Course Title:	Coding Block for Grades 7 or 8
Course Code(s):	N/A
Grade Level:	7th - 8th Grade
Standards Link:	Computer Science Standards and Courses (2021)

CompuScholar Course Details:

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

Note 1: Citation(s) listed may represent a subset of the instances where objectives are met throughout the course. Teachers will use the first 6 chapters of this course to cover most requirements.

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.

Arkansas Course Description

The Coding Block for Grades 7 or 8 is designed to be taught during a standalone block of time for a minimum of four continuous weeks. Students will examine how to formulate algorithms in addition to creating, analyzing, testing, and debugging computer programs in order to solve real-world problems. Students are required to use a text-based programming language to accomplish these tasks. These standards are not to be embedded in activities spread out over multiple courses, but within a dedicated course section.

Chapter Selection and Pacing

The Coding Block for Grades 7 or 8 can be substantially met by the first 6 to 9 chapters and some Supplemental Lessons in CompuScholar's **Python Programming** course. Networking and security topics can be optionally covered by using two chapters from CompuScholar's **Digital Savvy** course. Therefore, we recommend approximately 8 to 12 weeks be allocated to cover all coding block standards.

Course Standards

Strand: Computational Thinking and Problem Solving		CITATION(S)
Content Cluster 1: Students will analyze and utilize problem-solving strategies.		
CSCB.1.1	Examine traditional programming algorithms, including searches and sorts	N/A (See our high school courses)
CSCB.1.2	Describe the steps needed to efficiently solve a problem	Suppl. Chapter 3, Lesson 3
CSCB.1.3	Manually test algorithms with sample data to observe accuracy of anticipated output	Chapter 5

CSCB.1.4	Demonstrate appropriate collaborative behaviors (e.g., integrating feedback, providing useful feedback, understanding and accepting multiple perspectives) when solving problems	Chapter 13
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Strand: Data, Information, and Security		CITATION(S)
Content Cluster 2: Students will analyze and utilize concepts of cybersecurity.		
CSCB.2.1	Apply strategies to protect personal digital footprints (e.g., game profiles, shares on social media, other online accounts) and the responsibilities and opportunities of living, learning, and working in a digitally connected world	Suppl. Chapter 2, Lessons 3-4 Suppl. Chapter 4, Lesson 2
CSCB.2.2	Research and describe real-world cybersecurity problems (e.g., identity theft) as they relate to personal cybersecurity, and how to apply digital and physical methods for protecting and securing personal information	Suppl. Chapter 2, Lessons 3-4 Suppl. Chapter 4, Lesson 2

Strand: Algorithms and Programs		CITATION(S)
Content Cluster 3: Students will create, evaluate, and modify algorithms.		
CSCB.3.1	Explain the logic involved in how a computer program executes (e.g., flow charts, program flow)	Chapter 1, Lesson 3 Suppl. Chapter 3, Lesson 3
CSCB.3.2	Discuss and apply best practices of backend program design (e.g., comments, documentation, whitespace)	Chapter 1, Lesson 3
CSCB.3.3	Test a computer program with data and evaluate output for accuracy	Chapter 5, and all Activities from Chapter 3 onward
CSCB.3.4	Find and debug errors in a computer program	Chapter 5

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Strand: Algorithms and Programs		CITATION(S)
Content Cluster 4: Students will create programs to solve problems.		
CSCB.4.1	• data types	Chapter 2, Lessons 1 - 3
	• variable creation	Chapter 2, Lessons 1 - 3
	• variable assignment	Chapter 2, Lesson 1
	• conditional branching (e.g., if, if-else, multi-branch)	Chapter 4
	• iteration (e.g., for, while)	Chapter 6, Lessons 3 - 4
	• functions	Chapter 9
CSCB.4.2	Create a program using a text-based programming language	Throughout the course

Strand: Computers and Communication		CITATION(S)
Content Cluster 5: Students will analyze communication methods and systems used to transmit information among computing devices.		
CSCB.5.1	Identify major components and functions of computer systems (e.g., hardware, software) and networks (e.g., network components, wired, wireless) and recommend methods to secure computer systems and networks	Digital Savvy - Chapters 6, 8

Strand: Professionalism and Impacts of Computing		CITATION(S)
Content Cluster 6: Students will analyze the impacts of technology and professionalism within the computing community.		
CSCB.6.1	Research diverse careers and career opportunities that are influenced by computer science and the technical and soft skills needed for each	Chapter 13, Lesson 1 Suppl. Chapter 3, Lessons 4-5