June 2023

Skill Struck's alignment to

Arkansas Computer Science and Computing Standards High School Programming

Legend

✅ = Standard aligned

🔹 = Not currently aligned

Standard	Status
CSPG.Y1.1.1 Leverage problem-solving strategies to solve problems of level-appropriate complexity	✅
CSPG.Y2.1.1 Leverage problem-solving strategies to solve problems of level-appropriate complexity	✅
CSPG.Y3.1.1 Leverage problem-solving strategies to solve problems of level-appropriate complexity	✅
CSPG.Y1.1.2 Analyze and utilize multiple representations of problem-solving logic used to solve problems of appropriate complexity	✅
CSPG.Y2.1.2 Analyze and utilize multiple representations of problem-solving logic used to solve problems of appropriate complexity	✅

CSPG.Y3.1.2 Analyze and utilize multiple representations of problem-solving logic used to solve problems of appropriate complexity	✅
CSPG.Y1.1.3 Analyze and utilize collaborative methods in problem solving of level-appropriate complexity	✅
CSPG.Y2.1.3 Analyze and utilize collaborative methods in problem solving of level-appropriate complexity	✅
CSPG.Y3.1.3 Analyze and utilize collaborative methods in problem solving of level-appropriate complexity	✅
CSPG.Y1.1.4 Analyze and utilize level-appropriate troubleshooting strategies for hardware and software	✅
CSPG.Y2.1.4 Analyze and utilize level-appropriate troubleshooting strategies for hardware and software	✅
CSPG.Y3.1.4 Analyze and utilize level-appropriate troubleshooting strategies for hardware and software	✅
CSPG.Y2.1.5 Decompose problems of level-appropriate complexity	✅
CSPG.Y3.1.5 Decompose problems of level-appropriate complexity	✅
CSPG.Y1.2.1 Interpret relational and logical expressions of level-appropriate complexity	✅

using comparison and Boolean operators	
CSPG.Y2.2.1 Construct and evaluate compound expressions using multiple relational and logical operators	✅
CSPG.Y1.2.2 Classify the types of information that can be stored as variables and analyze the appropriateness of each (e.g., Booleans, characters, integers, floating points, strings)	✅
CSPG.Y1.2.3 Analyze how computer science concepts relate to the field of mathematics	✅
CSPG.Y1.2.4 Discuss and apply concepts of abstraction	✅
CSPG.Y2.2.4 Analyze and utilize concepts of abstraction as modeling and abstraction as encapsulation	✅
CSPG.Y1.2.5 Perform operations of level-appropriate complexity with binary, decimal, and hexadecimal numbers	✅
CSPG.Y2.2.5 Perform operations of level-appropriate complexity with binary, octal, decimal, and hexadecimal numbers	✅
CSPG.Y1.2.6 Demonstrate operator precedence in expressions and statements	✅
CSPG.Y1.3.1 Define, store, access, and manipulate level-appropriate data (e.g., primitive, linear)	✅

CSPG.Y2.3.1 Create programs to store, access, and manipulate level-appropriate data (e.g., structured data, objects)	✅
CSPG.Y3.3.1 Create programs that store, access, and manipulate, with high level of efficiency, level-appropriate data	✅
CSPG.Y1.3.2 Define and discuss different examples of level-appropriate quantitative and qualitative data	✅
CSPG.Y2.3.2 Define and discuss different examples of level-appropriate quantitative and qualitative data	✅
2 CSPG.Y2.3.3 Research, discuss, and create level-appropriate programs to model and simulate probabilistic and real-world scenarios	✅
CSPG.Y3.3.3 Create and test models and simulations to answer student-identified questions and scenarios	✅
CSPG.Y1.3.4 Analyze, utilize, and visually represent level-appropriate data	✅
CSPG.Y2.3.4 Analyze, utilize, and visually represent level-appropriate static and dynamic data	✅
1.AP.PD.1 With teacher assistance identify plans that describe a program's sequence of events, goals, and expected outcomes.	✅
CSPG.Y1.3.5	✅

Perform level-appropriate data analysis using computing tools	
CSPG.Y2.3.5 Perform level-appropriate data analysis using computing tools	✅
CSPG.Y3.3.5 Discuss real-world data sources that can be mined to produce new knowledge	✅
CSPG.Y2.3.6 Examine the capacity of computing technology to create and process large sets of data	✅
CSPG.Y3.3.6 Issue queries against data sets to produce new knowledge from stored data (e.g., databases, large sets of data)	✅
CSPG.Y1.4.1 Identify the five pillars of cybersecurity and evaluate the relevance of each pillar to computer science concepts	✅
CSPG.Y2.4.1 Apply the five pillars of cybersecurity as applicable to level-appropriate computer science concepts	✅
CSPG.Y1.4.2 Research and describe different roles within the hacking community (e.g., white hat, black hat, gray hat hacking), including positive and negative motivations, significant impacts, and social stereotypes	✅
CSPG.Y1.4.3 Research and describe the impacts of ransomware, trojans, viruses, and other malware	✅
CSPG.Y2.4.3 Research and describe common attacks on hardware, software, and	✅

networks	
CSPG.Y1.4.4 Explain implications related to identification and responsible reporting of a vulnerability versus exploitation	✅
CSPG.Y1.5.1 Design and implement level-appropriate algorithms that use iteration, selection, and sequence	✅
CSPG.Y2.5.1 Design and implement level-appropriate algorithms that use iteration, recursion, selection, and sequence	✅
CSPG.Y3.5.1 Design and implement level-appropriate algorithms that solve student-identified problems	✅
CSPG.Y1.5.2 Illustrate the flow of execution of algorithms in level-appropriate programs including branching and looping	✅
CSPG.Y2.5.2 Illustrate the flow of execution of algorithms in level-appropriate programs including recursion	✅
CSPG.Y1.5.3 Evaluate the qualities of level-appropriate student-created and non-student-created algorithms	✅
CSPG.Y2.5.3 Evaluate the qualities of level-appropriate student-created and non-student-created algorithms including classic search and sort algorithms	✅
CSPG.Y3.5.3	✅

Evaluate multiple student-created algorithms and non-student-created algorithms in terms of time and space complexities (e.g., Big O notation)	
CSPG.Y1.5.4 Use a systematic approach to detect and resolve errors in a given algorithm	✅
CSPG.Y2.5.4 Use a systematic approach to detect and resolve errors in a given algorithm	✅
CSPG.Y3.5.4 Use a systematic approach to detect and resolve errors in a given algorithm	✅
CSPG.Y1.6.1 Create programs using procedures to solve problems of level-appropriate complexity	✅
CSPG.Y2.6.1 Create programs to solve problems of level-appropriate complexity	✅
CSPG Y2: Programs must include classes	✅
CSPG.Y3.6.1 Create programs to solve problems of level-appropriate complexity utilizing inheritance and polymorphism	✅
CSPG.Y1.6.2 Discuss and apply best practices of program design and format (e.g., descriptive names, documentation, indentation, user experience design, whitespace)	✅
CSPG.Y2.6.2 Discuss and apply best practices of program design and format (e.g.,	✅

descriptive names, documentation, indentation, user experience design, whitespace)	
CSPG.Y3.6.2 Discuss and apply best practices of program design, user experience design, and format (e.g., descriptive names, documentation, indentation, whitespace)	✅
CSPG.Y1.6.3 Determine the scope and state of variables declared in procedures and control structures over time	✅
CSPG.Y2.6.3 Determine the scope and state of variables defined in classes and class procedures	✅
CSPG.Y3.6.3 Determine the scope and state of variables defined in classes and class procedures involving inheritance and polymorphism	✅
CSPG.Y1.6.4 Create programs of level-appropriate complexity that read from standard input, write to standard output, read from a file, write to a file, and append to a file	✅
CSPG.Y2.6.4 Create programs that read from, write to, and append to a file of level-appropriate complexity that includes structured data	✅
CSPG.Y3.6.4 Create programs that read from, write to, and manipulate binary files (e.g., images, sounds)	🔹
CSPG.Y1.6.5 Use a systematic approach to detect logic, runtime, and syntax errors within a program	✅

CSPG.Y2.6.5 Use a systematic approach to detect logic, runtime, and syntax errors within a program	✅
CSPG.Y3.6.5 Use a systematic approach to detect logic, runtime, and syntax errors within a program	✅
CSPG.Y1.7.1 Identify software and hardware specific to carrying out the mission of regional industries	✅
CSPG.Y2.7.1 Utilize hardware and/or software to solve level-appropriate industry-based problems	✅
CSPG.Y3.7.1 Integrate multiple hardware and/or software tools to solve level-appropriate industry-based problems	✅
CSPG.Y1.7.2 Research advancing and emerging technologies (e.g., artificially intelligent agents, blockchain, extended reality, Internet of Things (IoT), machine learning, robotics)	✅
CSPG.Y1.8.1 Utilize the command line to accomplish common network troubleshooting tasks at an introductory level	🔹
CSPG.Y1.8.2 Research and describe common networking concepts at an introductory level	✅
CSPG.Y1.8.3 Research and describe modems, network interface cards, routers (e.g., consumer, industrial), switches, and wireless access points, and identify	✅

their purposes within a network	
CSPG.Y1.8.4 Describe the importance of creating and using common rules for communication and the utilization of common network protocols including the relationship between client and server	✅
CSPG.Y1.9.1 Compare and contrast computer programming paradigms (e.g., functional, imperative, object-oriented)	✅
CSPG.Y1.9.2 Research, describe, and utilize at an appropriate level: • debugging strategies • integrated development environments (IDE) • source-code editors • version control strategies	✅
CSPG.Y2.9.2 Use collaboration tools and version control systems in a group software project of appropriate complexity	✅
CSPG.Y3.9.2 Compare, contrast, and utilize collaboration tools and/or version control systems in a group software project of appropriate complexity	✅
CSPG.Y1.9.3 Classify layers of software (e.g., applications, drivers, firmware, operating systems) utilized within various platforms (e.g., Android, ChromeOS, iOS, Linux, macOS, Windows)	✅
CSPG.Y1.9.4 Identify and describe the purpose of hardware components within various personal computing platforms	✅

CSPG.Y1.10.1 Research and describe the risks and risk mitigation strategies associated with the utilization and implementation of social media and other digital technology implications	✅
CSPG.Y2.10.2 Research and describe issues related to creating and enforcing cyber-related laws and regulations (e.g., ethical challenges, policy vacuum, privacy versus security, unintended consequences)	🔹
CSPG.Y1.10.3 Research and describe the potential benefits associated with the utilization and implementation of social media and other digital technologies	✅
CSPG.Y1.10.4 Research and describe the relationship between access and security (e.g., active and passive data, convenience, data mining, digital marketing, online wallets, privacy, theft of personal information)	✅
CSPG.Y2.10.4 Identify the ethical implications encountered in the curation, management, and monetization of data (e.g., harvesting, information overload, knowledge management repositories, sharing, summarizing)	✅
CSPG.Y3.10.4 Discuss ethical implications encountered in software development industry that relate to intellectual property, non-compete clauses, and non-disclosure agreements	🔹
CSPG.Y2.10.5 Explain advantages and disadvantages of various software life cycle processes (e.g., Agile, spiral, waterfall)	✅
CSPG.Y3.10.5 Utilize a software life cycle process (e.g., Agile, spiral, waterfall) in	✅

developing a program	
CSPG.Y1.10.6 Research the history of computing devices and their impact on society	✅
CSPG.Y1.10.7 Research and identify diverse careers and career opportunities (e.g., accessibility, availability, demand) that are influenced by computer science and the technical and soft skills needed for each	✅
CSPG.Y2.10.7 Demonstrate industry-relevant technical and soft skills	✅
CSPG.Y2.10.8 Identify the components of a quality professional digital portfolio	🔹
CSPG.Y3.10.8 Evaluate the quality and impact of a professional digital portfolio	🔹
CSPG.Y2.10.9 Create and maintain a digital collection of self-created work	✅
CSPG.Y3.10.9 Create and maintain a professional digital portfolio comprised of self-created work	✅
CSPG.Y1.11.1 Communicate basic technical information effectively to diverse audiences including, but not limited to, non-technical audience members	✅
CSPG.Y2.11.1 Communicate technical information, of appropriate complexity, effectively to diverse audiences including, but not limited to, non-technical audience members	✅
CSPG.Y3.11.1 Communicate technical information, of appropriate complexity, effectively	✅

to diverse audiences including, but not limited to, non-technical audience members	
CSPG.Y1.11.2 Describe and utilize the concepts of storytelling with data	✅
CSPG.Y1.11.3 Describe the following common types of data bias: ● confirmation bias ● confounding variables ● outliers ● overfitting/underfitting ● selection bias	🔹
CSPG.Y1.11.4 Compare and contrast causation and correlation	✅
CSPG.Y1.11.5 Compare and contrast interpreting data, inferring using data, and implicating with data	🔹