Skill Struck's alignment to

Oklahoma Academic Standards for Computer Science K-12

Legend

✅ = Standard aligned

🔷 = Not currently aligned

🚧 = Partially aligned standard (section Skill Struck aligns with highlighted in yellow)

Standard	Status
Grades K-2	
K.CS.D.01 With guidance, follow directions and start to make appropriate choices to use computing devices to perform a variety of tasks.	✅
K.CS.HS.01 Use appropriate terminology to locate and identify common computing devices and components, in a variety of environments (e.g., desktop computer, laptop computer, tablet device, monitor, keyboard, mouse, printer).	✅
K.CS.T.01 Recognize that computing systems might not work as expected and with guidance use accurate terminology to identify simple hardware or so ware problems (e.g., volume turned down on headphones, monitor turned off).	✅
K.NI.NCO.01 Recognize that computing devices can be connected together.	✅
K.NI.C.01	✅

Discuss what passwords are and why we do not share them with others. With guidance, use passwords to access technological devices, apps, etc.	
K.DA.S.01 With guidance, locate, open, modify and save an existing file with a computing device.	✅
K.DA.CVT.01 With guidance, collect data and present it visually.	✅
K.DA.IM.01 With guidance, draw conclusions and make predictions based on picture graphs or patterns (e.g., make predictions based on weather data presented in a picture graph or complete a pattern).	✅
K.AP.A.01 With guidance, model daily processes and follow algorithms (sets of step-by-step instructions) to complete tasks verbally, kinesthetically, with robot devices, or a programing language.	✅
K.AP.V.01 With guidance, recognize that computers represent different types of data using numbers or other symbols.	✅
K.AP.C.01 With guidance, independently or collaboratively create programs to accomplish tasks using a programming language, robot device, or unplugged activity that includes sequencing (i.e., emphasizing the beginning, middle, and end).	✅
K.AP.PD.01 With guidance, create a grade-level appropriate artifact to illustrate thoughts, ideas, or stories in a sequential (step-by-step) manner (e.g., story map, storyboard, and sequential graphic organizer).	✅
K.AP.PD.02	✅

Independently or with guidance give credit to ideas, creations and solutions of others while developing algorithms.	
K.AP.PD.03 With guidance, independently or collaboratively debug algorithms using a programming language and/or unplugged activity that includes sequencing.	✅
K.AP.PD.04 Use correct terminology (beginning, middle, end) in the development of an algorithm to solve a simple problem.	✅
K.IC.C.01 List different ways in which types of technologies are used in your daily life.	✅
K.IC.SI.01 With guidance, identify appropriate manners while participating in an online environment.	✅
1.CS.D.01 With guidance, select and use a computing device to perform a variety of tasks for an intended outcome.	✅
1.CS.HS.01 Use appropriate terminology in naming and describing the function of common computing devices and components (e.g., mouse is used to control the cursor).	✅
1.CS.T.01 Identify, using accurate terminology, simple hardware and software problems that may occur during use (e.g., app or program is not working as expected, no sound is coming from the device, caps lock turned on).	✅
1.NI.NCO.01 Recognize that by connecting computing devices together they can share information (e.g., remote storage, printing, the internet).	✅

1.NI.C.01 Identify what passwords are; explain why they are not shared; and discuss what makes a password strong. Independently, use passwords to access technological devices, apps, etc.	✅
1.DA.S.01 With guidance locate, open, modify and save an existing file, use appropriate file-naming conventions, and recognize that the file exists within an organizational structure (drive, folder, file).	✅
1.DA.CVT.01 With guidance, collect data and present it two different ways.	✅
1.DA.IM.01 With guidance, identify and interpret data from a chart or graph (visualization) in order to make a prediction, with or without a computing device.	✅
1.AP.A.01 With guidance, model daily processes and follow algorithms (sets of step-by-step instructions) to complete tasks verbally, kinesthetically, with robot devices, or a programing language.	✅
1.AP.V.01 With guidance, model the way that a program accesses stored data using a variable name.	✅
1.AP.C.01 With guidance, independently or collaboratively create programs to accomplish tasks using a programming language, robot device, or unplugged activity that includes sequencing and repetition.	✅
1.AP.PD.01 Independently or with guidance, create a grade-level appropriate artifact to illustrate thoughts, ideas, or stories in a sequential (step-bystep) manner (e.g., story map, storyboard, and sequential graphic organizer).	✅

1.AP.PD.02 Independently or with guidance give credit to ideas, creations and solutions of others while writing and/or developing programs.	✅
1.AP.PD.03 With guidance, independently or collaboratively debug programs using a programming language and/or unplugged activity that includes sequencing and repetition.	✅
1.AP.PD.04 Use correct terminology (first, second, third) and explain the choices made in the development of an algorithm to solve a simple problem.	✅
1.IC.C.01 Identify how people use different types of technologies in their daily work and personal lives.	✅
1.IC.SI.01 With guidance, identify appropriate and inappropriate behavior. Act responsibly while participating in an online community and know how to report concerns.	✅
2.CS.D.01 Select and use a computing device to perform a variety of tasks for an intended outcome.	✅
2.CS.HS.01 Identify the components of a computer system and what the basic functions are (e.g., hard drive and memory) as well as peripherals (e.g., printers, scanners, external hard drives) and external storage features and their uses (e.g., cloud storage).	🚧
2.CS.T.01 Identify using accurate terminology, simple hardware and software problems that may occur during use (e.g., app or program is not working as expected, no sound is coming from the device, caps lock turned on)	✅

and discuss problems with peers and adults.	
2.NI.NCO.01 Recognize that computing devices can be connected at various scales (e.g., bluetooth, WiFi, WWW, LAN, WAN, peer-to-peer).	🔹
2.NI.C.01 Explain what passwords are; why we use them, and use strong passwords to protect devices and information from unauthorized access.	✅
2.DA.S.01 With guidance, develop and modify an organizational structure by creating, copying, moving, and deleting files and folders.	✅
2.DA.CVT.01 With guidance, collect and present the same data in various visual formats.	✅
2.DA.IM.01 With guidance, construct and interpret data and present it in a chart or graph (visualization) in order to make a prediction, with or without a computing device.	✅
2.AP.A.01 With guidance, model daily processes by creating and following algorithms (sets of step-bystep instructions) to complete tasks verbally, kinesthetically, with robot devices, or a programing language.	✅
2.AP.V.01 Model the way a computer program stores, accesses, and manipulates data that is represented as a variable.	✅
2.AP.C.01 With guidance, independently and collaboratively create programs to accomplish tasks using a programming language, robot device, or unplugged activity that includes sequencing and repetition.	✅

2.AP.PD.01 Independently or with guidance, create a grade-level appropriate artifact to illustrate thoughts, ideas, or stories in a sequential (step-bystep) manner (e.g., story map, storyboard, and sequential graphic organizer).	✅
2.AP.PD.02 Give credit to ideas, creations and solutions of others while writing and developing programs.	✅
2.AP.PD.03 With guidance, independently and collaboratively debug programs using a programming language and/or unplugged activity that includes sequencing and repetition.	✅
2.AP.PD.04 Use correct terminology (debug, program input/output, code) to explain the development of an algorithm to solve a problem in an unplugged activity, hands on manipulatives, or a programming language.	✅
2.IC.C.01 Identify and describe how people use different types of technologies in their daily work and personal lives.	✅
2.IC.SI.01 Develop a code of conduct, explain, and practice grade-level appropriate behavior and responsibilities while participating in an online community. Identify and report inappropriate behavior.	✅
Grades 3-5	
3.CS.HS.01 Model how information flows through hardware and software to accomplish tasks.	✅
3.CS.T.01 Identify, using accurate terminology, simple hardware and software	✅

problems that may occur during everyday use, discuss problems with peers and adults, and apply strategies for solving these problems (e.g., refresh the screen, closing and reopening an application or file, unmuting or adjusting the volume on headphones).	
3.NI.NCO.01 Recognize that information is sent and received over physical or wireless paths.	✅
3.NI.C.01 Identify problems that relate to inappropriate use of computing devices and networks.	✅
3.DA.S.01 Recognize that different types of information are stored in different formats that have associated programs (i.e., documents open in a word processor) and varied storage requirements.	✅
3.DA.CVT.01 Collect and organize data in various visual formats.	✅
3.DA.IM.01 With guidance, utilize data to make predictions and discuss whether there is adequate data to make reliable predictions.	✅
3.AP.A.01 Compare multiple algorithms for the same task.	✅
3.A.V.01 Create programs that use variables to store and modify grade level appropriate data.	✅
3.AP.C.01 Create programs using a programming language that utilize sequencing, repetition, conditionals, and variables to solve a problem or express ideas both independently and collaboratively.	✅

3.AP.M.01 Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.	✅
3.AP.M.02 With grade appropriate complexity, modify, remix, or incorporate portions of an existing program into one's own work, to develop something new or add more advanced features.	✅
3.AP.PD.01 Use an iterative process to plan the development of a program while solving simple problems.	✅
3.AP.PD.02 Observe intellectual property rights and give appropriate credit when creating or remixing programs.	✅
3.AP.PD.03 Analyze and debug a program that includes sequencing, repetition and variables in a programming language.	✅
3.AP.PD.04 Communicate and explain your program development using comments, presentations and demonstrations.	✅
3.IC.C.01 Identify computing technologies that have changed the world, and express how those technologies influence, and are influenced by, cultural practices.	✅
3.IC.C.02 Identify possible problems and how computing devices have built in features for increasing accessibility to all users.	✅
3.IC.SI.01 Develop a code of conduct, explain, and practice grade-level appropriate	🚧

behavior and responsibilities while participating in an online community. Identify and report inappropriate behavior.	
3.IC.SI.02 Identify how computational products may be, or have been, improved to incorporate diverse perspectives.	✅
3.IC.SLE.01 Identify types of digital data that may have intellectual property rights that prevent copying or require attribution.	✅
4.CS.HS.01 Model that information is translated, transmitted, and processed in order to flow through hardware and software.	✅
4.CS.T.01 Identify, using accurate terminology, simple hardware and software problems that may occur during everyday use, discuss p roblems with peers and adults, and apply strategies for solving these problems (e.g., rebooting the device, checking the power, force shut down of an application).	✅
4.NI.NCO.01 Explain how information is sent and received across physical or wireless paths. (It is broken down into smaller pieces called packets and transmitted from one location to another.)	✅
4.NI.C.01 Identify and explain issues related to responsible use of technology and information, and describe personal consequences of inappropriate use.	✅
4.DA.S.01 Choose different storage locations (physical, shared, or cloud) based on the type of file, storage requirements (file size, availability, available memory), and sharing requirements.	✅

4.DA.CVT.01 Organize and present collected data visually to highlight comparisons.	✅
4.DA.IM.01 Determine how the accuracy of conclusions are influenced by the amount of data collected.	✅
4.AP.A.01 Compare and refine multiple algorithms for the same task.	✅
4.AP.V.01 Create programs that use variables to store and modify grade level appropriate data.	✅
4.AP.C.01 Create programs using a programming language that utilize sequencing, repetition, conditionals and variables using math operations manipulate values to solve a problem or express ideas both independently and collaboratively.	✅
4.AP.M.01 Decompose (break down) large problems into smaller, manageable subproblems to facilitate the program development process.	✅
4.AP.M.02 With grade appropriate complexity, modify, remix, or incorporate portions of an existing program into one's own work, to develop something new or add more advanced features.	✅
4.AP.PD.01 Use an iterative process to plan the development of a program that includes user preferences while solving simple problems.	✅
4.AP.PD.02 Observe intellectual property rights and give appropriate credit when creating or remixing programs.	✅

4.AP.PD.03 Analyze, create, and debug a program that includes sequencing, repetition, conditionals and variables in a programming language.	✅
4.AP.PD.04 Communicate and explain your program development using comments, presentations and demonstrations.	✅
4.IC.C.01 Give examples of computing technologies that have changed the world, and express how those technologies influence, and are influenced by, cultural practices.	✅
4.IC.C.02 Brainstorm problems and ways to improve computing devices to increase accessibility to all users.	✅
4.IC.SI.01 Develop a code of conduct, explain, and practice grade-level appropriate behavior and responsibilities while participating in an online community. Identify and report inappropriate behavior.	🚧
4.IC.SI.02 As a team, consider each others perspectives on improving a computational product.	✅
4.IC.SLE.01 Discuss the social impact of violating intellectual property rights.	✅
5.CS.HS.01 Model that information is translated into bits in order to transmit and process between software to accomplish tasks.	✅
5.CS.T.01 Identify, using accurate terminology, simple hardware and software problems that may occur during everyday use. Discuss problems with	✅

peers and adults, apply strategies for solving these problems and explain why the strategy should work.	
5.NI.NCO.01 Model how information is broken down into packets (smaller pieces) and transmitted through multiple devices over networks and the Internet, and reassembled at the destination.	✅
5.NI.C.01 Discuss real-world cybersecurity problems and identify strategies for how personal information can be protected.	✅
5.DA.S.01 Evaluate trade-offs, including availability and quality, based on the type of file, storage requirements (file size, availability, available memory), and sharing requirements.	✅
5.DA.CVT.01 Organize and present collected data to highlight comparisons and support a claim.	✅
5.DA.IM.01 Use data to highlight or propose cause and effect relationships, predict outcomes, or communicate an idea.	✅
5.AP.A.01 Compare and refine multiple algorithms for the same task and determine which is the most efficient.	✅
5.AP.V.01 Create programs that use variables to store and modify grade level appropriate data.	✅
5.AP.C.01 Create programs using a programming language that utilize sequencing, repetition, conditionals, event handlers and variables using math	✅

operations to manipulate values to solve a problem or express ideas both independently and collaboratively.	
5.AP.M.01 Decompose (break down) large problems into smaller, manageable subproblems and then into a precise sequence of instructions.	✅
5.AP.M.02 With grade appropriate complexity, modify, remix, or incorporate portions of an existing program into one's own work, to develop something new or add more advanced features.	✅
5.AP.PD.01 Use an iterative process to plan the development of a program that includes others' perspectives and user preferences while solving simple problems.	✅
5.AP.PD.02 Observe intellectual property rights and give appropriate credit when creating or remixing programs.	✅
5.AP.PD.03 Analyze, create, and debug a program that includes sequencing, repetition, conditionals and variables in a programming language.	✅
5.AP.PD.04 Communicate and explain your program development using comments, presentations and demonstrations.	✅
5.IC.C.01 Give examples and explain how computing technologies have changed the world, and express how computing technologies influence, and are influenced by, cultural practices.	✅
5.IC.C.02 Develop, test and refine digital artifacts to improve accessibility and	✅

usability.	
5.IC.SI.01 Develop a code of conduct, explain, and practice grade-level appropriate behavior and responsibilities while participating in an online community. Identify and report inappropriate behavior.	🚧
5.IC.SI.02 As a team, collaborate with outside resources (other grade levels, online collaborative spaces) to include diverse perspectives to improve computational products.	✅
5.IC.SLE.01 Observe intellectual property rights and give appropriate credit when using resources.	✅
Grades 6-8	
6.CS.D.01 Evaluate existing computing devices and recommend improvements to design based on analysis of personal interaction with the device.	✅
6.CS.HS.01 Identify ways that hardware and software are combined to collect and exchange data.	✅
6.CS.T.01 Identify increasingly complex software and hardware problems with computing devices and their components.	✅
6.NI.NCO.01 Model a simple protocol for transferring information using packets.	✅
6.NI.C.01 Identify existing cybersecurity concerns with the Internet and systems it uses.	✅

6.NI.C.02 Explain the importance of secured websites and describe how one method of encryption works.	✅
6.DA.S.01 Identify how the same data can be represented in multiple ways.	✅
6.DA.CVT.01 Collect data using computational tools and transform the data to make it more useful.	✅
6.DA.IM.01 Use models and simulations to formulate, refine, and test hypotheses.	✅
6.AP.A.01 Use an existing algorithm in natural language or pseudocode to solve complex problems.	✅
6.AP.C.01 Develop programs that utilize combinations of repetition, conditionals, and the manipulation of variables representing different data types.	✅
6.AP.M.01 Decompose problems into parts to facilitate the design, implementation, and review of programs.	✅
6.AP.PD.01 Seek and incorporate feedback from team members to refine a solution to a problem.	✅
6.AP.PD.02 Incorporate existing code, media, and libraries into original programs and give attribution.	✅
6.AP.PD.03 Test and refine programs using teacher provided inputs.	✅

6.AP.PD.04 Break down tasks and follow an individual timeline when developing a computational artifact.	✅
6.AP.PD.05 Document text-based programs in order to make them easier to follow, test, and debug.	✅
6.IC.C.01 Explain how computing impacts people's everyday activities.	✅
6.IC.C.02 Identify and discuss the technology proficiencies needed in the classroom and the workplace, and how to meet the needs of diverse users.	✅
6.IC.SI.01 Individually and collaboratively develop and conduct an online survey that seeks input from a broad audience. Describe and use safe, appropriate, and responsible practices (netiquette) when participating in online communities (e.g., discussion groups, blogs, social networking sites).	✅
6.IC.SLE.01 Differentiate between appropriate and inappropriate content on the Internet, and identify unethical and illegal online behavior.	✅
7.CS.D.01 Evaluate existing computing devices and recommend improvements to design based on analysis of how other users interact with the device.	✅
7.CS.HS.01 Evaluate and recommend improvements to software and hardware combinations used to collect and exchange data.	✅
7.CS.T.01 Identify and fix increasingly complex software and hardware problems with computing devices and their components.	✅

7.NI.NCO.01 Explain how a system responds when a packet is lost and the effect it has on the transferred information.	✅
7.NI.C.01 Explain how to protect electronic information, both physical (e.g. hard drive) and digital, identify cybersecurity concerns and options to address issues with the Internet and the systems it uses.	✅
7.NI.C.02 Identify and explain two or more methods of encryption used to ensure and secure the transmission of information.	✅
7.DA.S.01 Create multiple representations of data.	✅
7.DA.CVT.01 Collect data using computational tools and transform the data to make it more useful and reliable.	✅
7.DA.IM.01 Discuss the correctness of a model representing a system by comparing the model's generated results with observed data from the modeled system.	✅
7.AP.A.01 Select and modify an existing algorithm in natural language or pseudocode to solve complex problems.	✅
7.AP.C.01 Develop programs that utilize combinations of repetition, compound conditionals, and the manipulation of variables representing different data types.	✅
7.AP.M.01 Decompose problems into parts to facilitate the design, implementation,	✅

and review of increasingly complex programs.	
7.AP.PD.01 Seek and incorporate feedback from team members and users to refine a solution to a problem.	✅
7.AP.PD.02 Incorporate existing code, media, and libraries into original programs of increasing complexity and give attribution.	✅
7.AP.PD.03 Test and refine programs using a variety of student created inputs.	✅
7.AP.PD.04 Distribute tasks and maintain a project timeline when collaboratively developing computational artifacts.	✅
7.AP.PD.05 Document text-based programs of increasing complexity in order to make them easier to follow, test, and debug.	✅
7.IC.C.01 Explain how computing impacts innovation in other fields.	✅
7.IC.C.02 Relate the distribution of computing resources in a global society to issues of equity, access, and power.	✅
7.IC.SI.01 Individually and collaboratively use advanced tools to design and create online content (e.g., digital portfolio, multimedia, blog, web page). Describe and use safe, appropriate, and responsible practices (netiquette) when participating in online communities (e.g., discussion groups, blogs, social networking sites).	✅
7.IC.SLE.01	✅

Explain the connection between the longevity of data on the Internet, personal online identity, and personal privacy.	
8.CS.D.01 Develop and implement a process to evaluate existing computing devices and recommend improvements to design based on analysis of how other users interact with the device.	✅
8.CS.HS.01 Design and refine projects that combine hardware and software components to collect and exchange data.	✅
8.CS.T.01 Systematically identify, fix, and document increasingly complex software and hardware problems with computing devices and their components.	✅
8.NI.NCO.01 Explain protocols and their importance to data transmission; model how packets are broken down into smaller pieces and how they are delivered.	✅
8.NI.C.01 Evaluate physical and digital procedures that could be implemented to protect electronic data/information; explain the impacts of hacking, ransomware, scams, fake scans, and ethical/legal concerns.	✅
8.NI.C.02 Compare the advantages and disadvantages of multiple methods of encryption to model the secure transmission of information.	✅
8.DA.S.01 Analyze multiple methods of representing data and choose the most appropriate method for representing data.	✅
8.DA.CVT.01 Develop, implement, and refine a process that utilizes computational tools to collect and transform data to make it more useful and reliable.	✅

8.DA.IM.01 Refine computational models based on the data generated by the models.	✅
8.AP.A.01 Design algorithms in natural language, flow and control diagrams, comments within code, and/or pseudocode to solve complex problems.	✅
8.AP.C.01 Develop programs that utilize combinations of nested repetition, compound conditionals, procedures without parameters, and the manipulation of variables representing different data types.	✅
8.AP.M.01 Decompose problems and subproblems into parts to facilitate the design, implementation, and review of complex programs.	✅
8.AP.PD.01 Seek and incorporate feedback from team members and users to refine a solution to a problem that meets the needs of diverse users.	✅
8.AP.PD.02 Incorporate existing code, media, and libraries into original programs of increasing complexity and give attribution.	✅
8.AP.PD.03 Systematically test and refine programs using a range of student created inputs.	✅
8.AP.PD.04 Explain how effective communication between participants is required for successful collaboration when developing computational artifacts.	✅
8.AP.PD.05 Document text-based programs of increasing complexity in order to make them easier to follow, test, and debug.	✅

8.IC.C.01 Describe the trade-offs associated with computing technologies (e.g. automation), explaining their effects on economies and global societies, and explore careers related to the field of computer science.	✅
8.IC.C.02 Evaluate and improve the design of existing technologies to meet the needs of diverse users and increase accessibility and usability. Evaluate how technology can be used to distort, exaggerate, and misrepresent information.	✅
8.IC.SI.01 Communicate and publish key ideas and details individually or collaboratively in a way that informs, persuades, and/or entertains using a variety of digital tools and media-rich resources. Describe and use safe, appropriate, and responsible practices (netiquette) when participating in online communities (e.g., discussion groups, blogs, social networking sites).	🚧
8.IC.SLE.01 Discuss the social impacts and ethical considerations associated with cybersecurity, including the positive and malicious purposes of hacking.	✅
High School Level 1 - By the end of 10th Grade	
L1.CS.D.01 Explain how abstractions hide the underlying implementation details of computing systems embedded in everyday objects.	✅
L1.CS.HS.01 Explain the interactions between application software, system software, and hardware.	✅
L1.CS.T.01 Develop and apply criteria for systematic discovery of errors and systematic strategies for correction of errors in computing systems.	✅

L1.NI.NCO.01 Evaluate the scalability and reliability of networks by identifying and illustrating the basic components of computer networks (e.g., routers, switches, servers, etc.) and network protocols (e.g., IP, DNS, etc.).	✅
L1.NI.C.01 Compare physical and cybersecurity measures by evaluating trade-offs between the usability and security of a computing system.	✅
L1.NI.C.02 Illustrate how sensitive data can be affected by attacks.	✅
L1.NI.C.03 Recommend security measures to address various scenarios based on information security principles.	✅
L1.NI.C.04 Explain trade-offs when selecting and implementing cybersecurity recommendations from multiple perspectives such as the user, enterprise, and government.	✅
L1.DA.S.01 Translate and compare different bit representations of data types, such as characters, numbers, and images.	✅
L1.DA.S.02 Evaluate the trade-offs in how data is organized and stored digitally.	✅
L1.DA.CVT.01 Use tools and techniques to locate, collect, and create visualizations of small- and large-scale data sets (e.g., paper surveys and online data sets).	✅
L1.DA.IM.01 Show the relationships between collected data elements using computational models.	✅

L1.AP.A.01 Create a prototype that uses algorithms (e. g., searching, sorting, finding shortest distance) to provide a possible solution for a real-world problem.	✅
L1.AP.V.01 Demonstrate the use of lists (e.g., arrays) to simplify solutions, generalizing computational problems instead of repeatedly using primitive variables.	✅
L1.AP.C.01 Justify the selection of specific control structures (e.g., sequence, conditionals, repetition, procedures) considering program efficiencies such as readability, performance, and memory usage.	✅
L1.AP.M.01 Break down a solution into procedures using systematic analysis and design.	✅
L1.AP.M.02 Create computational artifacts by systematically organizing, manipulating and/or processing data.	✅
L1.AP.PD.01 Create software by analyzing a problem and/or process, developing and documenting a solution, testing outcomes, and adapting the program for a variety of users.	✅
L1.AP.PD.02 Define and classify a variety of software licensing schemes (e.g., open source, freeware, commercial) and discuss the advantages and disadvantages of each scheme in software development.	✅
L1.AP.PD.03 While working in a team, develop, test, and refine event-based programs that solve practical problems or allow self expression.	✅
L1.AP.PD.04	✅

Using visual aids and documentation, illustrate the design elements and data flow (e.g., flowcharts, pseudocode) of the development of a complex program.	
L1.AP.PD.05 Evaluate and refine computational artifacts to make them more user-friendly, efficient and/or accessible.	✅
L1.IC.C.01 Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.	✅
L1.IC.C.02 Test and refine computational artifacts to reduce bias and equity deficits.	✅
L1.IC.C.03 Demonstrate how a given algorithm applies to problems across disciplines.	✅
L1.IC.SI.01 Demonstrate how computing increases connectivity among people of various cultures.	✅
L1.IC.SLE.01 Explain the beneficial and harmful effects that intellectual property laws can have on innovation.	✅
L1.IC.SLE.02 Explain the privacy concerns related to the large-scale collection and analysis of information about individuals (e.g., how businesses, social media, and the government collects and uses data) that may not be evident to users.	✅
L1.IC.SLE.03 Evaluate the social and economic consequences of how law and ethics interact with digital aspects of privacy, data, property, information, and	✅

identity.	
High School Level 2 - By the end of 12th Grade	
L2.CS.HS.01 Identify and categorize roles of an operating system.	✅
L2.CS.T.01 Identify how hardware components facilitate logic, input, output, and storage in computing systems.	✅
L2.NI.NCO.01 Describe the issues that impact network functionality (e.g., bandwidth, load, latency, topology).	✅
L2.NI.C.01 Compare and refine ways in which software developers protect devices and information from unauthorized access.	✅
L2.DA.CVT.01 Use data analysis tools and techniques to identify patterns from complex real-world data.	✅
L2.DA.CVT.02 Generate data sets that use a variety of data collection tools and analysis techniques to support a claim and/or communicate information.	✅
L2.DA.IM.01 Use models and simulations to help formulate, refine, and test scientific hypotheses.	✅
L2.AP.A.01 Describe how artificial intelligence algorithms drive many software and physical systems (e. g., autonomous robots, computer vision, pattern recognition, text analysis).	✅
L2.AP.A.02	✅

Develop an artificial intelligence algorithm to play a game against a human opponent or solve a real-world problem.	
L2.AP.A.03 Critically examine and trace classic algorithms (e.g., selection sort, insertion sort, binary search, linear search).	✅
L2.AP.A.04 Evaluate algorithms (e.g., sorting, searching) in terms of their efficiency and clarity.	✅
L2.AP.V.01 Compare and contrast simple data structures and their uses (e.g., lists, stacks, queues).	✅
L2.AP.C.01 Trace the execution of repetition (e.g., loops, recursion), illustrating output and changes in values of named variables.	✅
L2.AP.M.01 Construct solutions to problems using student-created components (e.g., procedures, modules, objects).	✅
L2.AP.M.02 Design or redesign a solution to a largescale computational problem by identifying generalizable patterns.	✅
L2.AP.M.03 Create programming solutions by reusing existing code (e.g., libraries, Application Programming Interface (APIs), code repositories).	✅
L2.AP.PD.01 Create software that will provide solutions to a variety of users using the software life cycle process.	✅
L2.AP.PD.02	✅

Design software in a project team environment using integrated development environments (IDEs), versioning systems, and collaboration systems.	
L2.AP.PD.03 Develop programs for multiple computing platforms.	✅
L2.AP.PD.04 Systematically check code for correctness, usability, readability, efficiency, portability, and scalability through peer review.	✅
L2.AP.PD.05 Develop and use a series of test cases to verify that a program performs according to its design specifications.	✅
L2.AP.PD.06 Explain security issues that might lead to compromised computer programs.	✅
L2.AP.PD.07 Modify an existing program to add additional functionality and discuss intended and unintended implications (e.g., breaking other functionality).	✅
L2.IC.C.01 Evaluate the beneficial and harmful effects that computational artifacts and innovations have on society.	✅
L2.IC.C.02 Evaluate the impact of equity, access, and influence on the distribution of computing resources in a global society.	✅
L2.IC.C.03 Design and implement a study that evaluates or predicts how computation has revolutionized an aspect of our culture and how it might evolve (e.g., education, healthcare, art/entertainment, energy).	✅

L2.IC.SLE.01 Debate laws and regulations that impact the development and use of software.	✅